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# PROCEEDING

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## The 3<sup>rd</sup> International Seminar On PE, Sport, And Health 2013

**“Promoting  
Investment  
in Physical Education  
and Sport  
Programmes”**

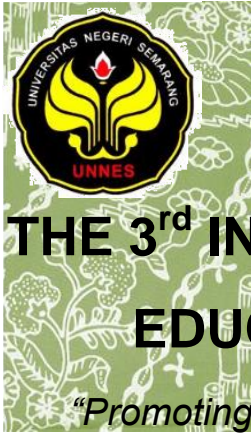
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# PROCEEDING



## THE 3<sup>rd</sup> INTERNATIONAL SEMINAR ON PHYSICAL EDUCATION, SPORT AND HEALTH 2013

*“Promoting Investment in Physical Education and Sport Programmes”*

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# PREFACE

Assalamu'alaikum warrahmatullahi wabarakatuh

May we first made our highest praise and thank to Allah swt, for His bless we are able to gather here on the prestigious occasion; the 3rd International Seminar on Physical Education, Sports and Health 2013 with the main theme of "Promoting Investment in Physical Education and Sport Programmes", to share our knowledge and ideas with so much warm and friendship from world wide sports community.

The tendency of the development issues of physical education and sport at the international level was raised in one of the UNESCO conference recently, namely the MINEPS V held in Berlin, Republic of Germany on May 2013. This forum has developed a long and intensive discussion of related issues and policies UNESCO member states in managing the implementation of physical education and sport. The discussions focused on policy issues and the implementation of the three areas with the theme:

- 1 . Access to exercise a fundamental right of all human beings
- 2 . Encourage investment in the program of Physical Education and Sports
- 3 . Maintaining the integrity of sport

Hopefully, the major issues can be understood and can be implemented operationally in the development of physical education and sports in Indonesia through this scientific meeting forum, involving scientists, stakeholders, and observer of sports. Scientific forum in the form of an international seminar held by the Faculty of Sports Science Semarang State University, serves as a platform which allows scholars, professionals, researchers and sport technocrats to share and discuss the latest knowledge and findings with the purpose of transforming a revitalization and rethinking in the effort to encourage investment in the program of Physical Education and Sports as well.

I would like to deliver our highest respect and appreciation to Minister of Youth and Sport of Republic of Indonesia and to the Rector of Semarang State University for their support and appreciation on this seminar, and it is a great pleasure for me to express my deep gratitude to our honourable guests: Prof. Surachai Jewcharoensakul, Ph.D (Dean of Faculty of Education Kasetsart University Thailand), Madame Wu Min, Ph.D (Lecturer in Central China Normal

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University, Wuhan China), Madame Rebecca Alcuizar, Ph.D (Senior Lecturer in Mindanao State University-Iligan Institute of Technology, Phillipines), Mr. Rodney Yeo, M.A. (Senior General Manager SportSmart-Skill, Singapore Sport School, Singapore), and Mr Agus Mahendra, M.A. (Senior Lecturer, Indonesia University of Education, Bandung – Indonesia). I really expect that this seminar will be beneficial for all of us and to the development of the Physical Education and Sports.

Allow me to express my gratitude to the participants and audiences from Indonesia and other foreign countries who are enthusiastic in attending this precious seminar. I do hope that all audiences will gain important values and collaborate it into our own fields and make crucial changes in the future. Beside that, I also convey my appreciation to all of organizing committee who has given their outstanding commitment for presenting this International seminar.

Wassalamu'alaikum warrahmatullahi wabarakatuh

Sincerely yours

**Prof. Dr. Tandiyo Rahayu, M.Pd**

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# TABLE OF CONTENT

EDITORIAL BOARD	.....	i
PREFACE	.....	ii
PLENARY SPEAKERS		
<b>PROMOTING EFFORTS (INVESTMENT) IN IMPROVING PHYSICAL EDUCATION IN INDONESIA</b> <i>Agus Mahendra</i>	.....	1
<b>PHYSICAL EDUCATION IN THE PHILIPPINES</b> Dr. Rebecca Meca Alcuizar	.....	16
<b>THE PROMOTING PHYSICAL EDUCATION AND SPORT PROGRAMS IN THAILAND</b> Surachai Jewcharoensakul, Ph.D.	.....	26
<b>SPORT PSYCHOLOGY SERVICE FOR CHINESE ELITE SWIMMERS</b> <i>Wu Min, Ph.D.</i>	.....	37
PAPER PRESENTATION		
Physical Education: Administration and Management		
<b>EVALUATION OF PROGRAM AT THE SEKAYU BASKET BALL ACADEMY MUSI BANYUASIN REGENCY SOUTH SUMATERA.</b> <i>Ahmad Richard Victorian</i>	.....	41
<b>LEADERSHIP OF PHYSICAL EDUCATION TEACHER IN FORMING THE CHARACTER OF STUDENTS: AS RESULT OF SCHOOL ORGSNIZATIONAL CLIMATE INTERACTIONS</b> <i>Heni Widyaningsih</i>	.....	50
<b>DEVELOPMENT OF PROTOTYPE BADMINTON AGILITY INSTRUMENT</b> <i>Hermawan Pamot Raharjo</i>	.....	57
<b>STRENGTHEN THE RELATIONSHIP OF SPORT ORGANIZATION AND MASS MEDIA IN ORDER TO PROMOTE SPORT EVENTS</b> <i>Ika Novitaria Marani</i>	.....	65
<b>THE INFLUENCE OF AGGRESSIVENESS ON ATHLETES IN THE COMPETITION</b>  <i>Rumini</i>	.....	74
<b>SOCIAL CAPITAL OF KONI SOCIETY: ANALYSIS TOWARDS THE IMPLEMENTATION OF ARTICLE 40 LAW NO. 3/2005 ABOUT THE NATIONAL SPORT SYSTEM IN CENTRAL JAVA</b> <i>Tri Rustiadi</i>	.....	81
<b>THE ATTITUDE OF ELEMENTARY SCHOOL PHYSICAL EDUCATION TEACHERS TOWARD TRAFFIC ACCIDENTS PREVENTION EFFORTS</b> <i>Yustinus Sukarmin</i>	.....	92

Physical Education: Teaching, Assessment and Curriculum		
<b>PLAYING MOVEMENT ACTIVITIES OF ELEMENTARY SCHOOL STUDENTS</b>	.....	101
<i>Abdul Kholik, Eka Fitri Novita Sari</i>		
<b>FLEKSIBILITAS UNTUK ATLET JALAN CEPAT</b>	.....	108
<i>Agus Widodo Suropto</i>		
<b>THE ANALYSIS DIVERGENT TEACHING STYLE SPECTRUM IN IMPLEMENTATION CURRICULUM 2013</b>	.....	113
<i>Aris Fajar Pambudi</i>		
<b>THE GAME IS PLAYED AND BASIC FITNESS FOR STUDENTS</b>	.....	118
<i>BAYU HARDIYONO</i>		
<b>THE EFFECT OF TACTICAL APPROACH TOWARD UNDERSTANDING PATTERNS FOOTBALL GAME”</b>	.....	126
<i>Dian Budiana, Imam Fauzi Rahman, Nuryadi,</i>		
<b>EFFECTIVE WAY OF TEACHING AND ANTHROPOMETRY DRIBBLING SKILLS SPORTS HOCKEY (Experimental Study On Students For Class X School mengah Marie Joseph Jakarta)</b>	.....	135
<i>Dr. Samsudin, M.Pd, Dr. Hernawan. M.Pd dan Rully Okta Saputra, M.Pd</i>		
<b>THE SKILL LEARNING PROCES OF SWIMMING TO BEGINNING FOR KINDERGARTEN BASED APPROPRIATE FLOAT TOOLS AID AT SWIMMING COURSES IN BANDUNG CITY</b>	.....	150
<i>Drs. Badruzaman, M.Pd Drs. Aming Supriatna, M.Pd.</i>		
<b>THE EFFECTS OF PARENTING STYLE AND TEACHING ABILITY OF PHYSICAL EDUCATIONS TEACHERS ON FUNDAMENTAL MOVEMENT SKILLS</b>	.....	168
<i>Eka Fitri Novita Sari</i>		
<b>AN INTEGRATED THEMATIC PHYSICAL EDUCATION GAME MODEL FOR GRADE I STUDENTS BASED ON CURRICULUM 2013</b>	.....	178
<i>Fitria Dwi Andriyani, Erwin Setyo Kriswanto</i>		
<b>DIFFERENT PRACTICES OF PLYOMETRIC BETWEEN CONVENTIONAL WITH MODIFICATIONS TO EXPLOSIVE POWER OF LEGS AND HANDSPRING SCORE</b>	.....	190
<i>Fransisca Januarumi</i>		
<b>Influence on Performance Competence Teacher of Physical Education Sport and Health</b>	.....	203
<i>Harry Pramono</i>		
<b>KARONBALL: SOFTBALL GAME MODIFICATION AS A PHYSICAL EDUCATION TEACHING FOR UPPER CLASSES OF PRIMARY SCHOOL STUDENTS</b>	.....	213
<i>Hedi Ardiyanto Hermawan</i>		
<b>THE EFFECT OF LEARNING MODELS AND TOOLS MODIFICATION TOWARD VOLLEYBALL SKILL RESULT</b>	.....	223
<i>Jajat Darajat Kusumah Negara</i>		
<b>THE CORRELATION BETWEEN THE LONG JUMP TUCK STYLE MOTOR SKILL ABILITY AND LONG JUMP DISTANCE AT THE PRIMARY SCHOOL STUDENTS IN JAYAPURA REGENT AND TOWN, PAPUA PROVINCE, 2011/2012</b>	.....	233
<i>Jonni Siahaan</i>		
<b>THE INFLUENCE OF A MODEL OF LEARNING INQUIRY AGAINST LESSONS OF BASKETBALL</b>	.....	243
<i>Lukmanul Hakim Lubay</i>		

<b>AFFECTING FACTORS OF INTERVAL AEROBIC EXERCISE ON PHYSIOLOGICAL FUNCTION CHANGES IN ELDERLY</b>	.....	247
<i>Mohammad Nanang Himawan Kusuma</i>		
<b>INFLUENCE GAME BALL SMALL LEARNING ( BOLA BAKAR GAME ) VALUES OF STUDENT DISCIPLINE IN PHYSICAL EDUCATION SUBJECT POST</b>	.....	254
<i>Ummahatul Illyyin F E, S.Pd, Drs . Mudjihartono , M.Pd, Arif Wahyudi , S. Pd</i>		
<b>THE IMPLEMENTATION OF PHYSICAL ACTIVITY LEARNING IN ENHANCING EARLY CHILDHOODS' MULTIPLE INTELLIGENCE</b>	.....	260
<i>Nofi Marlina Siregar</i>		
<b>DEVELOPING TAE KWON DO DANCE FOR TEACHING MARTIAL ART IN PHYSICAL EDUCATION, SPORT AND HEALTH SUBJECT AT JUNIOR HIGH SCHOOL.</b>	.....	267
<i>Noviria Sukmawati</i>		
<b>KNOWLEDGE LEVEL STUDENTS PJKR 2010 FIK UNY FORCE OF THE REGULATION OFF SIDE FOOTBALL GAMES</b>	.....	272
<i>Nurhadi santoso</i>		
<b>EFEKTIVITY OF INTEGRATED LEARNING APPROACH TO RESULT OF DEVELOPMENT LEARNING OF MOTORIK AT STUDENT PASIR KALIKI ELEMENTARY SCHOOL</b>	.....	280
<i>Sandey Tantra Paramitha and Ahmad Hamidi</i>		
<b>EFFECT OF TRAINING METHODS FLEXIBILITY AND SPEED RESPONSE TO RECEIVE FIRST BALL IN GAMES SEPAK TAKRAW</b>	.....	292
<i>Sulaiman</i>		
<b>CURRICULUM IMPLEMENTATION 2013 Penjasorkes TO SMA / MA</b>	.....	301
<i>Sungkowo</i>		
<b>GAME MODELS WITHOUT TOOLS TO DEVELOP LOCOMOTOR BASIC MOVEMENT ABILITY FOR LOWER GRADE ELEMENTARY SCHOOL STUDENTS</b>	.....	315
<i>Yudanto</i>		
Public Health		
<b>EVALUATION OF LIVER ENZYME LEVELS IN CHILDBEARING-AGE WOMEN ON PESTICIDES-EXPOSED FARMING AREA (STUDY IN BREBES REGENCY INDONESIA)</b>	.....	326
<i>Arum Siwiendrayanti</i>		
<b>CHILD HEALTH ANALYSIS IN KEBONDALEM VILLAGE AS A PILOT PROJECT OF VILLAGE FIT FOR THE CHILDREN</b>	.....	337
<i>Evi widowati</i>		
Sport Coaching and Training		
<b>NORMS OF PHYSICAL ABILITY PUSLATDA FIGHTER In DAERAH ISTIMEWA YOGYAKARTA</b>	.....	344
<i>Awan Hariono</i>		
<b>THE IMPORTANCE OF BASIC SPORTS INJURY MANAGEMENT UNDERSTANDING FOR COACHES AND ATHLETES</b>	.....	359
<i>dr. Ni Luh Kadek Alit Arsani, S.Ked., M.Biomed.</i>		
<b>A STUDY ON SPORT TRACKING MANAGEMENT IN SAMBANGAN</b>	.....	366
<i>Gede eka budi Darmawan</i>		
<b>HANGING BALLS: A MEDIA TO OPTIMALIZE THE UPPER SERVICE OF SEPAK TAKRAW</b>	.....	375

<i>I Ketut Semarayasa</i>		
<b>DEVELOPMENT INSTRUMENT TO MEASURE SPORT-CONFIDENCE OF INDONESIAN SWIMMER</b>	.....	380
<i>Kurnia Tahki, Juriana</i>		
<b>Application of Volleyball TID in Identifying Young Talented Players</b>	.....	388
<i>Nining Widyah Kusnanik</i>		
<b>THE GIFTED TEST OF ARCHERY ATHLETES BETWEEN THE AGES OF 12-14 THROUGH SPORTS SEARCH</b>		395
<i>Ramdan Pelana</i>		
<b>EVALUATE OF PROGRAM COACHING INTELECTUAL DISABILITY CHILDREN AT EXTRAORDINARY SCHOOL OF KARYA IBU PALEMBANG</b>	.....	406
<i>SELVI ATESYA KESUMAWATI</i>		
<b>AN EXPLORATION ON ATHLETES' USE OF TOPS</b>	.....	414
<i>Yusup Hidayat &amp; Helmy Firmansyah</i>		
<b>Sport Paedagogy, Psychology</b>		
<b>THE RELATIONSHIP OF SERVICE QUALITY WITH BADMINTON CLUB MEMBERS' SATISFACTION IN BANDUNG.....</b>		423
<i>Alit Rahmat</i>		
<b>RELIGIOSITAS DAN PRESTASI OLAHRAGA PADA ATLET</b>	.....	433
<i>AnirotulQoriah</i>		
<b>THE EFFECT OF TRAINING METHOD AND ACHIEVEMENT MOTIVATION TOWARD 60 METERS SPRINT. (QUASI EXPERIMENTAL TO FEMALE ATHLETES OF SMP KAYUAGUNG OGAN KOMERING ILIR)</b>		443
<i>Dewi Septaliza</i>		
<b>REASONING STRATEGY FOR FAIRPLAY BEHAVIOUR</b>	.....	454
<i>Dra. Endang Rini Sukanti, M.S.</i>		
<b>THE DIFFERENCES OF COACH-ATHLETE RELATIONSHIP PATTERNS BETWEEN INDIVIDUAL AND TEAM SPORTS</b>	.....	462
<i>Eka Novita Indra</i>		
<b>RELATIONSHIP OF PSYCHOLOGICAL FACTORS WITH SPORT INJURIES AT BODY CONTACT ATHLETES OF DKI JAKARTA</b>	.....	470
<i>Junaidi</i>		
<b>IMPACTS OF VIOLENCE IN PHYSICAL EDUCATION LEARNING AGAINST CHILDREN DEVELOPMENT</b>	.....	479
<i>Komarudin</i>		
<b>SPORT AS AN EFFORT OF BUILDING CHILDREN CHARACTER</b>	.....	488
<i>Nurussa'adah Sofwan</i>		
<b>THE IMPLEMENTATION OF "ARCS" EXERCISE MODEL TO INCREASE EXERCISE MOTIVATION OF JOGJAKARTA ARCHERY PUSLATDA ATHETES</b>	.....	493
<i>Susanto Ermawan</i>		



Sport Physiology, Biomechanics

<b>THE EFFECT OF SPORT RECREATION ACTIVITIES TOWARD PHYSICAL FITNESS AND SOCIAL ATTITUDES OF URBAN SOCIETY</b>	.....	504
<i>Endang Sri Hanani</i>		
<b>PROMOTING FITNESS CENTER AS A MEANS OF OBTAINING HEALTH AND PHYSICAL FITNESS</b>	.....	510
<i>Ahmad Nasrulloh</i>		
<b>THIS MEASUREMENT AND FOREMETRIC ANALYSIS AND MYOLINE OF PPLM ATHLETES STATE UNIVERSITY OF MAKASSAR</b>	.....	519
<i>Dr. Hj . Hasmyati, M.Kes , Ians Aprilo , S.Pd. , M.Pd</i>		
<b>THE EFFECT OF PALM SUGAR CONCENTRATION CONSUMED 30 MINUTES PRIOR TO EXERCISE ON AEROBIC ENDURANCE</b>	.....	527
<i>Dr. H. Saifu, S.Pd., M.Kes</i>		
<b>CAN STRENUOUS EXERCISE DISTURBE WOMEN MENSTRUAL CYCLE ?</b>	.....	536
<i>Fauziah Nuraini Kurdi</i>		
<b>APPLIED TECHNOLOGY SPORTS EQUIPMENT FOR MEASURING EXHAUSTION MUSCLE HAND AND FEET BEFORE GAME</b>	.....	542
<i>Franky Pattisina, Nauval Marom, Tahroni</i>		
<b>THE PHYSICAL FITNESS OF S1 PGSD FKIP UNSRI STUDENT FOR ACADEMIC YEAR 2012/2013</b>	.....	546
<i>Hartati M.Pd</i>		
<b>EFFECT MODIFICATION SANBON KUMITE WITH INTERVAL TRAINING TO INCREASE VO2MAX</b>	.....	554
<i>Hartono Hadjarati</i>		
<b>CORRELATION BETWEEN THE ARM MUSCLE STRENGTH WITH HOCKEY SHOOTING ACCURACY</b>	.....	564
<i>Iwan Barata</i>		
<b>MODEL DEVELOPMENT OF BUYAN LAKE AREA EMPOWERMENT AS SPORT TOURISM ICON BULELENG-BALI</b>	.....	571
<i>Ketut Suidiana</i>		
<b>THE EFFECT OF HEALTHY HEART EXERCISE TOWARD THE HEART RATE, BLOOD PRESSURE, AND RESPIRATORY CAPASITY IN OVER OLD WOMEN OF OMEGA NURSING HOUSE MANYARAN SEMARANG.</b>	.....	581
<i>Lusiana, S.Pd.M,Pd</i>		
<b>PROTEIN ADEQUACY IN STUDENTS OF SPORTS SCIENCE FACULTY OF JAKARTA STATE UNIVERSITY</b>	.....	596
<i>Mansur Jauhari, M.Si</i>		
<b>THE DEVELOPMENT OF YOGA TO INCREASE EXERCISE ADHERENCE AMONG DIABETIC PATIENTS.</b>	.....	601
<i>Novita Intan Arovah</i>		
<b>THE EFFECTS OF CIRCUIT AND PLYOMETRICS TRAINING TOWARDS AEROBIC GYMNASTICS ATHLETES' LEG POWER</b>	.....	611
<i>Ratna Budiarti</i>		
<b>SPORT TOURISM DEVELOPMENT IN INDONESIA</b>	.....	617
<i>Sudjatmiko</i>		
<b>THE EFFECT OF EXERCISE USING ERGOCYCLE ON THE BLOOD GLUCOSE LEVEL IN DIABETIC PATIENTS</b>	.....	626

*Wara Kushartanti*

**IDENTIFICATION OF COMPLAINTS ON RUNNER'S FEET OF PPLM AND PPLP  
NORTH SUMATERA**

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632

*Zulaini, Marsal Risfandi, Nurhamida Sari Siregar, Basyaruddin Daulay*



# PLENARY SPEAKERS

## Promoting Efforts (Investment) in Improving Physical Education in Indonesia

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The theme of this Seminar--as proposed by the organizing committee-- is "Promoting Investment in Physical Education and Sport Program." This title is both challenging and at the same time intriguing. Challenging because with a very short sentence completed without additional explanation has made me as a speaker perplexed seven around for what should be the meaning of the theme itself. Intriguing as it has given me a kind of puzzle of what should be the idea behind the words composing the sentence that could be inferred accordingly.

To avoid being stuck with the idea of the theme, the speaker then turn his attention to the keyword of which the theme emphasizes, that is the word **Investment**. The word **Investment** is usually used in economy and financial terminology, although it has different meanings in both. In economics, investment is the accumulation of newly produced physical entities, such as factories, machinery, houses, and goods inventories. In finance, investment is meant to put money into an asset with the expectation of capital appreciation, dividends, and/or interest earnings (Wikipedia). Most or all forms of investment involve some form of risk, such as investment in equities, property, and even fixed interest securities which are subject, among other things, to inflation risk.

But what was the meaning of word investment in physical education and sport program? If the meaning as it is used both in economy and in finance, then the meaning of investment has become so narrow that it has given me an additional suspicious thought to the intention of the committee. If the investment as inferred by economic and finance is put with the same meaning into PE and Sport programs, then the meaning will be focused on how much money should be spent to accumulate things and goods needed for sport and PE activities to become the assets. I don't think that the word of investment as intended by the committee is so strictly limited to the area of equipment and devices to be possessed to, because if we do that, then our country, Indonesia, will suffer much from shortness in ability of investment.





To make it short, writer had decided that the meaning of investment is in the sense of efforts that should be exerted to improve the quality of PE and Sport program, as writer has used it as the title of this paper. For that purpose, let the writer to describe the recent situation of the Physical Education in Indonesia, and the possible attributing factors that has been believed as the impetus sources of the causality.

## **Physical Education in Indonesia**

Low level of physical fitness among students in Indonesia can become an indicator that quality of physical education program in Indonesia is still inadequate. This inadequacy can also be summarized from sport community complains that underlined low physical capacities of students athletes.

From the perspective of teaching quality, many indicators should be mentioned; for examples, programs that mostly Developmentally Inappropriate Practice, students' indiscipline behaviors, and the poor awareness of teachers in developing not only physical and motor aspects, but also cognitive, mental, and moral aspects.

It should be questioned, why the quality of PE programs in Indonesia is so poor? Is it because the quality of teachers that is also low, or is it because of other factors such as facilities and equipment that is unavailable? A more in depth skepticism could also rise, suspecting the irrelevance of curriculum, or probably indicating the support inadequacy from both government and society in terms of the essence of physical education?

To answer those questions is not easy, of course. It is necessary that there must be a scrutiny investigation involving multidiscipline devices, both involving review on philosophical, sociological, psychological, cultural, economic, and political perspectives. However, in the sense of praxis, we can define these problems from two focal points of teachings; they are the capabilities of teachers and the curriculum. The capabilities of teachers can be traced back to their value orientation (Jewet, Bain and Ennis, 1995) in terms of their awareness of PE and curriculum, and the curriculum itself can be studied from its relevancy in implementation both as documents and guidelines.

Historically, both teachers' value orientation and curriculum of PE in Indonesia nowadays is originated in the heart of Indonesia sport history in the time of old-era in the 60s. There has been a considerable paradigm shift in Physical Education since those days. The founding fathers of this nation have utilized the sport movement as strategic and political tools to cure a collective poor self-esteem of the people of Indonesia who had just gained their freedom and liberated from colonial occupation in the Dutch era. A convincing argument that developed in that time was that 'through sport we can prove to people of other nations that we have the same capabilities and





potentialities', which can be shown off by the achievement elicited in sport competitions, both in regional and international events.

With such a belief, paradigm of PE program in schools were shifted, which no longer as an educational device as an integral part of general education (Mosston and Ashworth, 1994; Rink, 1993), but widened as a socializing process into "sport movement" to generate more schools' kids ready to become elite athletes. As the consequence, PE program, as we can notice today, has been more a kind of sport training process rather than educating kids through sport (Siedentop, 1992; Tsangaridou, 2005; Freeman, 2001). This sport-training paradigm has been so powerful that the teaching condition has always been depriving of educational values. Teachers has been not aware with the necessity of delivering a Developmentally Appropriate Practice program. (Bredekamp and Copple, 1997).

Using Tinning and Macdonald' terminology, our PE teachers in school are not developing a reflective thinking, thus their tasks of teaching is solely run as something routine, without any attempt to facilitate learning with various teaching strategies and methods (Tinning et al., 2001; Macdonald, 2000). Following Jewet's way of thinking (Jewet, et al., 1995), our PE teachers are not capable of constructing a proper value orientation in their teaching action. In other words, they have been stuck on an irrelevant value orientation.

The incapability of teachers is absolutely reasonable, considering the low expectation of the society to PE teachers. Their role in school has been still deemed minor including in the perspective of principal and other teachers. This has been combined with the small opportunity for PE teachers to develop their career and teaching capabilities through *in-service training* and other events such as seminar or workshop. Yet, when teachers finally have such an opportunity, they are not able to empower themselves in terms of their teaching skills.

The followings descriptions are examples of the general situation depicting the low quality of Indonesian PE.

### *Preparatory Phase*

Preparatory phase in this regards is every preparation that teacher made prior to the learning process. In general, this preparatory phase of every teaching action is minimum. The equipment that teachers utilize is definitely dependent upon the available equipment. There has no modified equipment at all that can be identified as teachers' effort in making this preparatory phase conducive for creating a positive learning environment. Likewise for the field or court that the school posses. The field and the court are let remain as they are in the original form. With a very limited number of balls, for examples, there is no effort at all from teachers to modify or to utilize other form of equipment to proportionate between the numbers of students and the number of balls. This also happened later in the game; in which there is no modification both on movement task and on rules of the games.





## *Wasting time of routine activities*

One indicator that our PE teachers are not really concerned with time utilization can be seen from routine activities that are not efficiently benefited. Forming lines of students prior to learning process is one of the routine activities that must be seen as the act of wasting time. While it is not easy to form a proper line of the students since teachers are not equipped with a kind of “shuffling the deck” technique, it is not empirically proven that such an activity is effective in building discipline as many teachers would identically believe. Likewise with checking students attendance activity, that is routinely conducted in the beginning of the lesson. These two routine activities are seriously wasting time, since teachers feel that they are not in the position of making of instant technique to minimize the length of the routines period.

## *Traditional Warming up*

Other depiction of ineffectiveness in learning process can be traced from warming up phase that is still conducted in a formal and traditional way. Teachers in this regards seems to be bound with the old structure of learning that necessitate the existence of such phases as warming up, core learning, and cooling down. In modern PE learning, those phases are not obviously followed since many teachers believe that PE learning is not as identical as a sport training process.

## *One-direction methods.*

Learning condition in which students do not have opportunity to utilize equipment adequately, will lead to a “no-learning” condition. This can happen since only few students at the same time will get involved on task activities, while the rest are waiting for the turn in a long line.

On the other hand, limited number of equipment and opportunities will lead teacher into a condition where he or she has less option in developing his or her teaching style. The only style that is possible to be applied is *command style* (Mosston and Asworth, 1994), which of course has limited benefit in developing students’ learning capacities from other domains except psychomotor domain. Just like Mosston put it, teachers’ teaching style will determine students’ capabilities to be developed. If teacher decided styles that improving decision making of students, then teacher is giving a chance to students to improve their decision-making capabilities. Conversely, if teacher decided to elaborate only a command style, it is unavoidably that teacher is only focusing on reproductive (as opposed to ‘productive’) students’ capability.

## *The absent of attitude and cognitive factor*

When it is deeply scrutinized, PE program conducted by most PE teachers has shifted the learning process into an one-sidedness learning focusing on sport basic-techniques learning. As the consequence, those kind of learning have undoubtedly ignored the important aspects of





attitude and cognitive development of the students. It is scarcely happened that teacher deliberately created a positive learning process conducive to developing attitudes and values such as cooperative behavior, respect to other, perseverance, determination, and personal and social responsibility.

At the same times, cognitive aspect of students is also ignored. Most teachers never make use the interval time existing between two on-task activities as time to dialog or review skill-related concept and movement principle of the skills learned. Teachers repeatedly announced the basic-techniques solely from technical aspect, thus students are not helped in making connection between the movement and its mechanical principle, in order to gain students' understanding of how making it in more productive ways.

### *Poor teaching skills*

Teaching skill is a set of ability that must be mastered by teachers to facilitate the learning process. Teaching skill is a part of teaching-learning strategy, providing opportunity for teachers to develop and generate a positive atmosphere of learning. Within these teaching skills include such techniques as organizing the class, developing the content, establishing the environment, maintaining appropriate behavior, motivating students, improving learning activities, giving feedback and correction, and evaluating the progress (Siedentop, 1991; Graham, 1992; Graham, et al., 1993). From this point of view, it is obvious that most teachers are not familiar with those techniques, since they only focus their attention on how students master the basic techniques of the skills.

It is readily assumed that most teachers are not familiar as well with such teaching models as *teaching games for understanding/TGfU* (Light, 2000), *dominant movement pattern* (Mahendra, 2001), let alone *movement problem-based learning* (Crum, 2006), or other innovation in teaching methods and models that have gained popularity in most speaking countries.

With the above situation, *investments* in the Indonesia PE should obviously be *invested* to at least shift it to a better condition for the shake of nation building. There are at least three efforts that should be strived by Indonesian PE communities in order to make a better situation over the issue rising concerning Physical Education. Firstly, the effort is related to the curriculum innovation and its supporting orientation of more relevant PE; secondly, the effort should be made around the PETE program; and thirdly, the effort should be exerted around the making of equipment availability as the basis of having the quality of PE lessons in schools.





**Effort # 1: Building Indonesian PE Curriculum**

In Indonesia, the curriculum in schools has been newly developed and partly officially implemented in 2013 as piloting project. Just like the curriculum of other subject matter, the PE curriculum is represented by a single document containing a long list of standards to be mastered by the pupils. These standards are grouped into six activities representing the key learning areas for the PE program. They are: games and sports activities, fitness activities, rhythmic activities, gymnastics activities, aquatic activities, and health education. These standards are paired with and developed from the Core Standards (Standard Inti), which also instrumental and central to other subject matter. The difficulty levels of these standards are distinguished and dependent to the grade level of the children. Below is an example of the content standard structure for the area of games and sports activities:

Grade 1, Semester 1, Primary School

Core Competency	Basic Competencies
1. Accept and practice the religion rules of their own	1.1 To respect body as a whole and its ability to moving as the bless of the God
2. Posses honesty, discipline, responsibility, friendly, caring, and confidence behavior in interacting with family member, peers, and teachers.	2.1 to behave sportsmanship in all games situations  2.2 To be responsible to the self, others, and surrounding environment safety including in the use of the learning equipment.
3. Comprehend factual knowledge through observing and questioning based on curiosity of the self, God’s creation and their activity, and all things they perceived both at home and in school	3.1 To comprehend the basic movement concepts relevant with utilized body parts dimension to be incorporated with direction, space, relationship, and effort, in simple and traditional games situation.
4. To present factual knowledge with precise and clear language, aesthetical, healthy movement, and actions reflecting	4.1 To demonstrate basic locomotor movement relevant with utilized body parts dimension incorporated with direction, spaces, relationship, and efforts in all simple and







Core Competency	Basic Competencies
bound-religiously behaviors.	traditional game situations.

Looking at the array of basic competencies, this 2013 curriculum has no differences with the curriculum of that of 2006, which also called competency-based curriculum. The new thing within it is only that the new curriculum has to do with the efforts of building the general positive character of the pupil to which all of the subject matters are focused on. So, seeing from this perspective, I would say that new curriculum would have bigger chances to be utilized as the vehicle to reform a new PE paradigm in which the focus is no longer on sport skill acquisition. Especially in primary school, this new curriculum should also be delivered with incorporating “integrated and thematic curriculum” approaches.

While the newly implemented curriculum is still in the process of trial and errors phase, the majority of teachers viewed this new curriculum with bewildering suspicious and has caused a substantial turbulence among teachers. This was mainly due to lack of comprehension in interpreting the content standard into a practical and operational curriculum. Main reason of what has been perplexing the majority of teachers is the obligatory mandate in the new curriculum that all subject matter, including Physical Education, should be delivered to the children with following a stern hierarchical steps of approach called *Scientific Approach*, requiring all students to start learning processes with observing, questioning, exploring, associating, and communicating it. Without sound comprehension, PE lesson will automatically lost its unique atmosphere that is moving and enjoying movement.

Consequently, most teachers will feel embarrassed and automatically return to the old ways of instruction. In fact the reality of Indonesian PE is still characterized by a heavy emphasis on the acquisition of standard sport skills rather than helping children to learn to solve movement problems. There is no room at all in the field (in the action of teaching PE) to accommodate other objectives rather than physical and technical aspects, e.g. the cognitive, social and affective domain. All standards are categorized as technical movement and sport skills.

*The Effort to be done:*

With this tendency of the above situation, Indonesia need to gradually restore the curriculum of its PE Lesson with a more modern curriculum theory based on the better paradigm of PE. Indonesia needs not to be ashamed to admit that, in terms of PE, we have been adopting an irrelevant paradigm so it need to be restored. Almost all countries in the world have done the same thing when they realized that the PE paradigm they have been utilizing are no longer relevant with the philosophical line valid in the current time.





Philosophically, PE Curriculum needs to be based on the certain believe and constitutes of choice on a certain paradigm to uphold the virtue of PE we are fighting for. The oldest and most common view of PE is strongly related to traditional view of the body: the substantial body; the body as a thing; instrument, or body as a machine. Then emerged in later time one contrasting view of the body found in the idea of “the relational” body; body as subject; it is our gate to the world; we know and interpret the world through our body. These two views of the body form the basis for two contrasting views of Human Movement; they are *physicalistic view* or motor approach and *relational view* or action approach. *Physicalistic view* or motor approach believes that movement is interpreted as change of position of (parts of) the body in a contextual vacuum. Whereas *relational view* or action approach believes that movement is interpreted as action, as rule governed, contextual meaningful behavior. Again it is these two different view which drove us to vies PE to different paradigms, between PE as the biologicistic tradition as opposed to the Pedagogologicistic tradition; or popularly known as PE as the socialization to sport or movement as opposed to PE as socialization through sport or movement. In more modern days, this terminology has been very popular with the difference between PE as the education to movement as opposed to PE as the education through movement.

As the case of Australia, they admitted that their “...traditional approaches to teaching Physical Education in schools have been characterized by content structured around popular sports and recreational activities and teaching approaches that have focused on the development of prerequisite skills (techniques) and tactics and strategies. More recently in some school contexts, approaches such as *Teaching Games for Understanding* (Bunker & Thorpe, 1982) and *Sport Education* (Siedentop, 1994) have challenged traditional approaches to teaching PE. However, in contemporary school education in Australia, the role of PE has been redefined and expected to contribute to more generic outcomes for schooling (Brooker & Clennett, 2006a, b).”

We could also witnessed that the restoration of PE curriculum has been done in the European countries with the core ideas seeing that the traditional heritage of PE curriculum root should be eliminated for its ineffectiveness to the majority of the children. Then they built a consistent way in which the ideas of ‘learning line’ have been elaborated. A ‘learning line’ is a sequence of goals that have to be attained. Starting from the core Dutch objectives for PE, their curriculum manual has selected a broad range of movement activities and then elaborated how these activities can be developed in a methodical way so that pupils can make learning progress. To make it more beneficial they also made video materials that are developed in connection with a digital system, which enables teachers to follow the learning progress of each pupil.

We got a bit amazed with the idea that pupils in PE lesson should experience a movement activity along four dimensions. They are: *involvement in movement*, *performing better in movement*, *moving healthy* and *arranging movement*. These four dimension areas of learning are





the best clues for teachers to select their choice of didactical and methodical knowledge, both in theory and practice. All in all: a lot of relevant information and striking impressions.

Likewise, the restoration of PE Curriculum is occurring also in the USA. Integrated with the effort of making use PE as the vehicle to educate children through movement, at the same time they also integrate the PE lesson as the combative tools to fight prevalence of the degenerative diseases and obesity among youth and children at the school age. So many state and school districts in the USA now integrate the school PE program with the wellness concept for the society.

Nowadays, Wellness is a term that has gained in popularity in recent years. Wellness is used as a name for a variety of products and programs, and as a result the term is sometimes misused. The President's Council on Fitness, Sports and Nutrition Digest defines wellness as "a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being." Adopting healthy lifestyles, including being regularly active and eating well, are "processes" that lead to the "products" of health and wellness.

Corporate America has adopted "wellness" programming in pursuit of a variety of goals including reduced health care costs, decreased absenteeism, improved job satisfaction, and improved health and wellness. Two recent reports from the Institute of Medicine (IOM) encourage wellness programming in schools. The first report (2010), that provides a national framework for reducing obesity in the U. S., notes that "children spend up to half their waking hours in school. In an increasingly sedentary world, schools therefore provide the best opportunity for a population-based approach for increasing physical activity among the nation's youth." The second IOM report, that provides evidence for physical education programs in schools, recommends "district and school administrators, teachers, and parents advocate for and create a whole-of-school approach to physical activity that fosters and provides access in the school environment to at least 60 minutes per day of vigorous or moderate-intensity physical activity more than half (50 percent) of which should be accomplished during regular school hours." (Corbin, 2013)

"Wellness Weeks" are designated several times each year in schools, and during these weeks the entire school focuses on promoting fitness, health, and wellness. Healthy lifestyles are promoted with a focus on physical activity and nutrition. Parents, administrators, and teachers conduct programs including exercise breaks in classrooms, special physical education activities, healthy foods in the cafeteria, school signs promoting healthy lifestyles, promotion of active play during recess, special art and music activities, and school newsletters.

It is no doubt, that PE and Health Education should be integrated accordingly. An effective health education curriculum has to be created following such characteristics, according to reviews of effective programs and curricula and experts in the field of health education:

## 1. Focuses on clear health goals and related behavioral outcomes. An effective





curriculum has clear health-related goals and behavioral outcomes that are directly related to these goals. Instructional strategies and learning experiences are directly related to the behavioral outcomes.

2. **Is research-based and theory-driven.** An effective curriculum has instructional strategies and learning experiences built on theoretical approaches (for example, social cognitive theory and social inoculation theory) that have effectively influenced health-related behaviors among youth. The most promising curriculum goes beyond the cognitive level and addresses health determinants, social factors, attitudes, values, norms, and skills that influence specific health-related behaviors.
3. **Addresses individual values, attitudes, and beliefs.** An effective curriculum fosters attitudes, values, and beliefs that support positive health behaviors. It provides instructional strategies and learning experiences that motivate students to critically examine personal perspectives, thoughtfully consider new arguments that support health-promoting attitudes and values, and generate positive perceptions about protective behaviors and negative perceptions about risk behaviors.
4. **Addresses individual and group norms that support health-enhancing behaviors.** An effective curriculum provides instructional strategies and learning experiences to help students accurately assess the level of risk-taking behavior among their peers (for example, how many of their peers use illegal drugs), correct misperceptions of peer and social norms, emphasizes the value of good health, and reinforces health-enhancing attitudes and beliefs.
5. **Focuses on reinforcing protective factors and increasing perceptions of personal risk and harmfulness of engaging in specific unhealthy practices and behaviors.** An effective curriculum provides opportunities for students to validate positive health-promoting beliefs, intentions, and behaviors. It provides opportunities for students to assess their vulnerability to health problems, actual risk of engaging in harmful health behaviors, and exposure to unhealthy situations.
6. **Addresses social pressures and influences.** An effective curriculum provides opportunities for students to analyze personal and social pressures to engage in risky behaviors, such as media influence, peer pressure, and social barriers.

## Effort # 2 Building Better PETE in Indonesia

In Indonesia, PETE (Physical Education Teacher Education) is conducted at the level of higher learning. The program takes four years. Originally, teacher preparation programs in Indonesia were differentiated into two different pathways; one for primary school teachers and one





for secondary school teachers. The preparation of PE teachers was situated in the latter pathway. The program for primary school teachers lasted two years. Recently, the system has been changed and now both primary and secondary school teachers are educated in a 4-year program. Teachers in service whose qualification is based on a 2-year program are now encouraged and even forced to improve their qualification to an undergraduate degree level. The structure change is directly related to the effort of our government to improve the quality of education in Indonesia.

PE teachers are educated in faculties of Sport and Health Education, which are situated within the Universities of Teacher Education. There are about eleven public PETEs program in Indonesia. However, there are numerous private programs, which are not controlled by government in terms of the quality.

The recruitment process of the PETE students' candidates is definitely simple and directly forward. In the initial phase, the candidates are selected from various graduates coming from general high schools, vocational high schools, and also from religion-based high schools. They are selected through a series of motor abilities tests identifying various abilities such as general endurance, flexibility, coordination, speed, local muscle strength, agility, and power. Those who are accepted as the students, go through a series of programs to meet the expected competencies. The program comprises:

- 1) improving students' own skills in many sports (courses mostly in the first and second year),
- 2) improving students theoretical-conceptual basis by a large number of theory classes (starting in the first year and continuing to the fourth year),
- 3) didactical and methodical practice in the area of sport learning (mostly in the third year),
- 4) social experiential practice with a focus on participation in society settings (during two months in the second semester of the third year),
- 5) four months of internship in a school (in the second semester of the fourth year).
- 6) After the completion of 1-5 phase, students concentrate on their 'project' (conducting some research and writing a research report called skripsi).

All of the above areas contain about 150 semester hours in order to complete the program. Depending on how fast and diligent the students accomplish the program parts, they will finish their graduation after about 4 to 5.5 years. Then they can become PE teachers in secondary and high schools. However, recently, the situation changed and became more problematic since the 2007 enactment of the law affecting teachers and university lecturers. This law supports the policy to allow university graduates to become teachers after following two semesters of professional teacher education in the form of additional course work. This means for example that graduates from sport science, who in their education process have not been equipped with teaching skills and didactical competencies, will only need two extra semesters to become certified as a PE teacher.

*Efforts to be done*





First of all, we need to argue and fight back the enactment related to teacher education in general. We must believe that teachers need to be prepared and educated in a more serious and responsible way, as a systematic pathway. To do that, there should be a revolutionary ways of all educational community to propose an amendment over the new law that still allowing general graduates to become certified teachers. But I don't want to talk too much about this, for it will be better if we spend some more time on discussing a more appropriate way to improve the quality of the PETE.

For that purpose, as far as the PE teacher is the concern, we need to start with discussing about PETE curriculum. For me, as already mentioned in the above section, PETE curriculum need also to be reformed, for the fact that almost all of the ineffective teaching actions of the PE teachers in the field are attributed to the learning process of the teacher candidates in their PETE program. Further more, the reform should also distinguish the curriculum for PETE program and non-PETE program.

First, let us discuss about the philosophical view of the PETE. As the consequences of the different view on the body and human movement science, PETE program also need to be based on certain view of the philosophical line. Nowadays, teaching PE can be seen as a social response to the problem of human development in complex societies. Then it should also be realized that PE profession is culture-and-value-bound. Consequently, it is dependent of conceptual views of human development and society. Further consequence, the standard, objectives, and content of a PETE program will be affected by possible differences in its conceptual basis. Then, divergences in (a) view of the body, (b) movement/sport concepts, and (c) view of movement/sport culture lead to divergent views of PE (Physical Education). Finally, divergent view of PE, combined with divergences in view of teachership, lead to divergent view of PETE. Divergences of PETE are not only reflected in PETE programs, but also in what happens in the practices of PE at schools.

Starting from physicalistic view, human movement studies will focus on the natural sciences and PETE will prevail the subject matter of anatomy, biomechanics and exercise physiology: criteria related to the ideal typical technical form of a particular movement/sport: reproductive. On the other hands, relational view emphasizes that human movement actions can be interpreted as specific recognitions and realizations of meanings that sees human movement practice as rule-governed, historically situated and socially constructed. PETE then should emphasize on development of individual competency to move in a social context.

Feiman-Nemser, 1990, and Rink, 1994, as adapted by Crum (2007), offered a different paradigm choice for PETE program. They are as the followings:

- Sportive: own performance skills and kinesiology (anatomy, biomechanics, physiology) are central.
- Practical: heavy reliance on field experience, practice, student teaching.





- Technological: emphasis on teacher effectiveness skills and research based teaching skill development
- Personal: individualized, nurturing, personal-meaning based orientation to growth as a teacher
- Critical/social: emphasis on pedagogical-content knowledge, critical reflectivity, moral obligation, equity issues, inclusion, fairplay.

It should be noticed that the PETE curriculum and the realization process in preparing students to become quality PE teachers are clear indicators of the serious concern of the PETE academician for the important and critical role of PE teachers for the education of children and youth. As the evidence for this contention, for example, PETE program in Indonesia need to put more emphasis to the central role of the internship of the students (*stage*) during the whole PETE program. The 'internship program' forms really the heart of the teacher preparation program. As we have witnessed for the same program in other country as the comparison, we got convinced that such an internship could really be very instrumental in developing the teaching abilities and skills of the students.

Our visit to the PETE program at Calo (PETE program) Windesheim, the Netherland, for example, revealed that their program comprised of the following elements

- Courses for the improvement of own movement skills,
- Theory courses (not organized on the basis of the various diciplines but around themes)
- The internship (in each program year at different school types / levels and varying in length and intensity),
- Reflection and Simulation,
- Profiling

We found it striking that as far as the own movement skill courses are concerned there is a differentiation in the amount of time that is available. Gymnastics, athletics, dance, swimming, and (sport) are included in the program during 8 semesters, while judo and 'circus' are taught during two, and one semesters respectively. An important difference regarding our home situation, is that in Calo's program the focus is already on the issue of 'how to teach', 'how to organize learning situations' for this skill domain. We found another important characteristic, which is rather different from the Indonesian situation, in the thematic organization of the theory courses (in our institute the whole range of different disciplines are central).

However, the most important difference with our system is to be found in the central position of the 'internship'. It can be said that at Calo the internships form the heart and the lungs of the whole PETE program. They take the largest amount of curriculum time; they start in the first semester and continue to the last semester of the final year. They are well guided and supervised by Calo teaching staff, who regularly visit the internship schools. The experiences collected in the





internship are discussed and evaluated in special sessions. We became convinced that the 'internship' is the missing link in our program at home. Since in our program internships play a minor role (it is only during one semester), it is not surprising that the teaching competencies of our graduates cannot be compared with the competencies of Calo graduates.

Most important thing, we need to be aware of that as far as PE teacher is the concern, Shulman (1987) also ever warned us that teachers in general and PE teachers in specific, need to master the 7 Knowledge Base for Teaching. They are:

- Content knowledge: subject matter to be taught
- General pedagogical knowledge: teaching methods that pertain to all subjects and situations
- Pedagogical content knowledge: how to teach a subject or topic to specific group of students in a specific context
- Curriculum knowledge: developmentally appropriate content and programs at each grade level
- Knowledge of educational contexts: the impact of context on instruction
- Knowledge about learners: developmental psychology, learning psychology
- Knowledge of educational goals: the philosophy, objectives and structure of our educational system.

### **Effort # 3: Investment in PE Equipment**

Apart from the one-sided emphasis of the curriculum and the ineffectiveness of PE teachers, Indonesian PE has also to cope with poor working conditions at almost every school. First, we would like to mention that the number of children in a class in most schools is around 40-50. Moreover, very often two or three classes are grouped together because of time and space limitations. So, it is no exception to find one PE teacher involved with around 100 to 120 children in one PE learning situation. "Crowded and disordered classes" would be the first impression when witnessing such classes. Secondly, it must be emphasized that most of the facilities (indoor as well as outdoor) are poor and that the equipment is very limited. Given these conditions it is not surprising that PE teachers have serious problems to offer their pupils a range of learning tasks and to strive for differentiated levels of relevant learning. They don't see another option than to follow strictly the national guideline and to give instruction in a particular sport using what Muska Mosston has labeled as the *command style*. Thus, when a sport (e.g. basketball) has been chosen, they will assign all children to practice the same task for the whole lesson.

PE equipment then should be the next issue to be restored in the form of real investment of money to purchase the available equipment in the market. But please beware, that the equipment of PE are not the same as the standard sport equipment for general sport purposes. Let us think that it is our collective homework for the majority of us.







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## PHYSICAL EDUCATION IN THE PHILIPPINES

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Schools serve as an excellent venue to provide students with the opportunity for daily physical activity, to teach the importance of regular physical activity for health, and to build skills that support active lifestyles.

Quality Physical Education is the most effective and inclusive means of providing all children with the skills, attitudes, values, knowledge and understanding for life long participation in physical activity and sport. It helps to ensure integrated and rounded development of mind, body and spirit. This is the only school subject whose primary focus is on the body, physical activity, physical development and health. It helps children develop respect for the body - both their own and others. This also develops understanding of the role of physical activity in promoting health and contributes to children's confidence and self esteem. Provides the skills and knowledge for future work in sport, physical activity, recreation and leisure, a growing area of employment. (R. Malina, World Summit on Physical Education 1999)

Likewise, physical education and sports bring direct financial benefits in terms of savings in health care costs, in the prevention of violence and juvenile delinquency, and in related social services. These can lead to job creation, particularly in the developing countries, and therefore helps to combat unemployment and poverty, promoting a better standard of living. Noting that job creation contributes to the economic integration of vulnerable sectors of the community and helps to eliminate social tensions more effectively, thus maintaining a peaceful social climate that is essential to socio-economic development in the framework of a culture of peace. Reaffirming that physical education and sport provide an ethical and social foundation for the spirit of fair play, mutual respect, gender equity, solidarity and human understanding, which are essential for the creation of a culture of peace.

Therefore, it is necessary to promote and invest physical education and sport programmes, since more and more people are engaged on these for good health and for recreation. Likewise, this is a very good invest for individual for good health and not to spend medicine which is a good savings for them.

Unfortunately, some people do not value the importance of participation in physical activities and sports programmes. Likewise in schools, most children get little to no regular physical activity while in school. Budgetary constraints and increasing pressure to improve standardized test scores have caused school officials to question the value of PE and other physical activity



programs. This has led to a substantial reduction in the time available for PE, and in some cases, school-based physical activity programs have been completely eliminated and or reduced time for physical education.

In the Philippines, Physical Education is not seen as a priority in the '90s. Often Physical Education is being taught by generalist teachers with little or no preparation in Physical Education methods. Usually, there is no budget and are having a negative impact on the time and resources required to teach a quality Physical Education programmes, much more during the Spanish colonization. Filipinos have not much physical activities except on forced labor among the lower class. Generally, people lived in **sedentary life** while waiting for the harvest time after planting.

The favorite pastime of the Filipinos is **cock fighting** and **swimming**.



**Dancing** is also one of their favorite physical activities. Ceremonial dances were performed during religious events, like **Santacruzán** wherein people ate, sang, drank and danced with the traditional folk and ethnic dances.





*Carinosa is the National Folk Dance in the Philippines*

**Folk Dances performed during Santacruznan and Fiesta Celebrations**





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**Ethnic Dances**





**TRADITIONAL GAMES IN THE PHILIPPINES**

Philippine Games were played by the Filipinos during grand celebrations or after *Santacruz*.



**Tumbang Preso**

**Patintero**





**Piko**



**Luksong-Tinik (Jump over the thorns)**



**Luksong-Baka (Jump Over the Cow)**



**Sipa (Game of kick)**

It was during the American Regime that Physical Education was given importance. In Ateneo de Municipal de Manila, the oldest university in the Philippines, physical education was part of the curriculum. In the year, 1901, physical exercise was one of the subjects introduced in the public schools and became a regular program.





In 1969, the Philippine government mandates the inclusion of physical education and sports programs in the school curriculum. That the State shall promote physical education and encourage sports programs, league competitions, and amateur sports, including training for international competitions, to foster self-discipline, teamwork, and excellence for the development of a healthy and alert citizenry.

All educational institutions shall undertake regular sports activities throughout the country in cooperation with athletic clubs and other sectors. This curriculum contributes to the development of fitness, health and wellness among school-age students as provided in the program's rich and challenging physical activity experiences.

Republic Act was formulated providing for the promotion and financing of an integrated physical education and sports development program for the schools in the Philippines. This Act known as **"The Schools Physical Education and Sports Development Act of 1969."**

The goal of physical education is:

1. To instill in young citizens a proper appreciation of the importance of physical development hand in hand with the mental development in individual and social activities.
2. The sports and other activities in a physical education program should provide opportunities for the athletic development of children and youth who have the competitive spirits.
3. To promote appreciation of Philippine folk dance, indigenous and traditional dances as contributory activities to achieve fitness, health and wellness.

The MISSION of Physical Education Programmes seeks to:

1. Enhance its services and expand its academic thrusts through various educational programs and activities geared towards the development of the individual;
2. Elevate the level of competence of the program's faculty pursuant to its desire to be recognized as a leading entity in the field of sports, physical education, fitness, recreation, and health; and
3. Make itself relevant to society by contributing to the formation and scientific education of professionals who will serve as agents of change in allied fields of specialization.

On the other hand, Higher Learning Institutions (HEIs) affirm the importance of physical education. Commission on Higher Education (CHED) Memo Order No. 23 series of 2011 states that: "Physical Education as a discipline and as a profession plays an important role in human development and continues to expand at a fast rate. By its very nature, physical education is about participation, inclusion, and a sense of belonging. It bring individuals and community together, highlighting commonalities and bridging cultural and ethnic communities".







However, because of unemployment rate in the Philippines and deteriorating quality of education, the Department of Education (DepEd) and allied stakeholders are responding to the urgent and critical need to improve the quality of basic education in the Philippines through a major education reform known as ***K to 12***, which means kindergarten and the six years of elementary and six years of secondary education. The reform includes decongesting and enhancing the basic education curriculum for learners to master basic competencies, lengthening the cycle of basic education to cover kindergarten through year 12.

Expanding the basic education by adding kindergarten and two years in high school ensures that graduates earn the necessary skills and reach the employable age to qualify entrance into the world of work, if they desire or need to do so. On the other hand, graduates who opt to go to tertiary education are deemed better prepared for college study/work.

The Physical Education Curriculum under the K to 12 Basic Education Program is anchored on the tenet “Move to Learn, Learn to Move” with ultimate goal of achieving lifelong fitness. The framework is bounded on the context of legal and philosophical underpinnings pursuant to Article IV Section 19 of the Philippine Constitution.

The integrated movement approach in this program enables the learner to relate the movement context to the development of motor skills and other combined use in a variety of activities. The approach shall enable the learner’s ability to apply these concepts to their performance in a variety of physical education activities in school and in the community they belong. This approach emphasizes the identification of movement potential which are used as the means for transfer of learning and in understanding the human activity.

This curriculum responds to the government’s thrust in achieving total participation and involvement of the whole learning environment via instructional support (quality instruction), administrative support (facilities and equipment), public and private partnership (cooperative effort) and the home and community support. The learner demonstrates understanding of the concept of physical activities in achieving, sustaining, and promoting an active lifestyle for health, lifelong fitness and wellness.

## ***PROMOTING INVESTMENT IN PHYSICAL EDUCATION & SPORTS PROGRAMMES***

There is compelling scientific evidence that regular physical activity improves health and quality of life and reduces the risk of chronic disease, disability and premature death. Inactive people are at greater risk of heart disease, obesity, high blood pressure, osteoporosis, diabetes, cancer and depression. Hence, government agencies and individuals should invest and promote a wellness and physical fitness programs including physical activities in schools to help Filipinos stay fit and healthy.





The Philippines give importance in the promotion of physical activities and sports programs as manifested in section 19 Article XV of the 1987 Philippine Constitution which provides that the state shall promote physical education and encourage sports programs, league competitions, amateur sports, including training for international competitions, to foster self-discipline, teamwork, and excellence for the development of a healthy and alert citizenry.

At present, aside from the Philippine Sports Commission created under Republic Act No. 6847 enacted in 1990, there are other organizations that have a direct role in the state of sports in the country today like the Philippine Olympic Committee and thirty eight national sports associations. There is therefore a need to provide a central governing agency that will consolidate all efforts, provide direction, and encourage investment in Philippine sports.

Therefore, group advocates continue to outline the economic case for the promotion of physical activity, they can frame for policy makers why this is a worthy investment. Increasing physical activity and transforming communities for active living has been shown to positively impact labor productivity, economic development, quality of life, physical and mental health and well-being, military readiness and retention, and academic performance of students. Clearly this represents a worthy investment for the future of our nation. Comprehensive health approaches in schools lead to improvements in children's academic achievements, as well as in their health, well-being and quality of life, worthy for investment and promotion of physical and sports activities.

The most famous sports for investment and promotion in the country is boxing because of the success of our hero in sports - **MANNY PACQUIO**. Hence, most teenagers are practicing this either for a fee or for exercise and for recreation. This event is already included in sports competition in schools and universities in the country.



### Other Sports and PE Activities







## The Promoting Physical Education and Sport Programs in Thailand

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### Introduction:

The Ministry of Public Health, Thailand, had the right to educate and promote health and sanitation for Thai citizens, as well as to protect, control and cure all kind of diseases, by the way, restore health of Thai citizen efficiency, furthermore in order to promote citizen growth and become as each human to be well of individual living, family quality well concern, community and social strengthen, each person need to beware of the development of **physical health**, mental or intelligent quotient, social and temper or emotional quotient. (<http://healthykid.moph.go.th/index.php/2012-07-05-03-21-06>)

**Erikson's stages of psychosocial development**, had explained eight stages through which a healthily developing of human should have passed from infancy to late adulthood. The eight stage concerned of human development during each individual person to grow while his or her had the age of 0-2 years, 2- 4 years, 4-5 years, 5-12 years, 13- 19 years, 20 – 39 years, 40 -64 years and 65 years and above. In each stage, the person confronts, and hopefully masters, new challenges. Each stage builds upon the successful completion of earlier stages. The challenges of stages would have successfully completed and may be expected to reappear as problems in the future. ([http://en.wikipedia.org/wiki/Erikson's\\_stages\\_of\\_psychosocial\\_development](http://en.wikipedia.org/wiki/Erikson's_stages_of_psychosocial_development)) Erickson, also confirm that, human being continue to develop through the entire life span and along the way eight critical challenges of crisis, whit each of life's stage, in order to be happy and successful in future life.

However, mastery of a stage was not required to advance to the next stage. Erikson's stage theory characterizes an individual advancing through the eight life stages as a function of negotiating his or her biological forces and sociocultural forces. Each stage was characterized by a psychosocial crisis of these two conflicting forces. If an individual does indeed successfully reconcile these forces, he or she emerges from the stage with the corresponding virtue.

Taylor & Francis, explained the accuracy of the content should not be relied upon and should be independently verified with primary sources of information. The human development would not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content. Furthermore, human **biological development** mentioned that; Body doubles in height and quadruples in weight, neurons grow in increasingly, and enabling faster and more efficient message transmission. Motor skills progress from simple reflexes to coordinated motor abilities, such as grasping and walking, sensory and perceptual abilities develop rapidly. **Cognitive** improvement in such categories; basic structure of language learned through baby talk through an adults, first communication emerges through crying, then cooing and babbling, language skills progress from speaking a few words by age 1, to constructing sentences by age 2, awareness of world progresses through immediate sensorimotor experiences to mental representations of events, thinking includes concept of object permanence: objects still exist when out of sight or awareness and ability to grasp conceptual categories begins;





by age 2 numerous definite concepts develop. **Psychosocial** development as the following; emotional responses change from basic reactions to more complex, self-conscious responses, independent behaviors increase with parental encouragement around feeding, dressing, and toilet training, parents and infants respond to each other by synchronizing their behavior, development of secure attachment sets stage for child's increasingly independent exploration, ability to relate to playmates emerges by end of period, early personality traits, such as introversion and extroversion development. (Routledge Informa. 2010., [http://www.learner.org/series/discoveringpsychology/development/0\\_2.html](http://www.learner.org/series/discoveringpsychology/development/0_2.html) and <http://www.tandfonline.com/page/terms-and>.

### Methodology:

In Thailand had concerned to promote physical education and sport programs in all stage growth of all level of human life span. The “**Physical Education and Sport Programs**” had included in all level curriculum, from K to 12 grades, also in the undergraduate level, especially all of the curriculums at Kasetsart University.

### Range of age:

In order to understand changed in all subjects matters of family life's cycle, over time in patterns of individual and family development, social historians have made extensive use of three important analytical constructs, such as; the life stages, the family cycle, and the life courses. **The life stages** such as infancy, childhood, adolescence, adulthood, and old age are developmental life stages of normal human being, each stage of life continue with its own biological, **psychological**, and social characteristics, through which individuals pass over the course of their lives. **The family cycle** referred to the stages, which families being as members of each individual family's member, such as age, contracts, contribution and family size expands. **The life course** referred to the passage of individuals through major life cycle transitions, such as going to school, leaving school, leaving home, entering the labor force, getting married, and make way of expanding family (Harder A. F., <http://www.support4change.com/index>). Therefore, Promoting physical education and sport programs in Thailand, became necessary to prepare quality citizen to develop quality social and nation as sustainable development.

### Opportunity grant:

Kasetsart University was the first university and the only university in Thailand, had been provided the education for the children with autism as **inclusive education** from kindergarten level until graduated level and master degree level. The children with autism would studied and got well care with special experienced teachers since grade 1 to grade 12 at the laboratory school, Faculty of Education, Kasetsart University, Jatujak district, Bangkok 10900, Thailand. Kasetsart University also provided a chance for the child with autisms; whoever needed to continue their education in the undergraduate level and graduate level by accepted all the application form from all over the nation. The interviewing each individual child with autism student and their parent were method for selection, in order to make the right consideration to put the student into the right subjects, field of study and would have fit to their ability and characters. The team of interviewing included expert psychologist, Professor Dr. Penkhae Limsila, psychologist, dean of Faculty of Education, dean of





the faculty that the student apply, the director of “Khun Poom” Special Education Study and Development Center, the committee of the study and development for special education, Kasetsart University. In the master degree level the student applied by his or her own of interest.

In 1990, the laboratory school, Faculty of Education, Kasetsart University was approved to run the cooperated project of “Academic and Research Cooperation for the Special Education” between The laboratory school, Faculty of Education, Kasetsart University and The Child Psychiatric Hospital, to researched and prepared the possibility to provide education for the children with autism. The project started by accepted 5 students each year to start their education in the first grade, whom had approved from The Child Psychiatric Hospital. One of the important process; the school had formed special education teachers as committee, they were sent to improve their specialize career; special education concern they had to work hard individually and they had to work with team approach, in order to find out the good practice and best solution to assist those autism children to be able to improve their emotional quotient and intelligent quotient suitable to their way of living in future life. Those autism students had studied with the general student as inclusive education, in order to give chance for the autism to learn with general friends and to adjust oneself to improve social development.

The project had run for nine years, until in 2004, and then the 3<sup>rd</sup> year of kindergarten level were accepted to be treaded and prepared to go to school before start the first grade. In 2012, there were 87 autism students studied at the laboratory school, Faculty of Education, Kasetsart University from kindergarten to grade 12, and there are 16 students studied at the undergraduate level in 2013. After experienced and with well knowledge management of providing the education for the autism children, we found that, autism students should start to be in class as an inclusive education form the 3<sup>rd</sup> grade until 12<sup>th</sup> grade in all subjects. Nevertheless, while they were studied at the 1<sup>st</sup> and 2<sup>nd</sup> grade, they would have studied academic class with autism friends, but it would be nice to give their chance to meet new friends in normal class only with the following class; such as art, **sport and Physical education**, music, computer, English, and library class. Except defective severe cases would have studied with specialty care in all subject, but they would be in class with general friends in social activities.

The result of the project revealed that, all of the autisms’ students with special care had developed their roll of education improvement and behaviors. The students could study with the normal student without serious problems; they had shown their improvement each year. They had got their higher score and intelligent quotient increasingly. They had shown their autism sickness decreasingly, in such empirical evidences; they could make eyes contact to whom they talk with, they could played with friends for longer period of time, they could studied in class with normal students, as “**Inclusive education**”, for longer period of time and had more patient, they talk with more reasonable points and so on.

The success of the project, become well known and had been accepted to the parent who had child with autism. By the way, Kasetsart University became well known as well with provide inclusive education to the autism and got such a good result, and known as “Child with Autism can be care and cure to have better future life with oneself and with social accepted”





Kasetsart University had researched and developed such model to assist autism and defective learning students from kindergarten level to undergraduate level for more than 30 years. Therefore, model of education management and follow up autism child and defective learning student had become success and cause impact to assist and develop autism and learning disability child in Thailand with clearly evidences, by the way it's become as model concerned to the ministry of Education to apply to all school in Thailand (Surachai J. and team, 2012). We could not refused or sort out such extract citizen to meet the nation development of social, economic, political and education, but we all need to support our citizen, especially those who need special care and support.

## Sport Programs

Thailand had support sport programs and teams to show the ability of Thai citizen, by the way it become part of promoting and get good reputation of the country of Thailand as well. In order to be number one of the roll in each sport program, the great amount of budget that the government or/ and private sectors had to contribute to those in such sport programs.

## Conclusion:

**Promoting physical education and sport programs** was necessary to support the life stages, the family cycle, and the life courses. In the same way, in order to beware of the development of each individual person of **physical health**, mental or intelligent quotient, social and temper or emotional quotient of each individual citizen of the man's power in the country, would have strengthen, empower and beside of the quality of the man power, would have brought such of opportunity to each individual, community and nation to get such chances; career, income and to show off in all matter which would benefited to the overall image of nation development of education, social, politic, economic and so on of citizen and nation development.

## Reference:

Erikson, Erik H. 2013. **Erikson's stages of psychosocial development**, ([http://en.wikipedia.org/wiki/Erikson's\\_stages\\_of\\_psychosocial\\_development](http://en.wikipedia.org/wiki/Erikson's_stages_of_psychosocial_development))

Harder A. F. 2012. **The Family's Life Cycle**. <http://www.support4change.com/index>.

**Life** **Span** **Development,**  
[http://www.learner.org/series/discoveringpsychology/development/0\\_2.html](http://www.learner.org/series/discoveringpsychology/development/0_2.html)

Routledge Informa. 2010. **The Income Component of the Human Development**. London: Mortimer House.

Surachai Jewcharoensakul, Daranee Uthairatanakit and Rapeeporn Suphamahitorn. 2012. **Inclusive Education for Students with Autism in Thailand: A Case Study of Kasetsart University**. Faculty of Education, Kasetsart University, Thailand.

The Ministry of Public Health, Thailand, 2013. <http://th.wikipedia.org/wiki>.





## SportSmart Skills (S3)

### A Functional Approach to the Conduct of Fundamental Motor Skills and its role in the Development of an Athlete

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#### A. WHY SPORTSMART SKILLS?

##### 1. Expected Learning Outcomes

- ✓ To teach fundamentals of movement, fundamental motor skills and games concepts in a fun & engaging manner, through a dynamic curriculum, pedagogies and assessment strategies.
- ✓ To leverage on fundamental motor skills and games concepts to better understand students' movement patterns.
- ✓ To plan and implement an effective, meaningful and fun movement education programme.
- ✓ To progressively integrate and build on fundamental of movement, fundamental motor skills and games concepts.

##### 2. Costs of Early Specialization

“Sports Science research contends that **specialization** before puberty is **detrimental** to an athlete's long term success. **Impedes** their **overall athletic development**”

*Brian T. McCormick, “Early specialization – How not to build an elite athlete?”*

##### 3. Why We Shouldn't Specialize Early?

“The more developed a player's general athletic skills, the higher the player's ceiling in his or her chosen sport.”

*Brian T. McCormick, “Early specialization – How not to build an elite athlete.”*

##### 4. Multilateral Development

Those are raised a concluded that

“It's important for young children to develop a **variety of fundamental skills** to help them become **good general athletes**.”

*Tudor Bompa (2000) in his book, “Total Training for Young Champions”.*

“The cultivation of **physical literacy and fundamental motor skills** has emerged as critical factor in elite athletes development”

*Sullivan, Whitaker-Campbell, & MacKay, 2010*

In Finland large scale studies revealed:





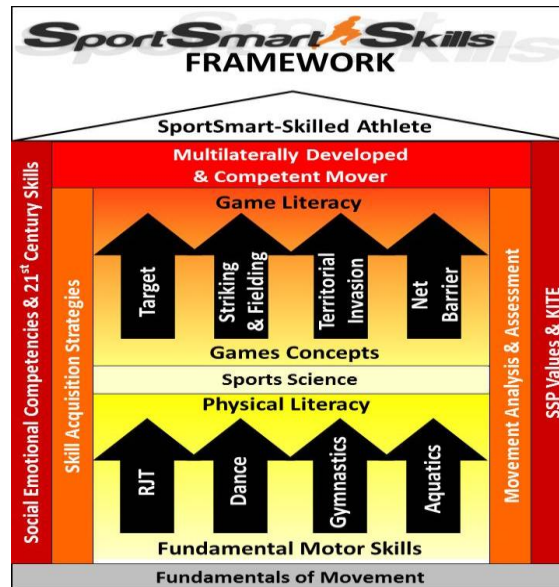
- 14-year-old students could have better fundamental movement skills compared to 11-year-olds.

*Nupponen, 1997; Nupponen, Soini, and Telama, 1999; Nupponen and Telama, 1998*

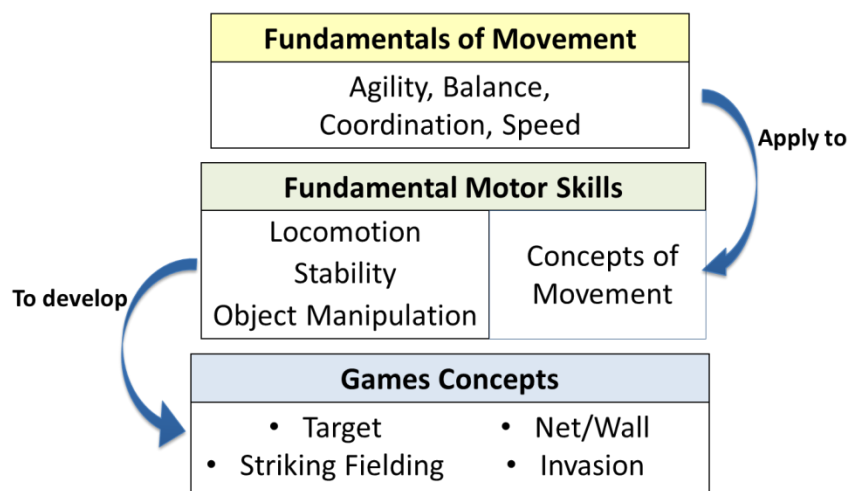
It is **possible to improve students' FMS by specific intervention** even in junior high school ages.

*Kajala et al., 2012*

**B. SPORTSMART SKILLS**



**Integration of Skills and Concepts**





## SportSmart Skills Master Concept Map

Annex 1



SINGAPORE SPORTS SCHOOL  
Learned Champion With Character  
**S<sup>3</sup> Programme**  
**Scope & Sequencing**

Fundamental of Movement		Physical Literacy			Games Literacy		
Locomotor Skills		Stability Skills	Object Manipulation Skills	Spatial Awareness	Invasion	Wall/Net	Striking/Fielding
Agility	3	2	3	3	2	3	3
Balance	3	2	3	3	2	3	3
Coordination	3	3	3	3	2	3	3
Speed	4	4	4	4	2	3	4
Reaction Time	4	2	2	2	3	3	4
Flexibility	4	2	2	2	3	3	4
Running	1	1	1	1	4	5	5
Walking	0	1	1	1	4	4	4
Leaping	2	2	2	2	4	4	4
Lumping (Height/Distance)	3	3	3	3	4	4	4
Siding	4	4	4	4	4	4	4
Hopping	3	3	3	3	4	4	4
Galloping	4	4	4	4	4	4	4
Skipling	5	5	5	5	4	4	4
Breathing	1	2	2	2	4	4	4
Bending	2	4	4	4	4	4	4
Turning	4	5	5	5	4	4	4
Twisting	5	2	2	2	4	4	4
Balancing (Static/Dynamic)	2	3	3	3	4	4	4
Pushing / Pulling	3	3	3	3	4	4	4
Stretching	3	4	4	4	4	4	4
Curling	4	4	4	4	4	4	4
Transferring Weight	2	8	8	8	4	4	4
Underarm Throwing	8	8	8	8	4	4	4
Overarm Throwing	8	8	8	8	4	4	4
Two-Hand Throwing (Chest, Bounce, Overhead)	8	8	8	8	4	4	4
Catching (Single, Double-handed)	6	6	6	6	4	4	4
Trapping / Stopping Rolling Ball	8	8	8	8	4	4	4
Bouncing / Dribbling	7	7	7	7	4	4	4
Rolling	7	7	7	7	4	4	4
Punting	9	9	9	9	4	4	4
Kicking (Top, Instep, Outstep)	8	8	8	8	4	4	4
Side-Arm Throw (Forehand, Backhand, Flipping)	9	9	9	9	4	4	4
Volleying	9	9	9	9	4	4	4
One-Hand Strike (with Implement)	9	9	9	9	4	4	4
Two-Hand Strike (with Implement)	9	9	9	9	4	4	4
Location / Space	3	3	3	3	4	4	4
Extension (Large, small, near, far)	3	3	3	3	4	4	4
Directions (Forward, backward, sideways)	2	3	3	3	4	4	4
Levels (Low, Medium, High)	3	3	3	3	4	4	4
Pathways (Straight, Curvy, Zig-Zag)	3	3	3	3	4	4	4
Time / Speed (Fast, Slow)	3	4	4	4	4	4	4
Force (Light, Medium, Heavy)	4	4	4	4	4	4	4
Flow (with / without boundary)	4	4	4	4	4	4	4
Sighting	2	2	2	2	4	4	4
With Body Parts	2	2	2	2	4	4	4
With Objects	6	6	6	6	4	4	4
With Others (Leading, Following, Mirroring)	5	5	5	5	4	4	4
Passing to Unmarked Teammate	10	11	10	10	4	4	4
Receiving	10	10	10	10	4	4	4
Running into Space	10	10	10	10	4	4	4
Communication	13	13	13	13	4	4	4
Interception	15	15	15	15	4	4	4
Create Opportunity to Score	10	14	14	14	4	4	4
Create Opportunity for Teammate to Score	10	14	14	14	4	4	4
Marking	13	13	13	13	4	4	4
Faking	12	12	12	12	4	4	4
Creation of Space For Attack (Move Opponent)	16	16	16	16	4	4	4
Creation of Space For Attack (Attack Open Space)	17	17	17	17	4	4	4
Defending a Space	19	19	19	19	4	4	4
Defending Against Attack	20	20	20	20	4	4	4
Defend space	21	21	21	21	4	4	4
Defend bases	22	22	22	22	4	4	4
Get on first base	23	23	23	23	4	4	4
Get beyond first base and on bases	24	24	24	24	4	4	4
Aid runners to move to next base	25	25	25	25	4	4	4

Legend  
Level of Expertise/ Skills Acquired  
1-25

### Curriculum



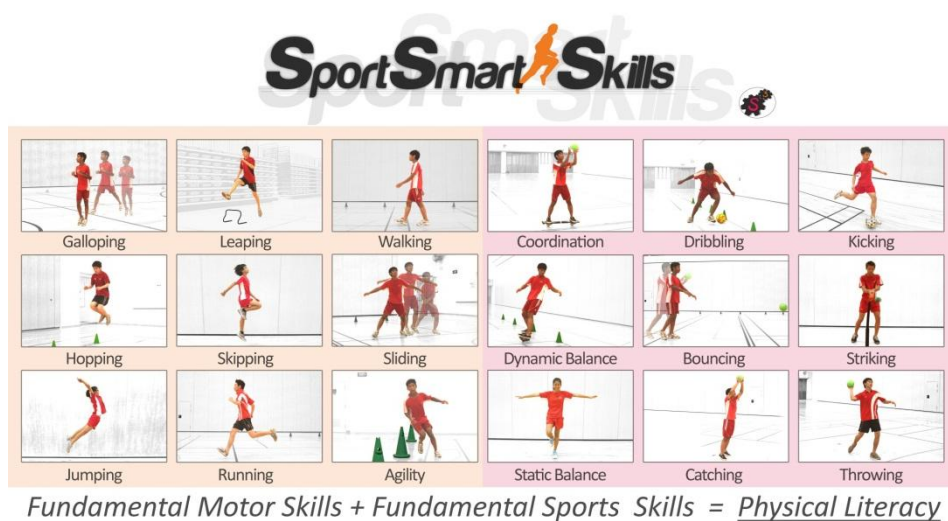
**Year 1**

1) Fundamentals of Movement

FMS focuses on locomotion skills, balance & stability; and object manipulation skills. (Istvan Balyi, 2009)

2) Fundamental Motor Skills (FMS)

3) + Movement Concepts (SOW)



**Athletics (Run Jump Throw)**

The fundamentals of running, jumping and throwing movement skills helps in the acquisition of a strong foundation for success in all other sports and physical activity.

*(BC Sport Participation Program, Run Jump Throw: Athletics Canada)*

**Gymnastics**

Provides the fundamental skills of body management, which are the basis for all effective movers and leads to the goal of physical literacy.

*(Baumgarten, Sam; Pagnano-Richardson, Karen, April 1, 2010)*

**Dance**

Create opportunities to develop movement skills so that the student athletes can perform using their bodies and movement concepts such as effort awareness, space awareness and body awareness.

*(Allison, P.C., & Barret, K.R. (2000). Constructing children's physical education experience.*

*Boston, MA: Allyn & Bacon)*

**Aquatics**

Aquatics reinforces “motor skills, physical fitness, perceptual-motor development, and sport skills...” It also facilitates “water orientation, submersion, breath-holding, breath





control, locomotion in the water, comfort with buoyancy, balance, and ability to change direction (in the water)...”

Grosse, S.J., (2007). *Water learning: improving mental, physical, and social skills through water activities. International Journal of Aquatic Research and Education, 3, 101-104.* Human Kinetics, Inc.

**Sports Science Education**

Topics:

- ✓ Physiotherapy: Treatment of Injuries
- ✓ Strength & Conditioning: Growth & Development
- ✓ Psychology: Discipline & Motivation, Goal Setting and Transition
- ✓ Nutrition: Balanced Diet

**Year 2**

**Games Concepts: Multisports & Multiskills Exposure/Acquisition**

- 1) Pedagogy
  - Play-Deliberate Practice-Game -> (Facilitation + Conscious Learning)
  - Constant Feedback -> (Informational + Motivational)
- 2) Assessment
- 3) The assessment is conducted by two methods: **Validated Rubrics & Quantitative**
  - Min 3 times for Year 1 (Jan, May, Oct) -> Focusing on FMS
  - Min 5 times for Year 2 (Pre-Post; twice of each Game Module) -> Focusing on Games Concepts

		Name of Student-Athletes																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Leaping	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		2																	
		3																	
		POINTS	0-5	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1
GRADES		1-3	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	
2	Jumping for Height	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		2																	
		3																	
		POINTS	0-8	3	3	3	3	2	3	3	3	2	2	2	3	3	3	3	3

The assessment for Result & Report





Physical Literacy (FMS) Itemized Scoring

	Physical Literacy																	
	Fundamental Motor Skills																	
	Locomotion						Stability Skills						Object Manipulation Skills					
	Walking	Jumping (Height/Distance)	Sliding	Hopping	Catapulting	Slipping	Bending	Turning	Twisting	Balancing (Static/Dynamic)	Pushing/Pulling	Transferring Weight	Underarm Throwing	Overarm Throwing	Two-hand Throwing (Over, Under, Overhand)	Two-handed Catching	Bouncing/Tossing	Rolling
Academy Target	3	3	3	1	1	2	2	3	3	3	2	3	3	3	3	2	2	2
2013 January	2	2	1	2	1	2	1	2	2	2	2	2	1	2	1	1	1	1
2013 May	3	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2
2013 October	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Games Literacy (Game Concepts) Itemized Scoring

	Games Literacy															
	Game Concepts															
	Invasion					Wall/Net					Striking/Fielding					
	Passing to Teammate	Receiving	Running into Space	Communication	Interception	Marking	Create Opportunity to Score	Move Opponent to set up	Attacking Open space	Defending a Space	Defending Against Attack	Defend Space	Defend bases	Get on first base	Get on bases and beyond first base	Hit runner to move to next base
Academy Target	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2013 Start	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1
2013 End	2	2	3	3	2	3	3	3	3	3	3	2	2	2	2	3

Average Scoring by FMS Categories

	Physical Literacy		
	Fundamental Motor Skills		
	Locomotion	Stability Skills	Object Manipulation Skills
2013 January	E	E	D
2013 May	D	D	C
2013 October	D	C	C

Physical Literacy Ave Grade (Sec 2 Oct 2013) = Competent

Physical Literacy Ave Score (Sec 2 Oct 2013) = 2.8 (High Competent)

Average Scoring by Games Categories

	Games Literacy		
	Game Concepts		
	Invasion	Wall/Net	Striking/Fielding
2013 January	E	E	E
2013 May	D	C	D

Games Literacy Grade (Sec 2 Oct 2013) = Competent

Games Literacy Ave Score (Sec 2 Oct 2013) = 2.4 (Low Competent)

Average Scoring Overall

(Multilateral Development: Both Physical and Game Literacy)

Multilateral Development Grade (Overall Oct 2013) = Competent

Multilateral Development Ave Score (Overall Oct 2013) = 2.6 (High Competent)

**IMPACT OF PROGRAMME (2012)**

	Expected	Actual
1. % of student-athletes achieving desired physical and game literacies.	80% (relation to sports target)	88%
2. % of student-athletes with positive feedback in perception survey of S <sup>3</sup> .	> 95%	100%
3. % of coaches/GMs with positive feedback	> 80%	83.3%

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**C. REVIEWS**

“Your Sport Smart Skills programme is impressive and I think you should showcase it as much as possible.”

*Professor John Wang, CPsychol*

*Head, Physical Education and Sports Science; Leader, Motivation in Educational Research Lab.*

“The programme, especially the scope and sequence, will be extremely useful to the fraternity.”

*~Dr Steven Tan, PhD Physical Education, NIE-PSS*

“The programme contains excellent fundamental skills training.”

*~ Dr Ralph Pim, Professor of Physical Education*

*Director of Competitive Sports/ at the United States Military Academy, West Point*





“...that fundamental skill development is critical to the development of more specialized skill patterns, particularly if we want people to be physically active in more than one sport over their lifetime.”

~ *Dr Judith Rink, Distinguished Professor Emeritus,  
University of South Carolina*





## Sport Psychology Service for Chinese Elite Swimmers

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### 1. Introduction

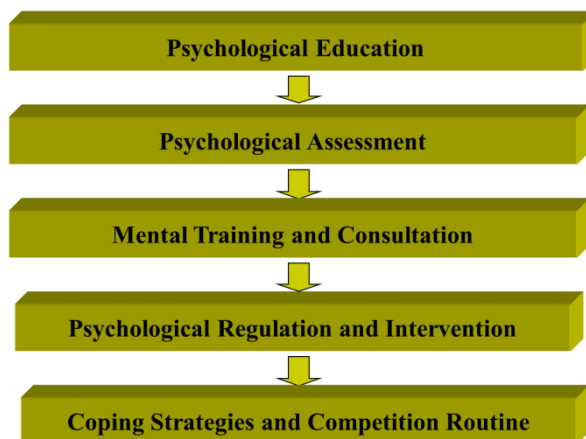
Sport psychology services are considered to be an important brick stone when building athletic success. The strive for better performance is not only a characteristic of athletes, but of the whole support system in top level sport including sport psychology. Olympic Games are stressful events for all involved – coaches, athletes, support team, and administrative staff.

We know that successful performance in this kind of environment depends greatly on an athlete's ability to focus effectively, to self-regulate his or her arousal levels, to manage emotions, and to have a comprehensive plan in place for travel, training, and competition

### 2. Research Methodology

#### 2.1. Research Program

The procedures of the method are listed in the chart below



#### 2.2. Subjects

55 swimmers who took part in London Olympic Games.

#### 2.3. Methods

- ✓ Literature
- ✓ Questionnaire
- ✓ Observation
- ✓ Interview

### 3. Result

#### 3.1. Psychological Profiles

From the research, the data for athlete's psychological profiles are drawn in the table as follow





Questionnaire	Sub-scale	Evaluation
Athlete burnout	Reduced sense of accomplishment	Moderate
	Physical/Emotional Exhaustion	High
	Sport devaluation	Moderate
Expectation Accomplishment	Expectation accomplishment	Low
State anxiety	Cognitive State anxiety	Normal
	Soma- state anxiety	Normal
	State confidence	Normal
Trait anxiety	Trait anxiety	High
Mental skill	Anxiety control	Moderate
	Attention Focus	Moderate
	Confidence	Moderate
	Mental Preparation	Moderate
	Sport motivation	Low
	Team importance	Moderate

### 3.2. Psychological Consultation

The issues and the problem are

- ✓ Performance demands
- ✓ Physical/sport-specific skills
- ✓ Cognitive-affective behavioural patterns
- ✓ Intrapersonal and developmental variables
- ✓ Interpersonal variables
- ✓ Transitional and environmental demands

Those raised some questions as follow

- ✓ What is the quality of a consultation?
- ✓ What influences the quality of the consultation process?
- ✓ What is the sport psychology consultant's role?

### 3.3. Mental Training and Intervention

This part is inspected by two perspective: (1) Social-cultural perspective, and (2) Cognitive-Physiological perspective.

There three purpose of mental training

- 1) Each athlete must be physically, psychologically and emotionally prepared.
- 2) Mental training is founded on personal growth and not upon comparison to others.
- 3) Our primary objective was to enhance the athletes' self confidence and self-control

The Mental Training Forms and Functions

- 1) The main forms of mental training we used included group seminars, individual counseling, special topics discussions, biofeedback training, theme visits, and cognitive enhancement of psychological principles.
- 2) Our mental training program resulted in positive outcomes by helping the athletes cope with anxiety, improve the consistency of their performances in competition and improve their thinking skills.

The approaches and intervention techniques are available

- 1) Imagery interventions
- 2) Self-talk







- 3) Goal setting
- 4) Stress management
- 5) Emotion regulation
- 6) Attention
- 7) Self-efficacy based interventions
- 8) Understanding of group functioning
- 9) Mental toughness

### The importance of psychological regulation

In a competitive sport context, elite athletes invest considerable time and effort in effectively setting goals, developing plans, focusing their attention to execute tasks, and evaluating their performances. As such, competition outcomes are considered to be a test of “the effectiveness of the athlete’s skill in self-directed thinking and behaving” or in other words, a test of one’s capacity to self-regulate.

### 3.4. Competition Routine and Coping Strategies

Athletes typically adopt performance routines in order to feel in control – both physically and psychologically – over what they are required to do before, during, and after a sporting act. In order to achieve a high level of proficiency in their sport, and to be optimally prepared for participating in competition, athletes should know in advance what they are required to do during their actual performance.

**A performance routine** has been defined as a systematic sequence of physical (motor) and psychological behaviors that are demonstrated before, during, and after the execution of a sporting task. A performance routine is an integral part of the athletes’ repertoire during the time he or she is (a) preparing him- or herself for the sporting act (i.e., a pre performance routine), (b) executing the sporting act (i.e., a during performance routine), and (c) assessing and reacting to the way he or she performed the sporting act and/or the outcome of the act (i.e., a post-performance routine)

An effective performance routine should include a set of overt physical behaviors demonstrated by the athlete before he or she begins the sporting task.

In addition, a good routine should include psychological elements, such as focusing attention, in order to enable the performer to cope effectively with distractions associated with the performed act – both external (e.g., noise generated by the crowd) and internal (e.g., negative thoughts).

## 4. Effect of Psychological Service

- ✓ Performance: 5 golden medals, 2 silver medals, 3 bronze medals
- ✓ More positive emotion feelings
- ✓ Positive thought and higher level coping skill

Thoughts and Questions of Psychological Services in Chinese Sports Teams





- 1) Athletes' negative thinking: What are the central nervous system's mechanisms and brain's work mode involved with negative thinking? How do they lead to mistakes?
- 2) Problems in controlling arousal level: Different sport projects or stages of a sport project require different arousal levels. Since athletes' arousal performance show considerable variation before or during the game, how can it be controlled effectively?
- 3) Application of family therapy technology in sports teams. This refers to the migration problem of psychological consulting technology. Is validity the most important evaluation criteria?
- 4) Carrying out intervention when the counselor is on the court. Is the intervention allowed on the court? If so, if the result is not good, who is responsible? What is the position of the sport counselor, on or off the court?
- 5) Issues of professional ethics of sports counselors: the conversation between counselor and athletes. Should we let coaches and team leaders know? Sometimes they want to know, what should we do?
- 6) Relationship of the coaches' attitude and the athletes' acceptance on mental services: What is the correlation coefficient? How can we make the coaches approve of the mental workers?
- 7) Mental services after the Olympic Games. This relates to continuity and long-term mental services. What have the sports teams done?
- 8) Problems with the local teams' mental services: What is the present situation of local teams' mental services? What should they do?
- 9) Problems with performance evaluation of mental services: What are the successful and unsuccessful mental services? How should we evaluate them?
- 10) Future of sports teams' mental services: psychological workers must improve the scientific level of mental services to sincerely convince the coaches and athletes, and implementing mental training methods to be used effectively by athletes and coaches.





# PRESENTERS

## Evaluation of Sekayu Basket Ball Academy Program in Musi Banyuasin South Sumatera

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### Abstract

*Result of this study 1) context that includes the background and clear objective guidance in the establishment of ABBS 2) input that includes coaches, assistant coaches, and athletes have a good track record, ABBS has complete facilities and the income is given by APBD Musi Banyuasin regency, 3) process the implementation of coaches and assistant coaches acceptance, receipt by the athlete selection, Coach ABBS has a training program, Has a program management and program evaluation, Coordination that exists on the affected stakeholders, 4) product like The achievement that ABBS got makes Musi Banyuasin and South Sumatra proud. Suggestions on this research are, 1) model with ABBS sports coaching can be used as a model example of sports especially basket ball coaching, 2) Regency Muba to continue to allocate continuous coaching and facilities and infrastructure on ABBS, 3) apply for aid to Kemenegpora through DISPOPAPAR because ABBS is under the control of DISPOPAPAR., 4) Cooperate with the Hospital to address the physician shortage, masseur, fisioterphis.*

**Keywords:** *Evaluation Program, Development, basket ball*

### Introduction

South Sumatra has two Basketball Academy, the Academy named College Basketball SMA Negeri 1 Muara Enim regency is located in Muara Enim and Sekayuq Basketball Academy, located in the district of South Sumatra Province Banyuasin. Basketball Academy Senior High School 1 Muara Enim established in 2011 while the Sekayuq Basketball Academy was incorporated in 2007 in terms of achievement Sekayuq Basketball Academy is superior to the Academy Basketball Senior High School 1 Muara Enim it can be seen from the

performance DBL (development basket ball league ) where Sekayu Basketball Academy has always been a regional champion South Sumatra.

Sekayu is the capital of the district Banyuasin where there are few sports colleges with good quality. Such as the Academy of Aquatic Sekayu (AAS), Sekayu Youth Soccer Academy (SYSA) and Sekayu Basketball Academy. As disclosed Kadispora Muba, MM SSTP Sunaryo, said "Muba District has established the Center for Student Sports Education Training Area (P3OPD) to nurture the potential of local





athletes." There are nine branches of sport is the focus P3OPD include football, Aquatic, Pencak Silat , Basketball, Volleyball, Tennis, Table Tennis, Badminton, Athletics, part of which has produced outstanding athletes in South Sumatra and national level. Prospective athletes are selected through special invitation and prospective athletes generated a target Dispopar”).

Sekayu basketball academy is one that is in Sumatra academy that was founded in 2007 in collaboration Banyuasin district government and the Indonesian Hangtua Foundation. Inhabited by 22 athletes comprised of 11 female athletes and 11 athletes son. at the local level, Banyuasin always be first every championship Popda, devolepment basketball league (DBL) district level. At the national level, including the president win trophies, and the election of a women's basketball player to the championship Porwil ABBS Sumatra and 2 players on the national team as a basketball player, in the name of Agustina Elya Gradita Retong (Dita) and Mustika Rauli Selya Wata (Mustika) in 2012, the reasons researchers say that the academy has become one of the best academies in Sumatra

This study concentrated on the evaluation of program implementation Sekayu Basketball Academy. in terms of stage-stage context, input, process and product (product). The formulation of the problem is as follows: 1) How does the context of college basketball program in Banyuasin Sekayuq? 2) How does a basketball academy program input Sekayuq

in Banyuasin? 3) How does the college basketball program in Banyuasin Sekayuq? 4) How does a basketball academy program product Sekayuq in Banyuasin?

This study aimed to obtain a comprehensive picture of the process of program implementation Basketball Academy Sekayu Banyuasin 1) To evaluate the context of college basketball program in the College Basketball Sekayu in Banyuasin. 2) To evaluate the program input Sekayu Basketball Academy in Banyuasin. 3) To evaluate the Basketball Academy program Sekayu in Banyuasin. 4) To evaluate product Sekayu Basketball Academy program in Musi Bnyuasin.

Basketball is a game made by two teams with 5 players per team, aiming to get the value by entering the ball to the basket and prevent the other team doing the same thing (It Wissel Ph.d 2000: 2)

Basketball is played by two teams each team consists of five players, each team trying to put the ball into the opponent's basket that prevents the opponent team put the ball or scoring. The ball may be passed, thrown, pushed, or reflected digilingkan (dribble) in all directions in accordance with the regulations

Basketball game is a game played by two teams consist of 5 people per team with the goal of entering the enemy kekeranjang ball as much as possible and prevent the ball kekeranjang our own team.

The Academy is all educational institutions both formal early childhood education, elementary education, secondary





education, vocational education and higher education is vocational education in one branch or part of the branch of science, technology, and / or certain sports art.

Basketball game is a game played by two teams consist of 5 people with the aim of entering quali kekeranjang ball with as many enemies and prevent the ball kekeranjang our own team. Although the players are allowed at any position, the most common position on the team with 5 players are player 1 as a point guard (best ball handler), player 2 as a shooting guard (best outside shooter), player 3 as a small forward (versatile inside and outside player), player 4 as a power forward (strong rebounding forward), and 5 as a midfield player (shot blocker)

It can be concluded basketball academy is an educational institution that organizes formal basketball education from early childhood, from the age of 6-17 years. Learning is done from in terms of tactics, ball processing techniques, individual skills, team work, to breathing techniques, and speed while faithfully. So that a child is prepared to become a professional basketball player at the age of 18 years, and can be formally contracted by a basketball club in the Indonesian League and NBA basketball league.

The highest achievement in the field of exercise needed regular exercise, increased and sustainable in a long time, which is between 8 to 12 years. Exercises should be started very early age and to reach peak performance between the ages of 18 to 25 years. In the long-term sports coaching

systems, starting with the early stages of Memasalkan sport throughout society with the motto that has been launched by the government of "socializing Exercise your sport and society". In international circles is known as the "Sport For All". After a mass sport, will many talented emerging seedlings. Through a variety of scientific approaches, selected seeds gifted to every sport, which is then guided to achieve the highest achievement.

Span a long process that required support resources are coordinated and commitment of the various stakeholders. The coaching takes place at an early age ranging from The mass toward the seedling stage and then carried out scouting talent to the highest pinnacle of achievement in accordance with the character traits and certain sports.

Sports coaching system according Alisjahbana (2008 ) , in building sports coaching systems , there are several key components that need to be considered . The main components consist of : 1 ) Functions , which directs and be towing 2 ) Management , to plan , manage , move , and coordinate all the activities that were on purpose , in order to improve the technical and economic efficiency . 3 ) Man Power , where current national issues in sports coaching is centered on scarcity of trained professionals who are prepared specifically to foster the sport through education or training program . 4 ) Power of Trustees , some of the main problems associated with these components relate to the lack of standard requirements of





professional sports coaches built systemically . Formal recognition of the government's position is still minimal , including the recognition of the status and competence of those who have implications for the social security system and the awards they received . 5 ) Athlete or Athlete , not much different from the energy component builder , classic factors such as rewards and social security they receive a serious problem that will determine the achievement excitement that will determine the overall professionalism of the effort to build a national sport . 6 ) Program Structure and Content , with regard to public programs and activities keolahragan defined in the national sports calendar that can improve the quality of coaching . Learning resources , such as manual , textbook , film footage , and others , including the information widely about prinsip presented in a practical coaching . 7 ) Methodology and Work Procedures , which include the development and application of techniques and methods of coaching and utilization of new findings in order to maximize the efficiency and effectiveness of coaching . 8 ) Evaluation Research , to support control programs to achieve the desired objectives , including the quality control , increased efficiency and effectiveness of coaching . 9 ) Fund , the main problem is the component that wraps around the funding sources are still minimal and the allocation and utilization of appropriate and optimal . 10 ) Haornas , 's National Sports Day can actually be interpreted as a significant sporting events in

order to raise the motivation of people to work out the implementation as well as a statement of seriousness Haornas attitudes toward and manifestations of sport spark public aspirations and a strong political commitment from the government that exercise is an important part , both in development and in the context of everyday life . Warning Haornas not only contain rhetorical statements about the significance of sport for Indonesia , but Haornas be positioned as part of a system that is able to move the sports coaching sports participation of the whole society.

## Methods

Qualitative approach used in this study is the evaluation program Stufflebeam CIPP Model 1971 ( in Iwan : 2012) in terms of the stages of context , input , batch-process and product . Means for obtaining an accurate and objective information and comparing what has been achieved from coaching basketball program in Pengprov PERBASI South Sumatra , with the standards that have been set .

Study subjects designated as administrators , coaches , athletes and communities around training ABBS picture should be able to produce reliable or trustworthy .

All research sources that can provide information about coaching basketball in Banyuasin district . Research data in the form of words written or oral , picture , photograph or action that was obtained from data sources , namely : people , paper and place . This is





in accordance Arikunto opinion ( 2002:07 ) that the source of the data obtained from the three objects , paper , place and person . Paper documents the data sources , books , magazines or other written materials . Either in the form of theory , research reports , and so on . Place the source data is a place that became the object of observation with a variety of behavior or actions of the people in that place . Person , the source data is a person ( the respondent ) to meet , ask and consult

The research was conducted in the area Banyuasin district area . Reason researchers took Banyuasin district as the study area are : 1 ) In ABBS has or ever scored athletes at regional, even national athletes never given birth . 2 ) This achievement is gained during the years has improved both the provincial and national level .

Data collection is the recording of events , things , descriptions and characteristics or across any elements that will support research and support . The data was collected using certain techniques , based on some known way in which data collection : questionnaire interview , observation , documentation , and content analysis ( Iqbal Hasan , 2002: 83 ) .

Data analysis can be carried out through the preparation and interpretation to formulate conclusions . By association with the phenomena to be interpreted in accordance with the natural background , the analysis of qualitative data must be met , namely : naturalistic , holistic analysis and

induction . Naturalistic , namely analisis data should be based on real situations that change naturally , open and no engineering control variables . Induction of analysis , namely the thinking underlying the induction procedure , the data revealed specific , detailed , to find categories , dimensions , important relationships and genuine , which is expressed in an open question . Holistic , meaning that the totality of the phenomenon must be understood by researchers as a complex system , linkage menyeluru and not seen parsipal ( Samsudi , 2006: 102 ) .

## Results

### 1) Evaluation konteks

In this study, evaluation konteks program covers aspects of the background and objectives of the basketball program at the Basketball Academy Sekayu.

1 Background - Government Regulation No. 18 of 2007 on sports funding

- Regulation No. 5 of 2008 Muba

- Muba Regulation No. 3 of 2007 on the establishment of working procedures ABBS - Enough

2 program objective - Improve achievement provincial basketball - Channelling talent of children in the field of basketball - just

3 coaching program - a long-term program 1 year

- Medium-term program 6 months

- Preparatory program matches - quite

### 2 ) Evaluation of input

In this study , input evaluation includes aspects of athletes , coaches , and





assistant coaches , facilities and infrastructure , and funding for Sekayuq Basketball Academy ( ABBS ) .

No. Name Description of the category

1 Coach - 3 trainer license PERBASI A2 - Well

2 Assistant Coach - Number 1 , had attended coaching seminars PERBASI - Enough

3 Athletes - 11 sons and 11 daughters

- 2 Indonesian national team players

- 20 players ABBS - Good

Field 4 - 2 field with grandstand

- Made of rubber polyster - Enough

Ball 5 - 30 pieces with fairly good condition - Enough

6 Pensions , fixtures - 1 block homestead

- 10 rooms

- 2 pairs of shoes , costumes , jackets every year - enough

7 Funds - Rp.1.688.405 , derived from local budget funds Banyuasin . - Good

### 3 ) Evaluation of the process

In this study , the evaluation process includes aspects of the implementation of the exercise program , program management , selection of coaches and athletes , coaching athletes , program evaluation and coordination .

No Name Description Category

1 Implementation of training programs - programs According to trainer

- Special program for the match - Good

2 Management of the program - Arranged by Dispopar

- Specialized in arranging staff management coaching - Good

3 Selection coach and assistant coach - a good track record for a train

- Licensed PERBASI - Good

4 athletes Selection - Selection is open

- Selection directly in the game

- Has built like a basketball player in his general - Good

5 Coaching athletes - U 12 to U 14

- U 15 to U 18 - Good

6 Evaluation of coaches and assistant coaches - 3 months once done by hand

Dispopar Banyuasin - Good

7 Evaluation of Athletes - 3 months by the ABBS - 3 bula once by the Dispopar - Good

8 Coordination - Relationships relevant stakeholders such as pelati , administrators , athletes and the Dispopar . - Good

### 4 ) Evaluate the product

In this research , product evaluation program covering aspects of success obtained by ABBS like playing basketball ability , achievement , and government support .

No Name Description Category

1 The ability to play basketball . - Improvement in mental terms

- Improvement in technical terms

- Improvement in terms of tactics

- Improvement in physical terms Good

## DISCUSSION

Background of the founding of the Academy Basketball Sekayuq namely 1 ) The use of budget funds ( not to waste money budget / utilization of funds from the budget )







, 2 ) Utilization of the former venue PON XVI in 2004 in South Sumatra , 3 ) Achievement pengkab kids are good at that .

Basketball Academy program goals Musi Banyuasin Sekayuq in accordance with Law 3 of 2005 ( 21:22 ) in coaching and sports development .

Component in national sports coaching systems are : 1 ) Purpose, 2 ) Management of , 3 ) workforce factors , 4 ) Athletes , 5 ) Facilities and infrastructure , 6 ) The structure and content of the program , 7 ) Learning resources , 8 ) Methodology , 9 ) Evaluation and research , as well as 10 ) Dana ( Harsuki , 2003:37 ) .

Sports coaching program in Sekayuq Basketball Academy ( ABBS ) has implemented a health component proposed by Harsuki which is supported by the role of government and the role of sports clubs in coaching .

Input Coaches , assistant coaches and athletes that outline Sekayuq Basketball Academy has met some requirements in terms of quality assistant coaches or athletes in general seerta .

Conclusions can be drawn , based on the aspects of infrastructure that is owned Sekayuq Basketball Academy , it is reasonable if it has an achievement academy at both local and national .

Banyuasin district governments to support women's sports achievements in Banyuasin to the availability of funds in the local budget (budget ) , to finance sports coaching .

In the process of implementation of the training program is very reasonable if ABBS bias get the achievement level regional , and national levels. This dikerakan exercise program that runs regularly and continuously.

ABBS itself has a management program of sports coaching program management under the auspices of the District Dispopar Banyuasin , in this case the district Dispopar Banyuasin have related management staff sports coaching program .

Selection of coaches and athletes can be concluded that it is reasonable if ABBS can get proud achievement regional and national level . It is based on the system acceptance Based on the coach and his athletes or ignoring the sport science , not arbitrary .

Coaching athletes early age by ABBS starts from U - 12 to U - 14 and U - 15 to U - 18, where they are divided according to their age level , but do not rule out the possibility that the level could be better though in terms of their level yet enough .

Basketball Academy program evaluation fair Sekayuq get proud achievement because every coach and atlenya always given evaluation three months.

Coordination that exists among stakeholders because ABBS has a purpose and a clear background , and transparency in the activities of coaching programs .

This ability to play basketball by Wissel ( 2000:3 ) some points when viewed from one's ability to play basketball 1 ) physical ability , 2 ) technical capability , 3 )





Ability tactics , 4 ) Ability psychological . Responding to the statement from Hal Wissel ABBS that children have good skills in playing Basketball since they have the progress of the four components over the following exercises at ABBS .

Achievement earned by college basketball Sekayuq could not be reached quickly , the program processes all need regular, ongoing coaching . It can be seen from our analysis are 1 ) ABBS implement a regular exercise program every day through its field of component coaches . 2 ) Selection of trainers under license and a good track record . 3 ) It has good facilities and infrastructure for coaching basketball . 4 ) Mempunyai management and always mengavaluasi program . 5 ) There is a harmonious relationship with stakeholders. On the basis of these ideas, is not wrong if ABBS produce daerah achievement and national level .

Basketball Academy Sekayuq get more attention from local governments Banyuasin on their achievements torehkan . Increased allocation of funds and transportation are examples of appreciation for their accomplishments .

## Conclusions and Recommendations

It can be concluded that : 1 ) Context background coaching program , coaching program objectives , program guidance on Sekayuq Basketball Academy ( ABBS ) has clarity in the establishment , development which is based on real data and facts on the

ground when the researchers conducted a study . 2 ) Input sports coaching Basketball Academy Basketball Sekayuq ( ABBS ) , there are still shortcomings in the advancement of science and technology as lack of fitness equipment and do not have the doctor , masseur , fisioterphis specifically . 3 ) Process in sports coaching Basketball Academy Basketball Sekayuq ( ABBS ) Banyuasin district that consists of the implementation of the exercise program , program management , selection of coaches and athletes , coaching athletes , program evaluation and coordination between relevant stakeholders procedure already running determined by the board . 4 ) Product sports coaching Basketball Academy Basketball Sekayuq ( ABBS ) through the successful aspects of the program including coaching basketball playing ability , achievement and attention the government has to show results based on real data and facts on the ground when the researchers conducted a study .

While the suggestions in this study were 1 ) Model coaching basketball in the district namely Banyuasin Sekayuq Basketball Academy ( ABBS ) can be used as a model example of sports especially basketball coaching . 2 ) Referring to the success of the training program for the development of local government sustainability program to continue Banyuasin continuously allocating development funds , fulfillment infrastructure development on Sekayuq Basketball Academy ( ABBS ) . 3 ) In the evaluation of the input there is a lack of facilities and infrastructure that fitness





equipment in order to meet the shortfall that officials may seek donors from outside or ask for help to Kemenegpora through DISPOPAN because Sekayuq Basketball Academy ( ABBS ) came under the authority DISPOPAN. 4 ) One of the flaws in Sekayuq Basketball Academy ( ABBS ) is yet to have a doctor , masseur , specifically fisioterphis but to overcome this board can work with the Hospital in order to reduce the shortage.

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## Leadership Of Physical Education Teacher In Forming The Character Of Students :

### As Result Of School Orgnsizational Climate Interactions

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#### Abstract

*This article discusses of the forming character of student problem who have impact in school organization climate and leadership of physical education teachers abilities. The background of this problem is often violence between students both junior and high school students. The violence created by the teenage characters are still instable and easily provoked. The learning process in physical education students can reduce a strong character because the essence of physical education to develop comprehensive changes in the students of personal quality. The favorable interaction between school organizational climate and leadership of physical education teachers can make students perform better habituation. Habituation will create habit of doing good and good behavior, finally good behaviors will forming a good and strong characters and havig positive values for their life.*

**Keywords :** Leadership Of PE Teachers, School Organization Climate And Character Development

#### BACKGROUND

Indonesia requires human resources in sufficient quantity and quality as the main supporter of the development . Education has a vital role to meet the human resource needs , . This is in accordance with Undang-undang No. 20 tahun 2003 on National Education System in pasal 3 , which states that the national education serves to develop skills and shape the character and civilization of the nation's dignity in the context of the intellectual life of the nation . National education aims at developing the potential of students to become a man of faith and fear of God Almighty , noble , healthy ,

knowledgeable, skilled , creative , independent , and become citizens of a democratic and accountable.

The phenomenon of the emergence of destructive behavior , anarchists, and radical happening lately must be addressed and it is anticipated that the development of adolescent behavior and the public is not getting worse . Attempt to erode the negative behaviors that can be detrimental to undertake activities that lead to the development of the educational domains of cognitive, affective, physical , and psychomotor such as education and training,





social services, movement, exercising, and so forth . The character of a child is the result of both informal and informal education as a form of habituation to entrenched to be a strong character .

Physical education is part of the formal education that takes place in schools from primary to secondary education . Physical education is defined as education through physical activity to achieve an awareness in creating an environment that can affect the potential for students to evolve toward positive behavior . Physical education and sport have values sportmanship and friendship . Based on the values of the character education can be established through physical education .

Importance of the teacher in guiding students one of which is the ability to lead the class . A physical education teacher should be able to guide and provide good examples that fit the needs of the students in the development of character and friendly spirit of sportsmanship. Support may be more pronounced if the climate around the teacher and the students also feel that leads to the formation of character , because the school organizational climate can influence the motivation of teachers in teaching and students in learning

With the ability of teachers to lead students in physical education and school support organizational climate is good, then it creates an environment that is conducive to

forming and guiding the students to have a character that is expected.

## **THEORIES**

Not easy to form the character of the child or student because it takes a relatively long time and through the stages . Processes and stages of the formation of character requires a relatively long time is preceded by habituation - habituation to be entrenched . According to David Elkind and Freddy Sweet Ph.D. (2004 ) , character education is defined as follows : " character education is the deliberate effort to help people understand , care about , and act upon core ethical values . When we think about the kind of character we want for our children , it is clear that we want them to be Able to judge what is right , care deeply about what is right , and then do what they believe to be right , even in the face of pressure from without and temptation from within " .

In line with this theory , T. Ramli (2003 ) revealed that , the essence and character education has the same meaning as moral education and moral education . The goal is to establish a children's personalities , to become a good human being , citizens , and good citizens . The criteria for good men, good citizens , and good citizens for a community or nation , in general is a certain social values , which are influenced by the culture of the community and nation . Therefore , the essence of character education in the context of school education





in Indonesia is the great value that comes from the culture of Indonesian people themselves, in order to foster young people's personality.

While, understanding the character according to Ministry of Education Language Centre is "innate, heart, soul, personality, character, behavior, personality, traits, character, temperament, character". The character is the personality, behavior, character, temper, and character. According Tadkiroatun Musfiroh (UNY, 2008), the character refers to a set of attitudes (attitudes), behaviors (behaviors), motivation (motivations), and skills (skills). In his explanation, the teacher's role is very influential in the formation and character of students in school education. Teacher competency standards in developing, educating and building students' potential requires the ability to lead the class.

According Achua and Lussier "Influencing Leadership is the process of leaders and followers to Achieve organizational objectives through change. In line with this theory, Khaerul Umam say that leadership is an activity to influence the behavior of others, or the art of influencing human behavior, both individually and collectively. So a leader has the ability to lead and influence, guiding, and directing others to move in this case is the one that led to a goal.

By looking at the two opinions, it can be concluded that it has three aspects of

leadership that a leader, one who led and objectives to be achieved together. A physical education teacher can be equated as a leader in the classroom or on the sports field as a physical education teacher continues to provide guidance and practice sports to students or student. All the criteria of a leader is in the activities undertaken by teachers physical education, the criteria is the ability to work with others to achieve the learning objectives. For example physical education teacher as student leader in the learning process on the other hand are responsible for other activities that are not related to the learning objectives and should be resolved in the best way.

*Second*, the teacher as a communication channel. Communication channels such as teachers physical education should open and exchange information with other parties associated with the task. In addition physical education teachers should also be able to apply themselves and as a mediator or arbitrator in resolving a problem and give feedback to clarify the situation.

*Third*, teachers must be able to analyze the situation physical education problems, solve existing problems and should be able to make decisions quickly and accurately so as to provide appropriate advice and examples to be able to give the best results on the goal. Physical education teachers must be able to think thoroughly on every aspect of the field that is not only the





issue of physical education and exercise alone but all aspects of the field related to the school or organization to advance and achieve the objectives that have been prioritized by the school or organization.

*Fourth*, physical education Teachers should be able to put yourself also as a diplomat or as a school representative in the affairs and problems faced by the school and were able to exchange thoughts , opinions , information and all things and establish good relationships with external parties to achieve the goals of the school or the organization . Characteristics of a leader that has been described can be used as a foundation in activity physical education teacher in implementing the teaching and learning process . Ability of physical education teachers in leading students will not be able to thrive if not well supported by the environment in which to work . Workplace environment greatly affects the morale and motivation of teachers in teaching , including the physical education teacher.

Environment where work is a means to channel the aspirations and common goals as well as meet the needs of each member. Interaction between members of the organization can create a condition in harmonious cooperation even friction or disputes arise . Changes in conditions resulting from interactions in the development of an organization called organizational climate . According to Payne and Pugh quoted from Arni Muhammad stated that the

organizational climate is a concept that reflects the content and strength of common values, norms , attitudes, behaviors, and feelings of the members of a social system

According to Hoy and Miskell cited by Hadiyanto about school climate . School climate is the final product of the interaction between groups of learners at the school , the teachers and administrative staff ( administrators ) who work to achieve a balance between the dimensions of the organization ( school ) with individual dimensions.

School is one of the forms of organization and structure simple . In the interaction between school organization members include teachers , students , principals , parents , supported by infrastructure . As an organization , the school has the vision , mission and strategy to achieve the goal . In order to realize the vision , mission and strategy is required management school under the leadership of the principal.

Definition of school climate as a set of internal characteristics that distinguishes one school from another and influence human behavior . Thus , it can be said that the school climate is based on school conditions embodied a set of values or norms , habits , and sustained infrastructure . The condition sought to hold the principal, teachers , and students in an effort to increase , growth , and development of the school in achieving its vision and mission.





Carolyn S.Andersen which has been cited by Wirawan define school climate as a sense of school organization , as perceived by those who work or who attend classes at the school . Organizational climate is what we feel of interactive life in school.

School organizational climate is a unit consisting of internal factors and external . Internal factors are derived from student , teacher , employee or staff , and others who came from lingkungan school . External factors such as the place or location of the school , weather , and other things that come from outside the school . So according to their understanding of school organizational climate is the human environment in which employees perform their work . Climate can affect motivation , achievement , and performance.

Litwin and Stringer told Linda Holbche classify dimensions of organizational climate is the responsibility , flexibility , standards , team commitment , clarity , respect and leadership style. Tuk has a character that is expected

## DISCUSSION

Invite the minister of education stakeholders , especially the principal, teacher , university leaders and faculty , to give greater attention and assistance to students in shaping and growing patterns of thought and behavior based on compassion , tolerance of diversity is justified by the reality of the rules and legislation . In teaching physical education and sport , providing all

the material in the students' character formation attitudes ( attitudes ) , behaviors ( behaviors ) , motivation ( motivations ) , and skills ( skills) . The material can be easily implemented by a physical education teacher who has the ability to lead a good class . Ability to lead seorang very berpengaruh physical education teacher at the school organizational climate in which they teach.

Internally school organizational climate is how the work environment has employees or staff who understand and responsive and understands the job descriptions of each . In addition to the employee or school staff , other internal factors are the principal with all regulations. Regulation in favor of the school improvement centered character education students will be very supportive . Furthermore , the existence of factors and conditions are also factors internal students in the process of character education . If all the internal factors will support the process of character formation in schools will be successful.

In addition to internal factors within the school organizational climate there are also external factors , namely the location or existence of the school . If the location of the school is in difficult areas such as regional conflicts , localized areas due to social factors and so it will be more thick of the burden of teachers, the principal character in educating students.

Ability to lead the physical education teachers in teaching movement , required to







master all of the material that the motion will be granted and ensure that students have understood and be able to perform the movements correctly and understand the values contained therein . Creating a harmonious interaction between teachers and students through communication so that all issues relating to the teaching and learning process can be finished well without any controversies that resulted in anarchy that leads to destructive.

Physical education teacher leadership will be seen in its ability to analyze the situation in any way , especially in the field of teaching . Results of the analysis must immediately find a solution to the problem solved . Thus , the right decision and the existing problems can be quickly resolved. In addition to teaching as the main task of a teacher of physical education should also be able to be a representative of a school in the affairs and problems faced by the school and have the ability to work together to establish good relationships with external parties to achieve the goals of the school or organization.

If a physical education teacher has a pattern of leadership as it has been described , the physical education teacher will be able to professionally guide and provide character education to students . Character education students by physical education teacher education include attitudes (attitudes) is to foster a sense of reverence and respect for others through teamwork while participating

in various competitions representing the school . In addition to the act in a respectful manner and respect others implemented it will be a habituation - habituation which will form good behaviors . Good habits or behaviors that will set an example for other students , especially if there is an award in it so , provide a good motivation to other students .

End of the circuit is through physical education teacher leadership in the formation of students' character by giving pembelajaran motion and exercise skills . The values embodied in physical education and sport learning . containing fairplay attitude of upholding honesty and friendship , respect and justice opponent . Suppose if the values of fairplay applied in character education graduates as it will create a whole Indonesian people

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## DEVELOPMENT OF PROTOTYPE BADMINTON AGILITY INSTRUMENT

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### ABSTRACT

*Determination of badminton agility can not be obtained valid and reliable for measuring agility in badminton, because agility instrument used in Indonesia has not been specific to measure the characteristics of agility in badminton. thus, this study aims to test a new measurement tool, created with the electronic mechanism, tester in accordance with the movement of badminton footwork, within help of touch foothold in every corner of the court and processed with specific software to determine time required in the completion of tasks. A total of 100 college badminton students, 5<sup>th</sup> grade participated in this study. Colleges do test twice, first by using shuttle run and second test using a prototype instrument badminton agility. Validity and reliability of 100 colleges showing valid and reliable, because  $r$  count is greater than the  $r$  table ( $0,934 > 0,514$ ). In short, prototype of badminton agility instrument can be used to determine the badminton colleges agility and recommended for measuring agility in badminton.*

**Key words: agility, badminton, prototype instrument**

### INTRODUCTION

Badminton is a popular sports in Indonesia. Both in large cities and in the villages, badminton game is a very popular game by just about all walks of life, old, young, men, and women. Badminton can be done by one person against one person, or two people against two men. This game can be played indoors or outdoors.

Physical condition is an important element in any sport. Therefore its should receive serious attention well planned and systematic so that the level of physical fitness level and functional ability organs better. Badminton requires players to run, jump, change direction quickly, hitting correctly, and requires endurance.

Components of the physical condition such as muscle strength, muscle endurance,

general endurance, flexibility, speed, coordination, agility / agility, and balance. Physical abilities include two components, namely physical fitness and motor fitness. Physical fitness consists of muscular strength, muscular endurance endurance of respiratory-circulatory, and flexibility. While freshness components include motion, speed, coordination, agility / agility, and balance (Herman Subarjah).

Associated with this research, agility in badminton can be seen from footwork more agile footwork would greatly assist a player in the game of badminton, its will always be able to return the ball opponent from different directions. But the determination of badminton footwork is very limited agility, footwork agility during this determination based only on observations





with the naked eye alone. Observation with the naked eye is indeed one punch power assessment techniques that have been done a long time in Indonesia. But if it requires the calculation of permanent would have caused problems. The main problem is the lack of validity and stability in their assessments, because the assessment of each person will always be different.

Determination of agility or agility today use several ways, among others: Burpee Test, Side Step Test, Shuttle Run, Jump Quadrant, Right Boomerang Run, SEMO Agility Test, Agility Obstacle Course LSU, etc. (Johnson & Nelson, 1979:215). The agility of the various instruments have various problems and limitations, such as:

1. surface field and the type of footwear will affect the ability of students students agility in movement stepped aside. This can be overcome by using the field surface is not too slippery and ask students to use the same footwear.
2. Problems arise when decision data are not an expert in it , not knowing how the assessment
3. Quite time consuming if done in a group / class that students in large numbers, so it takes two people or more to do these agility tests .
4. Too many tests for measuring agility including the ability to run or the ability to quickly change the position of the body starting with the arm . According to the

author's opinion , needed more variation agility test to test all parts of the body .

5. Some test scores are not enough to distinguish between the capabilities of the ' good ' and ' suck ' is clear . This requires re- structuring score .
6. Tests will be stepping aside quite reliable if high students varies , the higher the student body will be getting longer moves made and vice versa .
7. Agility test is not specific enough for an assessment . In other words, the kind of stunt like running back and forth is not directly related to the ability

Development of electronic technology is indispensable in sports coaching accomplishments. Because with this technology we can determine the extent to which the measurements are merely arguments or opinions of someone, can be measured by using a clear and valid measurement. Functional electronic technology can be used to assess agility footwork in badminton.

Development of electronic technology and machinery show promising opportunities. Traffic light is one tool that can be used to measure a variety of measurements in the field of sports. Traffic light or traffic lights are lights that regulate the speed of vehicles at a crossroads. Of these settings are then applied to set the pace in the assessment or badminton footwork agility. Functionally, this technology can be used to measure agility footwork in badminton.



Exposure to the problems as described above, the idea to develop a tool to measure agility footwork in badminton by utilizing electronic instruments. Hopefully, by making use of electronic tools, footwork agility assessment and measurement can be carried out accurately, efficiently and effectively, so that the results of the assessment will provide valid and reliable information.

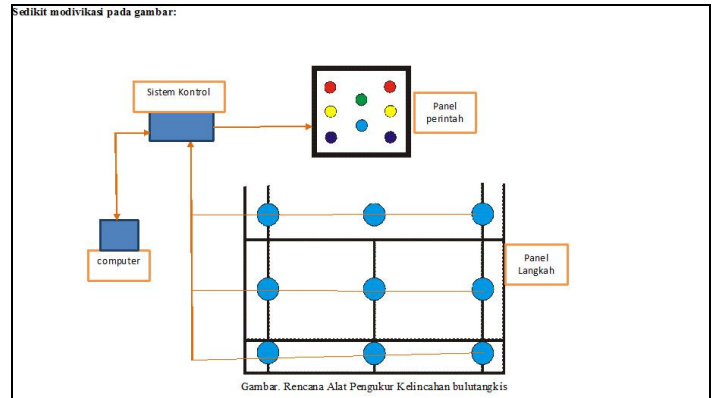


Figure. Instrument Plans agility badminton

## METHODS

### Procedure Development

Based on some opinions on the procedures used in the development of assessment tools for measuring agility footwork in the badminton consists of five main stages, namely:

1) Conduct analysis of the product to be developed

- Analysis of assessment methods agility footwork flaws in badminton
- Analysis of the advantages and disadvantages of technology Traffic light.

2) Develop initial product

- analysis of the design and weave patterns using the traffic light gauge
- Designing and determine the pattern deviation ranges
- Designing and determine the classification of the assessment results
- Consult the results of the three steps above the badminton expert consultant
- Designing and developing software

3) Validation expert

Initial product development of measurement tools for assessing agility footwork in the badminton, before tested in small-scale tests need to be validated by experts in accordance with this research field. To validate the products to be produced, researchers involves two (2) experts who come from professors, and 2 (two) Badminton Coach.

4) The field trials

- small group testing, which is conducted on students PJKR FIK UNNES, using 8-24 subjects.
- field trials, students PJKR FIK UNNES, with 24-100 subjects.

5) Revised Product

Product revisions made to improve the product before the end product is used. Revisions were made based on input from experts and coaches, as well as the test results. For more details, here is a diagram of the model development procedure



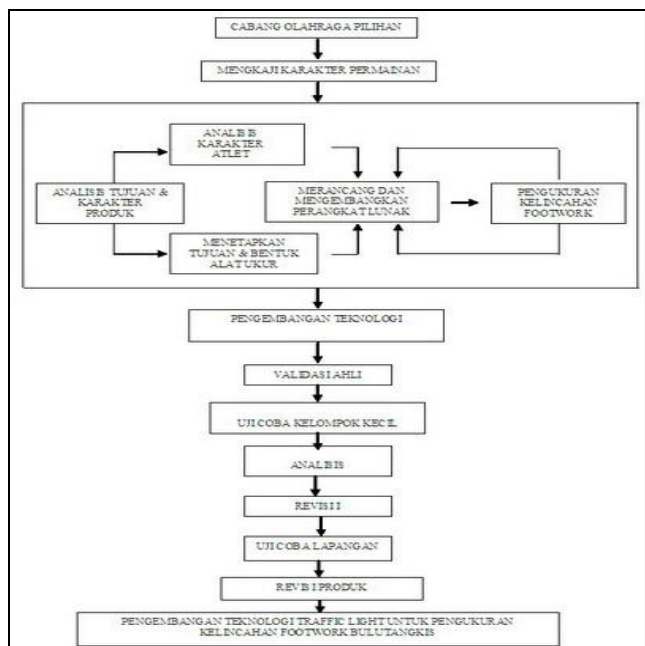


Diagram Measurement Procedure Development Agility Badminton footwork

### Product Trial

#### Trial Design

In this study design trials that used the experimental design . Trial product development through two stages , namely a small group test ( conducted on students PJKR FIK UNNES, using 8-24 subjects ) , and field testing ( students PJKR FIK UNNES , with 24-100 subjects ) .

#### Test Subject

Trial subjects are the target users of the product , such as students PJKR FIK UNNES as an object that will do the footwork , that the opportunity will involve laboratory testing and a professor of sport

#### Data type

The data used in this study is qualitative and quantitative data .

1 . The qualitative data obtained from the criticism , advice from expert badminton

2 . While the quantitative data obtained from the assessment by the users of the products tested by using the assessment guidelines to be developed later

### Population and Sample

In this study population are students PJKR FIK taken half UNNES V. Reason for making the above populations are as follows :

1 . Place -making tools are UNNES dan researcher is a lecturer FIK UNNES

2 . Children try to have the same relative ability .

Thus the students PJKR FIK UNNES has qualified as a population , meaning that they can be used as an object of research . To determine the number of samples to be taken , adjusted to some opinions below regarding the number of samples for research . The sampling technique used in this study uses total sampling technique , the individuals in the population sampled . Samples to be used are all students PJKR FIK UNNES Year 2009/2010 , amounting to 100 people .

### Data Collection Instrument

Instruments used in product development , such as observation , questionnaires , and guidelines . Observations are used to determine the efficiency and effectiveness of the operational



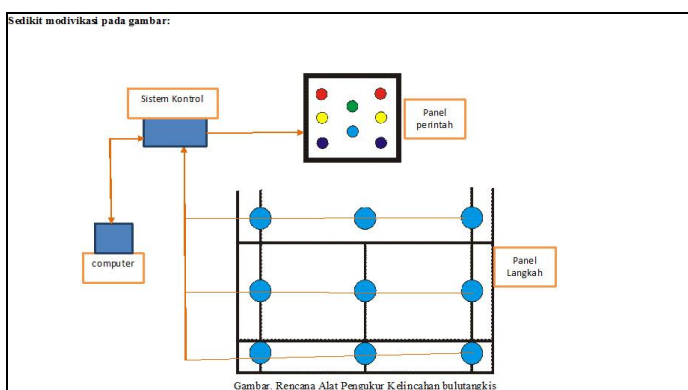
system used to determine product satisfaction questionnaire operands and expert opinion . Assessment is used to obtain information in the form of nominative assessment of the products to be produced.

## DISCUSSION

### Product description Initial Draft

After determining that the product will be developed that measure agility badminton. The next stage is to make products by using the following steps: (1) analysis to design and develop a pattern using a measuring tool traffick light technology, (2) Designing and determine the range of deviation pattern, (3) Designing and determine the classification results of the assessment, (4) Consult the results of the three steps above the badminton expert consultants, (5) Designing and developing software. After going through the process of design and production of the initial product development generated traffic light technology for the measurement of agility footwork badminton

Here is a draft of the initial products:



Measuring Agility ( agility ) Beginning Badminton

Process Measurement :

- 1 . Subject / students getting on the panel in the middle of the field
- 2 . Student / sample seen in the monitor command bergerak ordered to match the colors and layout of the lights for 18 times .
- 3 . Of observers monitor , will be continued on a computer that will read the required time object / sample in a series of commands , shown in time : overall , each step in each time point .

### Validation Expert

Initial product development model gauge agility ( agility ) badminton before tested in small groups of test validation needs to be done by experts in accordance with this research field . To validate the resulting product , researchers involves two ( 2 ) experts from the faculty, namely Drs . M. Nasution , Kes . and Drs . H. Tohar , M.Pd.

Validation is done by showing how the initial product development model gauge agility ( agility ) badminton , along with an evaluation sheet for experts and Badminton Coach. Evaluation sheet contains a questionnaire that gauges the quality aspects models , suggestions, and comments from experts to gauge development model agility ( agility ) badminton . Results of evaluation of value from a quality gauge models agility ( agility ) badminton using a Likert scale of 1 to 4 .





**Description Data Validation Expert**

Data obtained from the questionnaires by experts, a guideline to indicate whether the product development model gauge agility (agility) badminton can be used for small-scale trials and extensive. Here are the results of questionnaires from experts.

Table 4.1 Questionnaire Results Charging Expert

NO	ASPECT OF ASSESSMENT	Score Assessment of Expert and Master	
		A 1	A2
1	Compliance with the study goal	4	4
2	Clarity of form tool	4	3
3	The accuracy of selecting	4	4
4	The accuracy of selecting measuring instruments	4	4
5	Compatibility with character punch tool	4	4
6	Can be used by athletes of all ages	4	4
7	Clarity measurements	4	3
Total Points		28	26
Average		4	3.71

Based on the results of the questionnaire conducted by each expert and badminton coach gained an average of more than three (3) or in the category of assessment "good / right / clear". Therefore it can be concluded that the model of development measure agility (agility) badminton can be used for small-scale trials.

**Data Testing Instruments**

Validity and reliability measure agility (agility) badminton tested against 15 students / subjects. To interpret the validity of the test results, the criteria used are:

- If the calculated value of r greater (>) than r table value, then the value of the item questionnaire is valid and can be used, or

- If the calculated value of r is smaller (<) than r table value, then the value of the questionnaire items declared invalid and can not be used

- The value of r can be seen in table  $\alpha = 5\%$  (Level of significance 95%), and db = n-2 (Sambas, Maman 2009:47).

**Item-Total Statistics**

Validity of the test result data measure agility (agility) badminton indicate valid / invalid because count r greater than r table (see table in appendix r). (count  $r > 0.514$ ). Thus, the value of the correlation coefficient (r) value is between -1 sd 1 so that the validity of the instrument gauge agility (agility) badminton VALID said.

Furthermore, to interpret the results of the reliability test, the criteria used are:

- If the calculated value alpha greater (>) than r table value, then the value of the item is declared reliable questionnaire, or

- If the calculated value of alpha is smaller (<) than r table value, then the value of the questionnaire items stated are not reliable

- The value of r can be seen in table  $\alpha = 5\%$  (Level of significance 95%), and db = n-2 (Sambas, Maman 2009:47).

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.943	.944	10







Based on the results of calculation of the reliability of measuring instruments agility ( agility ) badminton on the subject of some 15 people , it is known that the reliability value is 0.943 . Thus , the value of the correlation coefficient ( r ) value is between -1 sd 1 so that the reliability measure of agility ( agility ) badminton said to be reliable.

**Data analysis**

The results of the measure agility ( agility ) of 100 students FIK badminton UNNES then made testing instruments as a means of data collection agility ( agility ) badminton , which includes testing the validity and reliability . Development gauge agility ( agility ) badminton needs to be done to maximize the quality of the test gauge , so that the reliability of a product can be accounted for .

**Measurement validity**

A measuring instrument as valid if the instrument can measure something precisely what is to be measured . Validity is a measure that indicates the level of validity and the validity of an instrument . Valid instrument has high validity . Less otherwise valid instrument or have a valid low validity.

An instrument is said to be valid if it is able to measure what is desired, and can reveal the data of the studied variables appropriately. The degree of validity of the instrument shows the extent to which the data collected does not deviate from the description of the variable in question

(Suharsimi: 1998:160). Here are the results of the validity of measurement validity agility (agility) badminton student FIK UNNES using SPSS 15.

Gauge the validity of the result data agility (agility) badminton indicate valid / invalid From the picture above, for all the items have a correlation value of two (\*\*), with a probability of correlation [sig. (2-tailed)] of 0.000. Corresponding previous criteria, all items are valid instruments, because the value of the correlation probability [sig. (2-tailed) <of the significant level (α) of 0.01. So the validity of the instrument gauge agility (agility) badminton VALID said.

**Reliability Measurement**

Reliability refers to a sense that something instrument trustworthy enough to be used as a data collection tool, because the instrument is good, trustworthy (Suharsimi, 1998:170). Here are the results of measurement reliability agility (agility) badminton student.

**Case Processing Summary**

		N	%
ases	Valid	100	100.0
	Excluded(a)	0	.0
	Total	100	100.0

a Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.794	10

Reliability coefficient above the value is 0.794. Thus, the value of the correlation





coefficient (r) value is between -1 sd 1 so that the reliability of the instrument said to be reliable, then the resulting data has a good level of reliability, or in other words the data questionnaire results can be trusted.

### CONCLUSION

Based on the analysis of the results of research and discussion in this study, it can be concluded that:

1) The use of measuring devices agility badminton products can be used to measure agility badminton with high validity and reliability of 0.794.

2) With high validity and reliability of 0.794, then this product can be used for the measurement of agility (agility) Badminton

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## STRENGTHEN THE RELATIONSHIP OF SPORT ORGANIZATION AND MASS MEDIA IN ORDER TO PROMOTE SPORT EVENTS

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### Abstract

*This article aims to provide an overview of the importance to create, build and strengthen the relationship between sports organizations that exist with the mass media in order to help facilitate promotional activities range from sports activities all sports. It is important to managing the sport organizations and media relations because mass media is one of the key public of organizations that perhaps has the greatest potential that can effect the sport organization and the sports itself. Sport organizations do not view the mass media merely as a channel through which they can distribute messages. There are a much closer relationship exists between the media and sport organizations. They are the two partners in delivering sport content to consumers. Organizations stage event, and mass media outlets distribute information about the events.*

**Keywords:** Sport Organization, Mass Media, Promote Sport Event

### INTRODUCTION

Sport is a distinctive social activity that is frequently the basis of a person's social identify (Coakley, 2009). As such, it is a social institution of astonishing magnitude and influence. What other social pursuit is allotted several pages in the daily newspaper, has its own slot on every television and radion news program, has its own cable channels, and creates what appears to be an international withdrawal crisis when members of its workforce go on strike? The General Assembly of the United Nations (UN) publicly

recognized the power of sport when – in adopting a resolution titled “Sport as a means to promote education, health, development, and peace” – it declared 2005 the International Year of Sport and Physical Education (United Nations, 2004).

Further noting the major role that sport can play in promoting the UN goals of peace, dignity, and prosperity, the executive director of the United Nations Environment Programme (UNEP) stated, “The way sports events are run, the way sporting goods





companies do business, and the way sports stars conduct themselves on and off the field can have profound effects far beyond the financial bottom line (Toepfer, 2003, p. 9). Today sport is a rapidly growing and increasingly diverse industry. Because sport is the most precious commodity we can hand on to the next generation. Increased amounts of discretionary income, a heightened awareness of the relationship between an active life style and good health, and a greater number of opportunities to participate in sport have all contributed to this growth. The level of participation and degree of excellence attained within a given sport is dependent, at least in part, on how that sport is organized. That's why organizational become an integral and pervasive part of the sport industry.

For most of us, sport implies having fun, but it can also be work (for a professional athlete), a means of employment (for a sport tourism director), or a business (for a sport marketing agency). Sports entertainment is a multibillion-dollar consumer decision. The proven ability of sports to influence consumer behavior off the field of play drives the chameleon forces of "sponsorship", the powerful turnkey that identifies sports entertainment properties with products and services around the world. Sponsors choose from hundreds of events and sponsorship packages to identify with their existing markets and expand into others.

The springboard for all promotions is the competition. With so much interest focused on competition, shrewd sponsors pay to identify and interrupt the action to promote their products and services. Thousands of relationships like the ANTV-ISL (*Indonesian Soccer League*) connection exist between sponsors and promoters. These contractual relationships all aim to enhance the visibility of the event and its sponsoring products and services. The efforts to capitalize on the relationship result in the many product promotions at consumer venues. For example, The 1996 Atlanta Summer Olympics had eighteen major sponsors signed up two to four years in advances. Familiar names like Coca-coal, McDonald's VISA, IBM, Kodak, Xerox and the others jointly paid over \$500 million to identify with the Olympic Games at the event site, during television broadcasts, and through retail opportunities like ticket application distribution, contents and logo reproduction on commorative packaging.

Fans are the basis for the financial growth of sports. They participate in many forms like buying tickets, watching broadcasts, listening to the radio, reading newspapers, magazines and journals, etc. As a group they annually spend \$6 billion to attend the events and, as a household, they spend 178 hours watching them on television at home. That is a reasonable fee to communicate with more than one half of the country. The incredible fees that promoters,





leagues, and broadcasters earn all goes back into the same sports cycle to create more events, attract more athletes, and upgrade facilities to keep the fans and sponsor content with their investment. That's why we need to strengthen the relationship of sport organization and mass media in order to promote sport events.

## THEORITICAL VIEW

Before we talk about sports organizations, mass media and the relationship between the two of them, it's better to know the definition of sports itself. The definition of sport according to the council of Europe (2001, p.1) as: "all forms of physical activity which, through casual or organized participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels". Similarly, Pitts, Fielding and Miller (1994, p. 18) stated that sport is "any activity, experience, or business enterprise for which the primary focus is fitness, recreation, athletics, and leisure related". And then, we defined what is organization. Daft (2010, p.11) defined organization as "social entities that are goal-directed, are designed as deliberately structured and coordinated activity systems, and are linked to the external environment. Coordinated actions lead to the creation of social entities (i.e. organizations) in which people work collectively to achieve goals. In essence,

people work collectively because achieving goals is often easier when working together rather than working independently.

Definition about sports organizations according to Daft (1989) and Robbins (1990) is: "A sport organization is a social entity involved in the sport industry; it is goal directed, with a consciously structured activity system and a relatively identifiable boundary". There are five key elements in this definition, there are: Social entity, involvement in the sport industry, goal-directed focus, consciously structured activity system, and identifiable boundary. Sport organizations are goal-seeking entities, structured to achieved a particular purpose (or purposes). The goals of sport organization are extremely important for communicating its purpose and identity, to both employees and to external constituents.

After we talk about what is sport organization, then we should know definision about mass media. In the broadest sense of the word, a medium is the channel through which a message travels from the source to the receiver ("medium" is singular, "media" is plural). When we talk about mass communication, we also need channels to carry the message. Mass media are the channels used for mass communication. The definition of a mass medium will include not only the mechanical devices that transmit and sometimes store the message (TV cameras, printing presses) but also the institutions that use these machines to transmit messages.





Scholars have divided mass media forms into print and electronic (Black & Bryant, 1995). Print media include newspapers, magazines, and books, whereas electronic media include radio, televisions and film. Most sport managers refer to print and electronic media simply as the media. Pedersen, Miloch, and Laucella (2007) distinguish among three segments of sport mass media: publishing and print communication, electronic and visual communication, and new media. Sage (1998, p.160) suggested that the media's power comes from four areas: constitutional protection, universal access to the public, corporate organization, and ability to construct ideology.

Sport organizations do not view the mass media merely as a channel through which they can distribute messages. A much closer relationship exists between the media and sport organizations. In essence, the two are partners in delivering sport content to consumers. Organizations stage events, and mass media outlets distribute information about those events. Advertisers use the mass media's distribution channels to gain access to targeted consumer markets and consumers buy products sold by those advertisers. Bernstein and Blain (2002, p.3) noted that "sport and the media have become associated to such an extent that it is often difficult to discuss sport in modern society without acknowledging its relationship with media".

Indeed, it is impossible to distinguish the mass media from today's sport consumption experience, but that relationship has not always been this close. Many sport organizations initially viewed the media as a threat to profitability rather than a revenue stream. Emphasis is placed on sport as entertainment by addressing adaptations that sport organizations have made for benefit of the media as well as sport created solely for television. So, we need what we call media relations. The aim of media relations is to foster desirable relationships with members of the mass media. Media relations programs are designed to generate favorable publicity and minimize unfavorable publicity. Publicity may be thought of as information regarding the sport product or organization conveyed free through the mass media. There are two models that commonly describe the practice of sport media relations which are:

- The first is a press agency and publicity model (Grunig & Hunt, 1984). Practitioners employing this model seek to cultivate as much publicity as possible for their organizations. The press agency and publicity model is also often used in ethical fashion. Because one of the primary purposes of media today's is to generate favorable publicity in advance of the new season.
- The second model is a public information model that focuses on providing effective service to





members of the mass media who are already inclined to cover the sport organization (Grunig & Hunt, 1984). Professionals using this model because they do not want to risk embarrassing their organization by using questionable methods to seek attention.

Sometimes media relations professionals within a single organization use both proactive and reactive models depending on the season or time of year. Media relations professionals can sometimes negate unfavorable publicity by advising members of their organizations how to avoid public relations mistakes. They can choose to withhold embarrassing or damaging facts from members of the media. They can even lead their organization in successfully weathering a crisis when embarrassing or damaging facts about the organization have been publicized. The relationships between sport organization and the mass media are also influenced periodically by the urgency of the collective bargaining process. Each of these relational attributes influences the priority of the relationship between the two parties and demonstrates the dynamic nature of the relationship.

## DISCUSSION

Both sports and mass media keep trying to reach people as spectators, fans, and consumers; both actively affect the audience as well as the advertising market (including the sponsors). The stars of sport,

the athletes, have become never-ending sources of inspiration for the construction of stories to be told. Today, sport is a never-ending source of characters and plots for the mass media. Modern stories about good and bad, success and failure, luck and misfortune, victory and defeat, things native and foreign, group identity and emotion are all recounted in their most popular of expressions - sports narration. The cultural importance of sport is unquestionable when we realise that "media-sport", besides satisfying the symbolic needs of the identification of groups and nations, also satisfies the needs of the "tele-athletes" fantasies.

The focus of sport organizations is the events in which they participate, it is tempting to think that the relationship between media and organization is based solely on those events. Because there are three event triangle members that promote interdependence and financial success for each other. The simple act of the audience seeking event entertainment sets into motion the sponsors subsidy mechanism, which further promotes the event and the products' upon it throughout its sales channels. The Event triangle explains three basic things about event marketing:

- a. Events showcase and sell the personalities and competitive talents of the athletes
- b. Events demonstrate the promoting organizations' marketing





Events promote and sell the products and services of its sponsors.

An events seek identifying sponsors to subsidize their costs, such as facility rental, maintenance, administrative and athlete labor contracts, and the concession expenses. The costs have to be paid and who will pay for the cost? The public will. Most sport organizations employ a variety of tactics to communicate with their publics, many of which do not rely on the involvement of mass media.

The symbiotic relationship between the mass media and sport began to play a prominent role in American society in the 1920s, when sport emerged as a social institution. But in the present era of rising player salaries and facility costs, sport organizations depend more than ever on the rights fees paid by broadcasters and on the free publicity that the media provide. Occasionally, mass media organizations create their own programming, thereby eliminating the need to pay rights fees for a product. Still other media have tried to expand their brand across multiple platforms of mass media. Pitts and Stotlar (2007, p. 30) observed that companies “can link promotional activities and fan participation activities, thus enticing the fan (consumer) to use products all produced by the same company”.

So, to maintaining and strengthen the relationship of sport organization and mass media in order to promote sport events, there

are four steps which must be consider. There are:

a. Identifying Influential media.

Media are gatekeepers who decide which stories they will cover. This decision is based on several factors, and is sometimes referred to as agenda setting, meaning that the media raise issues that both they and their audience consider important. One way that public relations can monitor the media agenda is through developing relationships with the media, particularly those who cover the organization on a regular basis.

b. Serving Media at Organizational Events

Many members of the media attend organizational events to report firsthand on what transpired. Working with media at these organization events is a key part of any public relation's job. Sport public relations professionals must understand the needs of media members who cover organizational events and provide services for them. This aspect of the organization-media relationship is unique to the sport industry. At any give sporting event, media members covering the event need a place to observe the event, a place to work on their stories, acces to statistics and other related information, and access







to the participants after the event for needs and opinions.

In addition, representative, of the different types of mass media have different needs, much of the media are in competition with each other, and some of the media in attendance have likely never been to the facility in which the event is taking place.

### c. Establishing and Communicating Organizational Policies Regarding Event Management and Spokesperson availability.

Sport organizations command a high level of media attention, so sport managers should consider developing a media policy. Mathews (2004, p.46) defined a media policy as “a set of guiding principles and behaviors to help ensure consistent, fair and ethical communication with all of your constituents”. Those principles and behaviors should include identifying who within the organization speaks to the media, what employees should do if they are contacted by the media. These policies should apply when individuals are being interviewed for a media story and are not just playing an information services role.

The organizational spokesperson is the voice of the organization and answers the media's

questions. The spokesperson may be a senior member of the organization, such as a president or general manager, or may be one of the organization's public relation. Some sport organizations develop role based on the information that the media are seeking. Senior management may speak on topics of importance and the public relations may address routine operations. A final rule of thumb for identifying an organizational spokesperson is to allow the person who has the greatest knowledge, and thus the highest degree of credibility, about a given subject to speak on behalf of the organization.

### d. Maximize positive publicity for an organization

The goal for most sport organizations is to achieve the pinnacle of athletic success. When that singular moment comes along and the organization finds itself on top of the athletic world, it enjoys a unique public relations opportunity. This opportunity requires the public relation to act quickly to help the organization achieve as much exposure as possible. Without the support of organizational management, however, gaining maximum exposure can be difficult. It is easy to get caught up in the excitement of winning a world





championship or an Olympic medal. Athletes want to share these moments with teammates, friends, and family. The public relations needs to convince management and the athletes that using the media is a positive way to capitalize on that excitement.

The key to maximizing exposure in such situation is for the public relations person to know the organization's product. In the sense, the job is similar to marketing. The public relations must know what makes the product unique, how to package and position the product and how to sell it to the media. As an example, consider the Olympic Games. No sporting event in the world receives as much media exposure as the Olympics. It is hard to imagine the Olympics without swimming, diving, gymnastics, basketball and the other major sports, and media members actively seek stories on those sports because the public is interested in them.

## CONCLUSION

Strengthen and managing the sport organization-media relationship is a demanding but critical responsibility assigned to many sport public relations. Sport public relations must first identify the influential

media members with whom they will interact, and they must understand the differing ways in which those media members work. For instance, a newspaper columnist has different needs than a television reporter. After media relationships have been identified, significant planning is necessary to serve the diverse members of the media, particularly at games and other events. Defining media accreditation policies, providing adequate workspace, and offering critical services such as technology support and statistical reports are important aspects of service planning. Because media interest in many sport organizations extends beyond game days, other organizational media policies may be necessary, ranging from defining appropriate organizational spokespersons to specifying interview policies. Finally, because the goal of media relations is to generate maximum positive publicity for the sport organization, sport public relations must be able to define the unique aspects of their product, position the product in ways that make it attractive to members of the media, and pitch those members on the newsworthiness of the product.

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## “THE INFLUENCE OF AGGRESSIVENESS ON ATHLETES IN THE COMPETITION”

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### Abstract

*Aggressive behavior seen as an athlete in their behavior that negative and hurt people either physically or psychical. With the behavior aggressive possessed by athlete, not be considered as a conduct in suspended in the games. This is because a positive, aggressive behavior can indicate the presence of extreme control over the disclosure of agresivitas so that it will bring up an urge from within to seek victory according to the specified rules.*

*The behavior of the athlete aggressiveness needed when athletes reflect the attitude of athleticism and does not violate the conditions of the games. An athlete who aggressive indispensable to wins the match with remain in control attitude aggressive. Control aggressive attitude athlete be the essential element in building character in sport in make as concept of attitudes sportif; among others, respect, responsibility, reasonableness; motivation. The role of sports not only won the game, but to teach and observe the characters of prososial behaviors. The attitude of athlete is the ultimate goal of sportspeople.*

**Keywords:** *aggressive aggressiveness, athlete.*

### INTRODUCTION

Aggressive behavior performed by the athlete competed at the time still a problem from a variety of experts who have yet to find a point of clarity. The experts looked at the aggressive attitude constitute adverse action other athlete in the match. On the other, aggressive behavior is needed to encourage spirit team to always eager in reducing opposed to achieve victory without hurting athlete another or not breaking the rules of the game.

Aggressive behavior in sports reflected when athlete supress fight with all power mind and mental for the purpose of reaching high performance. On the other side of aggressive behavior by some athlete is carried out to achieve the accomplishment

or triumph with justifies a variety of ways, for example by kicking a certain parts that are prohibited in the match, accidentally injuring his opponent, pull out the dirty words on your opponent. Aggressive behavior is what makes an intentional.

Ali Maksum ( 2008 ); that aggressive athlete indispensable to be winning the game, but the nature and aggressive sikap-sikap if not controlled can figure in dangerous acts injure opponent, violate a regulation and neglecting athleticism. According to perspective psychoanalysis, Sigmund Freud in Sudibyo ( 1989 ), that in man always have potential unconscious namely an urge to damaging to or thanatos. At first impulse to damaging to was intended for others. Encouragement said the Baron& Byrne ( 1994 ) can be implemented through behavior





aggression; diverted on the object used as scapegoats, or maybe be sublimated with ways more acceptable by the public. Brigham, ( 1991 ) explained in perspective ethologist (of science that studies the behavior of animals ), behavior aggression the factors instinct in man and behavior aggression made in order in evolutionary adaptation. According to sociobiology, perspective behavior aggression developed because of competition social namely competition to resources, in this one thing resources limited, viewed contested by both sides. On adolescence old also obtained results not much different, that behavior aggression increased as rising hormone testosterone.

Increasing hormone testosterone only is incapable of eliciting behavior aggression directly. Of the result showed that on boys behavior aggressive increase, but in girls not found increasing (Brigham, 1991: Baron & Byrne, 1994 ).

Watson ( 1984 ), declaring that frustration that arises as a consequence of other external factors causing behavior aggression larger compared by a hitch caused yourself. An research result of Burnstein and Worchel in Herman Subardjah (2000), said that was a settled will encourage behavior of aggression. Frustrated caused unforeseen situations (uncertain) will trigger behavior aggression the bigger compared with frustration that situation rootless.

## THEORY BALANCE

Theory balance or balance theory first developed Fritz Heider ( 1958 ), discuss interpersonal relations based on taste glad or not amused. Taste glad or interested be either feel joined ( sense ketergabungan ) flavored having, feel a slight in common etc. While the displeased or taste opposed be either feeling different, not having, destructive, etc.

Imbalanced relationship, can occur if two people differ in opinion or pleasure of a definite object. The relation that no balance inflict situation tension and inflict relationship less harmonious between individu-individu concerned.

Aggressive actions will be more going on the situation relations not balanced. Sportspeople are generally tied to a social group, like some family, friends friends rehearse, get-togethers, etc. The aggressive action of a athlete would be more focused on people who are not acceptable. However certain things in which the athlete is not satisfied at the actions of someone who is not acceptable, but he did not dare or feel wrong if attacked him, then aggressive actions will be transferred to other people. These events are naming dkk Dollard as aggressive action or move balanced aggression.

## INSTINCT THEORY

The theory says that attitude violence is the human instinct and therefore requires channeling. The activity of sports considered





a form of distribution. According to Ellis Cashmore (2002) everybody has an impulse aggressive, and encouragement aggressive is an instinct. Freud (1959) and with Lorenz (1966) in Herman Subadjah (2000) argue that aggressive instincts and encouragement is obtained through a process of descent. With Lorenz suggest a way of solving the best that is, by extending the chance to lower the encouragement of aggressive through the participation in sports and kompetitif 's activities that do not inflict harm others.

## **SOCIAL LEARNING THEORY**

This theory says that a person is committing acts of violence because observing others (model) do such behaviour. A child doing acts of violence because it is often menyaksikan his parents doing the same thing against him, meaning that if a person is detained by force, then that person will adopt and commit acts of violence as well. Bandura, etc (1977), proposed the theory that aggressive actions are learned of the environment in which individu are. Social learning theory explained that children learn about when to strike or act aggressively, how act aggressive and against whom act aggressively. The process is obtained from watches other people, their parents, or derived from his friends. And it comes from a medium that provides a description of the act of an aggressive and violent.

## **FRUSTASI-AGRESI THEORY**

According to Dollard, et al that frustrating always encourages the occurrence of aggressive actions, and that aggressive action always caused frustration. This theory says that in this case is frustrating the obstruction of a cause which led to acts of violence, which intensified to hurt other people. As an illustration, a football team who feel is often harmed by the referee (the condition of frustrated), perform a beating on the referee. The condition of frustrated else that can lead to violence is a defeat, treated not fair harmed either physically or mentally. Instrumental aggression, is a form of violent behaviour which aims to gain the victory and allowed according to the rules of the game. Examples of hitting in a boxing match, kicking in pencak silat, etc.

## **THE TYPES OF AGGRESSION**

According to Silva (1980) in Avin & Soedardjo (1988), this type of aggression is as follows:

1. Aggression hostility, is the primary, to hurt other people or as a means to provoke the emotions of someone giving rise to the emotional high. This type of behavior from aggression among other things aims to harm another individual, the goal is win, and behavior with a capital base of anger.
2. Instrumental Aggression, which had the purpose of not harming others in order to achieve a higher yield and beneficial result of the game was planned taking into account the facts aggressively. Not accompanied by feelings of anger.





According to Ricard H. Cox (1985) cited by Sudibyo, (2000), the type of violent behavior in sports consists of:

- 1). Instrumental aggression, is a form of violent behaviour which aims to gain the victory and allowed according to the rules of the game. Examples of hitting in a boxing match, kicking in pencak silat, etc.
- 2) The Aggression is not a pro social (don't like socializing), a behaviour that aims to hurt people.
- 3) The Mall adaftive of aggression, developed between aggressive and not aggressive, and is associated with a State which can adjust.

According to Daniel I.Wann (1997), suggest some symptom of aggression among them:

- (1) The act of aggressive instrumental
- (2) The act of aggressive because imitate, for example, mafia figures like to imitate famous who likes to strike or landwehr injure other people as well as to take firm measures violence.
- (3) The act of aggressive on the basis of command, often occurring in the sport of fencing, boxing, etc because the fact that strike got an assessment of the referee, clearly it is nothing to do with a symptom of frustration.
- (4) Actions linked with aggressive in social roles, data views on security guards who act decisively and if necessary with the

rather loud and if need to hit them with deliberately want to interfere with the course of the match.

- (5) The actions and influence of the aggressive groups. Bond groups are often individuals behave and behave other than in the capacity as an individual. The aggressive actions of athlete because groups or masses can not be ascertained there is a connection with the frustrating symptoms experienced athlete, the athlete may indeed have properties (trait) aggressively, so ransangan than about going easier actualize properties agesifnya.

Bandura, 1997 stated that the main types of aggression are:

- (1) Prosocial, or Aggression assertiveness, is a common behavior in the community who did not intend to harm anyone else, if there's any intention then it can be misconstrued in anbehavior aggressive.
- (2) Aggression that is not pro social ( dislike sociable ), a behavior which aims to hurt others.
- (3) Aggression mall adaftive, developed between aggressive and not aggressive, and relates to a circumstance that can adapt.

## DISCUSSION

Controlling aggressive behavior in sport according to Bandura, (1997) that





aggression is an individual behavior as a learning experience through observation and behavior. Controlling aggressive behavior in sport according to Bandura, (1997) that aggression is an individual behavior as a learning experience through observation and behavior. The role of sports not only won the game, but to teach and observe the characters of social behavior. The attitude of athleticism is the ultimate goal of sportspeople. An important element in building character in sports as in the concept of athleticism attitude consists of six principles, inter alia, respect, responsibility, fairness, mover, be good citizens.

Aggressiveness is just one of the properties of the individual athlete. The aggressive nature of the athlete's tendency to be positive action that is needed to win the game or otherwise be actions deskruktif, is very dependent on the behaviour of other properties belonging to the athlete concerned.

The opinion of Ricard B. Alderman (1974) cited by Helmi, AF (1991), that with the decline of personality theory, dotted Han Eysenck suggested that personality type is composed of traits (traits) of the individual concerned. Then it is clear that the aggressive nature of indivdu as one of the personality traits of sportspeople should be understood by knowing the other personality traits belonging to that individual.

The aggressive nature of belonging to a athlete who also owns emosinal stability, discipline, a sense of responsibility, etc. need not pose a problem in the direction. The coach can direct the athlete to play aggressively. With no need to be afraid that he will hurt someone else in an attempt to reach the goal to win the match. By providing encouragement, gift-giving, athlete will play aggressive with mengalamai not frustrating.

That sport is an outlet for aggressive impulses to transmit on one's self, among others, propounded by Daniel I. Wann (1997), that the main function of sport is as an attempt to liberate from the combative thrust in the individual, or as a liberation of catharsis.

This opinion support experience " social learning theory " already goods of different with my theory instink thus the act of aggressive in sports must avoid, in meaning act that hurt opponent, make an attack, etc.

Starting from social learning theory, where the athlete will learn from experience and replicate the behaviour of other sportspeople, trainers must prepare the team in accordance with the instructions and practical steps as follows:

- (1) the suggestion to play aggressive to be directional, when and how the right way so as not to give rise to negative things and hurt your opponent.
- (2) must be accompanied by an increase in aggressive Play self-control, to trust in control of yourself.







Aggressive must accompanied discipline and sense of responsibility, must always follow the rules and subject to the referee and can to be responsible for their actions.

## SUMMARY

Aggressive behavior, owned by athlete should be able to serve as positive behavior to improve achievement. Personality types who aggressively less controllable shows lack of prohibition against disclosure tingkahlaku aggressively and a tendency to conduct response to aggressive action, frustrated with the personality types that agresivitasnya always controlled with tight, showed a strong extreme control over the disclosure of aggressiveness in a variety of conditions. With aggressive follow-up by the team as well as by individual athlete can serve as controlling emotions by doing positive things through self-control athlete. The attitude of athleticism is the ultimate goal and sportspeople is an important element in building character in the sport as the concept of the attitude of athleticism.

The aggressive nature of the owned athlete who also have emotional stability, discipline, a sense of responsibility, will not be a problem in the direction. Coaches can prepare the athlete to play aggressively, with no need to worry that it will hurt the opponent and destructive Act, in an effort to achieve a goal or win the game. With the encouragement of positive stimulus grants,

awards, and so forth, athlete will play aggressive and not subjected to frustrating.

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## The Social Capital of KONI: Study towards the Implementation of Article 40 of Law Number 3/2005 about National Sports System in Central Java

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### Abstract

*This study focused on the analysis of social capital of Indonesian National Sports Committee (KONI) which is potential to support the implementation of article 40 Law No. 3/2005 about the National Sports System through networks and partnerships developed by KONI. By using qualitative method, this study took setting of KONI of Regency/City level in Central Java. To answer the research questions, we analyzed the factual action done by KONI's board by using emic analysis and ethic interpretation procedures. The result was analyzed based on the board relation with the structural/public figures, the developed networks, leadership, and achievement which has been accomplished. The conclusions are: (1) The social networks developed by KONI have not been maximized, for instance, KONI has not involved NGOs to fund the sports development; (2) The social capital of KONI including trust, social network, and authority structure have not been maximized, while the shared norms and shared values have been developed well.*

**Keywords:** Social capital, KONI reality

### INTRODUCTION

The Law No. 3 of 2005 about National Sports System is the harmony of the whole sport interrelated subsystems in a planned, integrated, and sustained system to achieve national sports purposes. The subsystem means the sports people, sports organizations, sports funding, infrastructure and sports facilities, community participation, and support of sports including science, technology, information, and sports industries. The subsystems interactions should be regulated in such a way in order to achieve the national sports purposes.

This law also regulate the rights, duties, tasks, and responsibilities of all parties, including central government, local governments, and communities in the management, coaching, and development of

national sports . As a form of concern in coaching and sports development, the public can participate by forming the organization of sport at national and regional level. In this case, the Law No. 3 of 2005 is a legal framework and the basis for the planning, implementation, and evaluation of the development of sports in Indonesia.

Since the enactment of Law No. 3 of 2005 along with Government Regulation No. 16 of 2007 on the Implementation of Sports, Government Regulation No. 17 of 2007 on Sports Championship, and Government Regulation Number 18 of 2007 on Sports Financing, sports coaching implementation in Indonesia in the period of current 6 year has been guided by the laws and regulations of the government. In this case, there are several articles that regulate sports





management, namely article 35 regarding the formation of the organization of sports , article 36 concerning the establishment of a national sports committee that is independent, as well as article 40 of the board of the national sports committee .

Article 40 of the National Sport System Act is a controversial article that becomes the focus in this study. The article mentions that the management committee of the national sport, the provincial sports committee, sports committee and district / city is independent and not associated with the activities of structural positions and public officer. The notion that Article 40 of Law No. 3 of 2005 is discriminatory is one of the factors that led to the implementation of Article 40 of Law No. 3 of 2005 is not running optimally. Some parties have applied for a judicial review to the Constitutional Court. However, the Court rejected the application for review of the article.

At a practical level, Article 40 of the National Sport System Act apparently is not followed properly by some KONIs, because after that decision there are some KONI in province and regency/city whose head is held by public authorities or structural officer. In Central Java Province, for instance, the Chairman of KONI Purworejo chaired by the Chairman of Parliament, Chairman of the Sports Committee chaired by Tegal Regent, Chief Executive of KONI Grobogan chaired by the District Secretary, and vice chairman of the Sports Committee chaired by the

Chairman of the Parliament of Banjarnegara. The phenomenon suggests that coaching and sports management in many areas related and tied to the existence of public officials. Based on preliminary studies conducted, among 35 KONI regencies/cities in Central Java, 14 boards of KONI is not in accordance with the law while 21 regencies / cities are in accordance with the provisions contained in article 40 of Law no. 3 in 2005.

This study basically focuses on efforts to analyze social capital KONI potentially support the implementation of Article 40 through network and forms of cooperation developed by KONI. Changes in the characteristics of social capital in the KONI expected to affect the resulting performance. KONI performance indicators can be seen through the effectiveness of the implementation of the program of work and sporting achievements achieved as a result of coaching. In this case, researcher examined KONI efforts in empowering social capital in response to the implementation of article 40.

## **Social Capital**

Social capital refers to the nature of the social order (Winter, 2000). Schuller (2004) suggested that the study of social capital more after James Coleman did some research on the sociology of education in 1988. Furthermore, emerging research on social capital in the field of political science (Putnam, 1990); economic history and





sociology (Fukuyama, 1996:10 ); welfare households (Narayan and Pritchett, 1997) .

Coleman in his Social Capital in the Creation of Human Capital is also introducing social capital as a conceptual tool for understanding the theoretical orientation of social action by connecting components from the perspective of sociology and economics (Portes and Landolt , 2000: 529-547 ). There are two aspects of the social structure that makes it easy to create and the development of social capital in various forms. First, aspects of social structure that makes everyone interconnected such that the obligations or penalties can be imposed on any person who became members of the network. Second, a social organization that can be used to achieve a common goal. Pillars or elements of social capital are: (1) obligations and expectations arising from a sense of confidence in the social environment, (2) the importance of a smooth flow of information in the social structure to encourage the development of activities in the community, and (3) the norms that should adhered with a clear and effective sanction.

Putnam (Making Democracy Work in: Civic Traditions in Modern Italy, 1993) social capital in the form of norms and network linkages are preconditions for economic development, and an absolute prerequisite for the creation of good governance and effective. The reason is that: ( 1 ) the existence of social networks allow for coordination and communication which can

foster a sense of trust among members of society , (2 ) confidence (trust ) has positive implications in social life . An association of people who have a sense of mutual trust (mutual trust) in a social network will reinforce norms regarding the obligation to help each other, (3 ) the successes will encourage the continued cooperation at a later time .

Fukuyama (1995) noticed that the condition of prosperity and democracy as well as the competitiveness of a society is determined by the level of trust between fellow citizens. Social capital will be stronger if the prevailing norms of the society tit compact support and cooperation through a network of institutional relations of social ties. Trust occurs when people have the same set of moral values sufficient to foster honest behavior in the community.

Emile Durkheim argued that a harmonious society can only be achieved when the community between residents either through interconnected with networks or shared values that grow in the society emphasizes the similarities rather than the differences.

Thus social capital in a community is a process that consists of several basic elements. First, the existence of social networks (involvement of the members of the group) . Second is the existence of shared values. Third is the rule together. Fourth is the friendship or social solidarity (social cohesion). Fifth is coordination and cooperation. Sixth is the existence of a





common goal ie mutual benefit. Clearly, social capital is a necessity for the creation of productive cooperation in a society, group, community, or an association.

Social capital can be found in a variety of local institutions in the community, either in the form of organization and non - organization. In the context of KONI society, social capital can be found in the formal and informal social units such as districts, villages, or family .

Corresponding reality in the field of research, local social capital found in the four existing institutional aspects, with the following details:

(1) Kinship; regarding support systems on each of the social environment in the face and overcome the problems/needs. Kinship network serves as a medium of cooperation and mutual assistance to each member of KONI's environment like family.

(2) Locality; forms of cooperation beyond family and kinship systems, such as mutual assistance. The locality of the system is a network of the region to ensure the orderly arrangement of the intergroup relations.

(3) The value of culture; orientation value that ensures shared prosperity and resilience of local social.

(4) Local leadership; figures that serve to lead society towards achieving common prosperity through various activities or matters such as community leaders, religious leaders , and village heads.

Indonesian National Sports Committee (KONI) can be viewed as social capital because KONI built as a result of processes that occur in the community and have some basic elements , namely (1) the social network (involvement of the members of the group), (2) the existence of shared values, (3) the existence of common rules , (4) the existence of friendship or social solidarity (social cohesion) , (5) the lack of coordination and cooperation , (6) the existence of a common goal that is of mutual benefit. With these characteristics, KONI as social capital is a necessity for the creation of productive cooperation in a society, group, community, or an association.

## METHODS

### Setting and Research Design

The workings of this research is done by following the rules and regulations of qualitative research (qualitative research), which saw a reality in the context, is descriptive, as well as his interpretation of space and time bound (Moloeng , 1996:31-32) . The approach to the problem of research is verstehen approach interpretative understanding. Verstehen approach understood problem in the ' what ' and ' how ' reality of KONI is. It also determines how the implementation of Law No. 3 of 2005 according to "insiders " (fonemic) or emic understanding .

The consequences then requires the researcher to enter the world of conceptual of





" KONI members" , in order to understand trust, social networks, values, norms and authority structures that exist in the KONI community. This is easily done by researcher because researcher have been engaged for the last 8 years as part of the KONI community into units of study .

The research was conducted on KONI Regency/City in Central Java . In Central Java there is what is called a cross- Agency Coordination districts/cities ( Bakorlin ) which consists of three Bakorlin ( Bakorlin 1 , 2 and 3 ) and there Bakorlin each consisting of 11 to 12 KONI regency/city . Bakorlin 1 is Kedu residency and covers the area of Surakarta, Bakorlin 2 covers the area of residency of Banyumas and Pekalongan, and Bakorlin 3 covers the area of Semarang and Pati residency .

## Data and Its Measurement

The data of this study consists of two main types, namely good qualitative data obtained from interviews, observations and semi involved in the discussions focused, and document data obtained from studies of document about the work system KONI members. Qualitative types of data collected in this study, the following levels of measurement consisting of :

- (1) Trust ( bond mutual trust ) both between groups and between community members in KONI . Quality is measured from soliditasnya trust trust that is built up .

- (2) The Social Network, the networking and communication between KONI intensity as a community with relevant government institutions , civil society , and between members or KONI . Social Network quality is measured by the intensity komunikasi done .
- (3) Shared Values, which deal in the wake of the KONI community ideals . Quality of Shared Values measured value orientation within the community KONI , in heren difficulties and or necessity membangun on the ideal of commitment .
- (4) Shared Norms, as a standard action KONI community , and or the members of the Sports Committee, such as : etic code and code of conduct , both written and unwritten . Shared Norms measured quality of the functional absence of written rules and unwritten customs that exist .
- (5) The structure of the Authority, as the resolution of conflict in the community when there is a conflict KONI both internal and external conflict with the wider community . Quality is measured authority structure of objectivity and rationality of decisions.

Study data collection is done through the incorporation of 4 technique as well , namely : (1) in-depth interviewing techniques , (2) data collection techniques through Focus Group Discussion (FGD) , (3) participant





observation , and ( ) semi observation techniques involved.

## Data Analysis and Interpretation

Analysis of the data in this study use model analysis that will be carried out following the 'interactive model' as proposed by Matthew B. Miles and A. Michael Huberman (Miles, 1992), which requires researcher to engage in three cycles of activity: data reduction, data display and conclusion drawing or verification as something that intertwine both done at the time before, during and after the field data collection.

## RESULT AND DISCUSSION

The KONI reality examined from various viewpoints. In terms of organizational board structure, the results of the documentation of KONI in seven regencies / cities representing every Bakorlin in Central Java showed that generally KONI Regency / City does not involve structural as well as public officials in the management of the core, there is only one KONI, Surakarta, which is involving one public officials of the legislative bodies, who became deputy chairman II.

In terms of funding, in 2013, KONI District / City win funding an average of 6 billion . Budget amounts ranging from Rp 450,000,000 , - up to 16.5 billion dollars . The average number increased from the previous year , and some even got a budget increase

quite dramatically from 3.5 billion in 2012 to 16.5 billion in 2013 . Only the Kudus KONI budget decreased from 7.5 billion to 4.7 billion . The sources fund budget on all KONI District / City budget comes from District / City . No funds from the budget apart .

All KONI District / City targeting more medals in 2013 in Banyumas Porprov of Porprov medals in 2009 in Surakarta, Central Java . One is the KONI Banyumas that targets 110 gold before obtaining 67 gold . On average there are 33 branch managers are there in the KONI regencies / cities , and who co Porprov average of 26 branch .

KONI majority of District / City has not had cooperation activities with other agencies . But there KONI who have formed a partnership , such as the Kudus KONI formed a partnership with PT . Djarum Kudus to provide scholarships for athletes and coaching support for the 45 clubs in the Kudus badminton . KONI Banyumas General Sudirman in collaboration with the University in the use of sports facilities and outstanding athlete admissions line and the 3 SMA Purwokerto in the open class sport . KONI Kebumen while working with the management Dikpora Sports Stadium (GOR).

In general, KONI District / Municipality carry out promotional activities in the form of healthy, fitness gym , and a series kegiatan National Sports Day involving society at large . In addition, KONI also promotes its activities through the mass media . Rembang KONI just stating that there is no promotional







activity. Flagship activity of KONI Regency / City lies in outstanding athlete development program. KONI majority held Pelatda or coaching athletes in various sports. KONI another open gym class in collaboration with schools to foster the seeds of such outstanding athletes who do KONI Wonogiri, Kebumen and Banyumas . While KONI Rembang requires some extracurricular sports be in school.

## **Identification of Social Capital Unsures and Its Role**

### ***Trust***

In terms of elements of trust ( the bond of trust ) , the researcher found the following reality . In general , the entire decision-making in KONI Regency / City through consultation and agreement with the related fields . Chairman of the Sports Committee in deciding something is always done with the agreement of management / KONI members . Kudus KONI only 90 % said that the decision was taken by consensus and the rest decided chairman. At all district / city , generally dispose KONI chairman duties in accordance with the organizational structure , except on Kudus KONI where 40 % of the tasks were taken over by the chairman as chairman have enough time . Each disposition has always followed the board with satisfactory results and reported to the chairman .

In each District / City , KONI always facilitate any aspirations of sports

administrators . In general , the organization of KONI not get sponsorship from a local company / national , except in the Kudus , Kudus KONI always gets sponsor support from PT . Djarum Kudus . At KONI has formed a partnership with other agencies , cooperating agencies are satisfied with KONI

Each free sports activities proposed funding required to KONI , then KONI will select and decide funding these activities . Budget aid flows to those sports is not done uniformly , but according to the priorities and needs of the sport . KONI which distributes funds evenly KONI only Pekalongan with each branch pegged at 20 million dollars . Generally KONI reported use of budget funds to local governments . There are reported to the field of Public Welfare , there are to the Regent , Diaspora , and DPPKAD . In addition , the use of the funds is also reported to members of the Sports Committee meeting forum members .

### ***Social Network***

Judging from the intensity of networking and communication between KONI as a community with relevant government institutions, civil society , and between members or KONI . KONI majority have not made a visit to the relevant agencies on a regular basis . Several visits but only to be incident and Diaspora . In general, KONI has not had a relationship with a firm supporter of sports activities , unless the Kudus KONI has established





relationships with PR and PR Breadfruit Djarum . All of the KONI to these hearings with board sports. While time is varied , there is a once every quarter , there were 2 months , and there is no organization of any sports event . Yet all of the KONI hold public hearings . KONI is already doing with the public hearings are KONI Wonogiri , Rembang and Surakarta . In general , KONI accommodate public complaints about sports issues . Only a few KONI stating no complaints from the community that need to be followed , such as KONI Rembang , Pekalongan , Banyumas and Kudus .

Generally KONI does not depend on relations with the leadership of the company to obtain funding support outstanding athlete development . However KONI Surakarta stated otherwise , the KONI is very dependent on the relationship . KONI has built most of the sports communication forum in which the public and interested parties to exchange ideas . KONI KONI is not done is Pekalongan , Solo, and Surakarta . Most of the KONI not avail the facility of social networking in cyberspace ( the internet ) to implement the communication with the community and forum members . KONI who already use the Internet is Banyumas and Pekalongan . Average KONI has not been able to move companies and donors to fund the development of outstanding athletes . Donors are able to move KONI KONI only Kudus has established relationships with PR and PR Breadfruit Djarum . KONI has not

been able to move the majority of companies and donors to provide assistance exercise equipment at central coaching athletes . KONI is already generating aid KONI sports equipment is Kudus , Surakarta , and Kebumen .

### **Shared Values**

Agreement in the community that is built on the KONI ideal values can be seen in the following phenomena. All of the KONI always better to report the use of funds from the budget and links to members and local government. The general public has not been able to access the financial statements KONI. Some KONI said that it is because there is no mechanism of financial reporting through the media. Only financial statements submitted to the government and members. All of the KONI convey that most (75% -80%) board and an active member in the forum organized communication even KONI Surakarta said that 100% officials and members are always present in the KONI forum. KONI majority said that about 20% -40% passive functions and members of the coaching outstanding athlete, except KONI Surakarta who claim 100% active managers in coaching excellent athletes.

### **Shared Norms**

Standard KONI community action , and or the members of KONI , such as : etic code and code of conduct , both written and unwritten can be seen as follows . All of the





KONI has adhered to a code of ethics that all officers and members in the form of AD / ART . KONI majority stern action against all forms of violation of code of conduct as specified in the AD / ART . KONI Pekalongan , Banyumas , and Rembang has not cracked down on code violations if any . All of the KONI claims no structural or public officials who are in management, except KONI Surakarta involving the legislative elements of the management. All of the KONI stated that when the period of stewardship has been completed , KONI immediately implement management reorganization . KONI regular board meeting held in the span of a week, once a month , or 3 months.

Most KONI has never held sports seminars. Only KONI Wonogiri and the Kudus ( 2011) which have ever organized it. KONI has never held a majority of sports workshop, just KONI Wonogiri ( 2013) and Banyumas ( 2012) menyelenggarakannya ever . KONI has never held a majority of social service . Only the Kudus KONI ever host them . KONI majority channeling incentives for athletes who excel in the range of USD 150.000 , - to Rp 1.000.000 , - . KONI that does not provide incentives are KONI Kebumen and Pekalongan . KONI sports administrators always helps when organizing sports events , except KONI Kebumen stating pengcab not help in organizing sports events .

## Authority Structure

Quality is measured by the authority structure of objectivity and rationality of decisions. All of the KONI feel fully responsible when the regency get minimal achievements in sports championships. All of the KONI set regulations so that local athletes have more opportunity to compete at the provincial level representing district / city. Most KONI restrict or even ban to bring in athletes from outside the district / city to represent the district / city in Porprov. The KONIs which do not limit them are Kudus, Banyumas and Pekalongan. All said that the Chairman of KONI KONI is able to overcome any problems that occur among members of KONI.

## CONCLUSION

It can be conclude that: (1) The social networks developed by KONI have not been maximized, for instance, KONI has not involved NGOs to fund the sports development; (2) The social capital of KONI including trust, social network, and authority structure have not been maximized, while the shared norms and shared values have been developed well.

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# THE ATTITUDE OF ELEMENTARY SCHOOL PHYSICAL EDUCATION TEACHERS TOWARD TRAFFIC ACCIDENTS PREVENTION EFFORTS

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### Abstract

*This research will discuss the severe traffic accidents in Indonesia. The objective of the research is to determine the attitude of elementary school physical education teachers towards traffic accidents prevention efforts.*

*This is a descriptive research with one variable, which is, attitude. The population used in this research are elementary school physical education teachers who are attending college in Study Program of Elementary School Teachers Education for Sport, Faculty of Sport Science, Yogyakarta State University, concentration of Study Continuation Program. The researcher used 152 of 250 persons as the sample taken at random. Questionnaire is used as the instrument of the research using the attitude scale of Likert model or modified Likert scale with four alternatives. Data analysis technique is using descriptive quantitative with percentage.*

*The result of the research shows that the attitude of elementary school physical education teachers towards traffic accidents prevention efforts in general is good (79.44 %). This result means that elementary school physical education teachers have a high concern for traffic accidents and willingness to participate in every traffic accidents prevention efforts.*

**Keywords:** *attitude, physical education teacher, accident*

### INTRODUCTION

High way is like a killing field! Perhaps, this is the most appropriate title to describe the severity of high way traffic that never ceases to cause fatalities. The numbers of accidents are increasing. The data of traffic accidents during Eid always

shows a graph of raising every year. In the last three years, the data can be seen on Table 1. Even though there are decreasing numbers of fatalities, the number of victims who suffered minor injury, severe injury, and the occurrences are significantly increased.

**Table 1. Data of Traffic Accidents during Eid**

No.	Year	Total	Minor Injury	Severe Injury	Fatalities
1.	2009	1.839	1.697	859	770
2.	2010	2.382	1.546	705	632





3.	2011	4.869	2.650	1.068	633
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(Source: *Kompas*, September 5, 2011)

World Bank and World Health Organization report titled "World Report on Road Traffic Injury Prevention" mentioned that every year around the world there are 1,2 million people died and 50 million are injured due to traffic accidents. Everyday, three thousand people died from traffic accidents and most of the occurrences happened in the developing countries. As a result of this traffic accident, 90 % suffered disability adjustment life years (DALYs). WHO predicts in 2020 traffic accident will be on the third place for the cause of death after heart attack and depression (Subandriyo, 2006: 6).

The death rate due to the traffic accidents in Indonesia is high and from the statistical data, Indonesia ranked on the second place in the world after Nepal. Every year, no less than 36,000 lives lost in vain on the streets of this country. This means that everyday an average of 99 people died on the streets. Material losses caused by traffic accidents, excluding the treatment cost for injury due to loss of productivity, reached Rp 41,3 trillion or equal to 3.1 % of Indonesia's gross domestic product (Yahya, 2005: 28).

According to Maryoto (2004: 1), traffic accident victims were mostly men in the group age of 15-40 years. Judging from the age, they are included in the productive age. Elementary school physical education

teachers are part of the group of potential traffic accident victim. They are a very valuable asset, as the spearhead in instilling human values to students. Therefore, it is a great loss to the nation if they are to die in vain on the streets.

Various efforts actually have been made by the government in order to prevent and overcome traffic accident issue. The enactment of the Acts Number 14 Year 1992 on Traffic and Land Transportation (TLT), which is then updated with the Acts Number 22 Year 2009 on Traffic and Land Transportation (TLT), is one of the government's proves of sincerity to "fight" traffic accident. Moreover, there is also President's Instruction Number 3 Year 2004 on Eid Transportation.

Since the enactment of the Acts Number 14 Year 1992 on December 19, 1993 and the Acts Number 22 Year 2009 on June 22, 2009, both of them have not shown the expected results of all parties. Likewise, the presence of the President's Instruction Number 3 on Eid Transportation was not able to slow the increasing rate of accidents during Eid. A lot of traffic violations still occurred on the road without any proper sanction from the law enforcement, in this matter, the police. Feel at ease, people dare to "act more" on the road. Violations of the traffic law committed by human will cause





traffic accidents will all the consequences that are detrimental not only for himself but also for other road users.

Therefore, it is not too much what was delivered by social experts through social pathology theory that accident is a mirror of human attitude towards life (Florio, 1979: 38). These social experts' statements imply that society, including elementary school physical education teacher, has been counterproductive to the government's program packed through the laws and regulations. In other words, they are less concerned with the existing regulations, they even often violate the regulations. Human holds the main role for the attainment of a program. Does not matter how good the program is will not produce the expected results without any support from all parties. Society may not merely throw responsibility to the government's shoulder because safety is a shared responsibility for all parties.

The result of the research is expected to open the hearts of road users, especially elementary school physical education teachers, to be more disciplined in driving on the road in order to create traffic safety for themselves and others. Moreover, this research is also expected to provide feedbacks to all parties who are directly involved in traffic issue, namely the administrator of transportation, including the Ministry of Transportation, the Ministry of Public Work, and the Police which are the most crucial components of a travel.

## LITERATURE REVIEW

### Attitude

Azwar (2007: 4-5) classifies the definitions of attitude into three framework of understandings. First, framework of understanding, which is represented by psychologists, such as Louis Thurstone, Rensis Likert, and Charles Osgood. According to them, attitude is a form of evaluation or reaction of feelings. Thus, a person's attitude towards an object means either favourable or unfavourable to the object.

Second, framework of understanding, which is represented by experts, such as Chave, Bogardus, LaPierre, Mead, and Gordon Alport. According to this group of understanding, attitude is a kind of readiness to react to an object in a certain way. Readiness here could mean a potential tendency to react in a certain way if an individual is faced to a stimulus that requires a response. Their conceptions of attitude are more complex than the first.

Third, this group of understanding is group oriented to triadic scheme. According to this framework of understanding, an attitude is a constellation of cognitive component, affective, and conative interacting one another to understand, feel, and behave towards an object.

Cognitive component or perceptual component is a component which is related to knowledge, views, and beliefs, things related to perception. Affective component or







emotional component is a component which is related to the sense of happy or unhappy one's feelings towards an attitude object. Conative component or behaviour component is a component which is related to one's tendency to act to an attitude object (Walgito, 2003: 127-128; Azwar, 2007: 23-28).

In addition, it can be seen from the structure, according to Rakhmad (2003: 40) attitude has the following characteristics: (1) have a motivation, (2) relatively more settled, (3) contain evaluative aspects, and (4) not inborn.

## Traffic Accidents

According to AAHPER (1968: 7), Yost (1970: 4) and Aaron (1972: 32) accident is an unplanned event that can result in the loss of time, material loss, injury, disability, and even death. The argument was supported by Merki (1996: 484) which argues, "Accidents are the major cause of death among young people ... Although many accidents that young people have are not fatal they can cause serious problems." In relation to traffic, the traffic accident is an accident occurred within a traffic issue (land, sea, and air), which according to Aaron and Strasser (1977: 12) caused by three main factors, they are: (1) the driver, (2) the highway or environment, and (3) the vehicle.

Driver or human element has the major contribution to the occurrence of traffic accident, more than ninety percent. Highway and environment contribute four percent to

the occurrence of traffic accident. Vehicle contributes four percent to the occurrence of traffic accident (Nugraha, 2007: 38).

In order to overcome traffic issue, first thing to be improved is the human factor through traffic safety education approach. The implementation started as early as possible when a child can be taught the proper attitude to face the risk and danger of the highway (Florio, 1979: 187). Therefore, traffic safety education has to be included in the curriculum from the elementary school to college (Muchtamadji, 2004: 34).

## RESEARCH METHOD

This is a descriptive research, a research conducted to determine independent variable value, either one variable or more (independent), without comparing or correlating between one variable to the others (Sugiyono, 2004: 11). There is only one variable in this research, which is attitude.

The population in this research was elementary school physical education teachers from the Special Region of Yogyakarta and Central Java who are attending college in Study Program of Elementary School Teachers Education for Sport, Faculty of Sport Sciences, Yogyakarta State University, as student of, concentration of Study Continuation Program, 250 people in total. 152 people were used as the samples taken in random or random sampling (Suharsimi, 2002:116). The number of





samples was determined using Krecjje table (Sugiyono, 2002: 63).

The instruments used to measure the attitude in this research were questionnaires using Likert's attitude scale model or known as Likert scale (Walgito, 2003: 167). According to Saifuddin Azwar (2007: 108) there are two important things to be noted in attitude scale design, they are: (1) determination and delimitation of attitude concept, and (2) determination and delimitation of attitude object. Attitude concept in this research was in according to triadic scheme theory which stated that attitude contains some aspects: cognitive, affective, and conative. Furthermore, attitude object in this research is determined and limited by some components consist of driver, highway, and vehicle.

In order to analyse the data collected, researcher used a quantitative descriptive analysis technique with percentage (Suharsimi, 2002: 215). Since there is no hypothesis in this research, the analysis is

directed to answer the problem formulations at once. The steps conducted to answer the problem formulations are: (1) determine ideal/criterium score, a score determined with the assumption that every respondent on every question gave an answer with the highest score, and (2) dividing the total score of the research result (real score) with the ideal score (Sugiyono, 2004: 204).

## RESEARCH RESULT AND DISCUSSION

### Research Result

The results of the research are presented on Table 2 to Table 4 below.

**Table 2. Calculation Percentage of Elementary School Physical Education Teacher towards Traffic Accident Prevention Efforts in Overall**

Attitude Object Component	Attitude Component			Total		
	Cognitive	Affective	Conative	Real	Ideal	%
Driver	4,099	2,533	952	7,584	9,000	84.27
Highway	2,731	1,368	848	4,947	6,600	74.95
Vehicle	2,800	1,814	968	5,582	7,200	77.53
<b>Total</b>	<b>9,630</b>	<b>5,715</b>	<b>2,768</b>	<b>18,113</b>	<b>22,800</b>	<b>79.44</b>





Table 2 shows that elementary school physical education teachers' attitude towards traffic accidents are good.

**Table 3. Calculation Percentage of Attitude Object Component of Elementary School Physical Education Teachers towards Traffic Accident Prevention Efforts**

No.	Attitude Object Component	Real Score	Ideal Score	Percentage
1.	Driver	7,584	9,000	84.27
2.	Highway	4,947	6,600	74.95
3.	Vehicle	5,582	7,200	77.53

Table 3 shows that elementary school physical education teachers' attitude towards traffic accident prevention efforts from the driver attitude object component is good; elementary school physical education teachers' attitude towards traffic accident

prevention efforts from the highway attitude object component is good; and elementary school physical education teachers' attitude towards traffic accident prevention efforts from the vehicle attitude object component is good.

**Table 4. Calculation Percentage of Elementary School Physical Education Teachers' Attitude Component towards Traffic Accident Prevention Efforts**

o.	Attitude Component	Real Score	Ideal Score	Percentage
1.	Cognitive	9,630	12,000	80.25
2.	Affective	5,715	7,200	79.38
3.	Conative	2,768	3,600	76.89

Tables 4 shows that elementary school physical education teachers' attitude towards traffic accident prevention efforts from attitude component of cognitive is good;

elementary school physical education teachers' attitude towards traffic accident prevention efforts from attitude component of affective is good; elementary school physical





education teachers' attitude towards traffic accident prevention efforts from attitude component of conative is good.

## Discussion

Information obtained from the results of the research is that elementary school physical education teachers' attitude towards traffic accident prevention efforts, in overall, both from attitude object component and attitude component are good. This kind of attitude cannot be separated from the teachers' academic background. Compared to the teachers of other subject area, physical education teachers have a uniqueness that distinguishes them and also bring them to maturity.

Everyday during physical education teaching-learning process, they are faced with a high risk or dangerous thing. Equipment, facility, material, process, place, and weather that they faced require a determination and caution. The lack of knowledge, limited skill, and their lack of determination in teaching the students in the field may cause a harmful accident, or even life-threatening for themselves and also the students.

In teaching the students to swim in example, a physical education teacher should know what have to be done before the students get into the pool. Teacher also has to know for sure his students' capability in swimming. Moreover, teacher has to be disciplined in teaching his students to swim.

Violation of the rule may cause undesirable things. If a physical education teacher lets his student who has not able to swim to directly get into the deep swimming pool, it is the same as a "murder".

Such condition for academic life has become like a "daily meal" for elementary school physical education teachers whether they aware that it has forged them to be an adult. They became accustomed to deal with life problems, including the fierce traffic of the highway. Tragic events that happened to people on the highway induce empathy, there is a concern and self-willingness in them to involve in every traffic accident prevention effort.

Elementary school physical education teachers' good attitude towards traffic accident prevention efforts cannot be separated from the implementation of Safety Education in Study Program of Elementary School Teachers Education for Sport. Through Safety Education course, elementary school physical education teachers—of which Study Program of Elementary School Teachers Education for Sport students—acquire a stock of knowledge, skills, and a good and critical behaviour along with high social responsibility for self-safety and others to prevent and overcome accidents so as to create a safe and prosperous life.

## CONCLUSION AND SUGGESTION





Based on the research and discussion that has been described the previous section, it can be concluded that elementary school physical education teachers' attitude towards traffic accident prevention efforts is good. It means that elementary school physical education teachers have a high concern towards traffic accident and have a high willingness to involve in every traffic accident prevention effort.

In accordance to the results of the research above and for the realization of traffic safety, there are some suggestions to be delivered.

1. Police should give a good image of law enforcement to act decisively, indiscriminately against anyone who violates traffic regulations.
2. Safety Education course should be included in the curriculum for Elementary School to College.

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## PLAYING MOVEMENT ACTIVITIES OF ELEMENTARY SCHOOL AGE CHILDRENS

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### Abstract

*This study aims to determine the activity of elementary school students play movement through various rules applied by parents in home environment. The samples were all students in grade II Elementary School 01PG of the two classes that exist in the school with a number of 65 students. Based on the analysis found: (1). Class II of Elementary School students can already expressed his desire to play to his parents. This statement is reinforced by the data obtained in the amount of 63%, and about 29% of children can not be expressed their wishes and 8% of respondents undecided. (2). Class II of Elementary School students stated that their parents has supervised in play activities, a number that indicates 52% said agree, 39% disagree and only 9% undecided. (3). Class II of Elementary School students stated that their parents give time to play with their friends, this is reinforced by figures showing 43% said agree, 37% disagree and 20% undecided. (4). Class II of Elementary School students stated that their parents provide the opportunity to determine the type of game, this is reinforced by figures showing 32% said agree while 62% disagree, and only 6% were undecided. (5). Class II of Elementary School students stated that their parents gave verbal punishment when playing, this is reinforced by figures showing 35% said agree, 51% disagree and 14% undecided. (6). Class II of Elementary School students stated that their parents give physical punishment when playing, this is reinforced by figures showing 38% said agree, 55% disagree, and 7% are undecided. (7). Class II of Elementary School students stated that their parents enforce the rules when playing, this is reinforced by figures showing 52% said agree, 39% disagree, and only 9% undecided.*

**Keywords: Playing, Movement, Elementary School**

### Preliminary

Elementary school age is the range in which children are at school age and likes a series of activities like active play. Movement activities at elementary school age will affect the growth and development of children, such are physical growth, social, emotional and cognitive development of children. By playing activity also will effect fundamental movement development. Fundamental movement is the

basis of the motion of a child in a variety of movement activities such are games, sports, dance and other physical activities in the child's social environment .

Nowdays, playing activities as a cultural phenomenon that characterize of a child continued disappear especially on the big cities like Jakarta. Many background factors such conditions addressing misconceptions parents about movement





activities children do through play activities, it affects the movement of a child's culture. Many parents restrict, prohibit even when the kids are playing movement. As is known, the elderly constitute a small part in a family that has an important role, providing the widest movement experiences to children. Family is the most important force in the lives of children. And it is the first place to learn movement and determine the choice of the successful movement for their children. It is a powerful influence on the attitudes and behavior of the motion of a child. Because, basically, is a child's development of movement skills, performance patterns of interaction are shown as broad or narrow and diverse or simple motion that they receive and to do. Based on the explanation above, this research was conducted in order to obtain the description of movement activity of children of elementary school age through various rules applied by parents in the home environment.

**Research Methodology**

This study aims to determine the activity of elementary school students play movement through various rules applied by parents in the home environment. This study use descriptive methods which data collection through charging questionnaire with three levels of scale using a range up to three.

Table of Playing Activity Movement as below :

Variable	Indicators	Question No (-)	Question No (+)
Playing Movement Activity	1. Children has freedom to play	1	5, 6
	2. Monitoring to children	17	9
	3. Play time with friend	14	3, 13
	4. Choosing of playing type	15,19	18
	5. Punishment through verbal	7, 11	12
	6. Physical punishment	16, 20	10
	7. Rules Application	2, 4	8
	<b>Amount</b>	<b>10</b>	<b>10</b>
	<b>Total Amount</b>	<b>20</b>	

The study population was all students in second grade Elementary School 01 PG with number of 65 students. While the sample is taken with a total sampling technique.

**Results**

Class II of Elementary School students can already expressed his desire to play to his parents. This statement is reinforced by the data obtained in the amount of 63%. Although there are still around 29 % of children can't be expressed a desire to play and the rest 8 % respondents undecided to expressed their desire to be able to play with his parents Class II of Elementary School students stated that their parents has supervised in play activities This is reinforced by figures showing 52 % said agree, 39% of them are disagree that means their parents do not provide supervision when they play , and only 9 % were undecided whether their parents to supervise when they play. Class II of Elementary School students stated that their parents give time to play with friends, this is reinforced by figures showing 43 % said agree, 37 of them are % disagree that means parents do not give time for them to play with friends, and 20 % which undecided whether







the parents give them time to play with friends. Class II of Elementary School students stated that their parents provide the opportunity to determine the type of game, this is reinforced by figures showing that 32 % said agree while 62% of them are disagree, it mean that kind of game more respondents in the study determined by their parents, and only 6 % were not able to declare or hesitant to answer whether their parents determine the type of game. Class II of Elementary School students stated that their parents gave verbal punishment or scolded when playing, this is reinforced by figures showing 35% said agree, 51% of them are disagree that means parents do not give verbal punishment or scolded when they play and 14% were not able to determined or undecided whether their parents provide verbal punishment or scolded when playing. Class II of Elementary School students stated that their parents give physical punishment when playing, This is reinforced by figures showing 38% said agree, 55% of them are disagree that means parents do not give corporal punishment when they play, and 7% were not can to determined or undecided whether their parents provide physical punishment when playing. Class II of Elementary School students stated that their parents enforce the rules when playing, this is reinforced by figures showing 52% said agree, 39% of them are disagree that means parents do not enforce the rules when playing, and only 9% were not able to

determined or expressed doubt whether their parents enforce the rules when they are playing.

## Discussion

Child's play performed in a variety of movement activities is a form of expression that their child is an individual who likes active play activities. Way of parents role to support the development of fundamental movement through playing activities at home. Play itself has the main function of which is to stimulate the development of sensory-motor, intellectual development, social development, creativity development, the development of self-awareness, moral development. Here is an explanation of the function of play for children's development:

### 1 . Sensory-motor development

At playing games, sensory-motor activities are the largest components used children and active play is essential to the development of muscle function. Such are game tools used for babies who develop sensory-motor skills and play tools for preschool children who fosters both rough and smooth motor activities.

### 2 . Intellectual development

At playing games, children explore and manipulate everything that exists in the surrounding environment, especially recognize colors, shapes, sizes, textures, and distinguish objects. By the time the child would bet also train themselves to solve





problem. When the children is playing toy cars, then the tire came off and the child can fix it then he has to learn to solve problems through exploration of toys and tools to achieve this capability the child uses the power of thought and imagination as much as possible. The more often kids do this kind of exploration, will be trained intellectual abilities.

### 3 . Social development

Social development characterized by the ability to interact with its environment. Through play, children will learn to give and receive. Playing with others will help children to develop social relationships and learn to solve the problem of the relationship. At the time of play activities, children learn to interact with friends, understanding the other person's language, and learn about the social value of the group. It occurs mainly in school-age children and adolescents. Nevertheless, pre-school children age is an early stage for children to expand their social activities outside the family.

### 4 . Creativity development

Creativity is the ability to create something and make it happen in the form of objects and or activity does. Through play, children will learn and try to realize his ideas. For example, to unpack and install a tool to stimulate creativity for the game is growing.

### 5 . Self-awareness development

Through play, children will develop the ability to regulate behavior. Children will also learn to recognize his ability and compare it

with others and test its ability to try new roles and know the impact of his behavior on others. For example, if a child takes his toy crying, the child will learn to develop self that his behavior hurt friends. In this case the important role of parents to inculcate moral values and ethics, especially in relation to the ability to understand the positive and negative effects of their behavior on others.

### 6 . Moral development

Children learn the value of right and wrong from the environment, particularly from parents and teachers. By doing play activities, children will have the opportunity to apply those values that can be accepted in their surrounding and adjust to the rules of the existing groups surrounding. Through play children will also learn moral values and ethics, learn to discern what is right and what is wrong, and learn to be responsible for its actions as well as goods. Accordance with cognitive ability, for preschoolers, games are an effective medium for developing moral values than giving advice. Because it is important the role of parents to supervise children when children play activities and teach moral value, such as good and bad or right and wrong.

Based on the explanation above, the definition of what is meant by playing the motion in this study is that children do play in a variety of movement activities at home which is a form of expression that their child is an individual who likes active play





activities, and the role parents play activities to support the for the motor development

Syamsu Yusuf (2000, p.38), states that the parents in the family has a function, among others : (1). Giver of security for children and other family members, (2). Resource needs, both physical and psychological, (3). Model appropriate behavior patterns for children to learn to be a good member of the community, (4). Giver guidance for the development of social behavior that is considered appropriate, (5). Givers guidance in learning motor skills, verbal and social needs to adjust to, (6). Stimulator for the development of children's ability to achieve, both in school and society.

Gallahu (2002, p. 64) states, that the influence of parental treatment during early infancy and children will affect the skill functioning of children in the future. Because of the strong dependence of infants and children who given parental care which is length period, He also said that "a variety of maintenance factors of parents can affect the child's future development". Influence patterns of parents of motor development also shows its influence, parents who ignore child's development in the motor aspects, the child will less the opportunity on movement capability in the future.

Payne and Isaacs (1995,p.47) explains that somehow ignore the motion behavior of children or respond negatively can cause motion behavior is lost. Therefore

family consciously or not, they can making the movement behavior of their children like Synder and Spreitzer (1973) called it as "the family is society 's most powerful institutions".

Based on some information, it can be concluded that the strength of the family is important for children. Parents have a role in determining a child to engage in physical activities such motion in play activities, and games or sports. With the role of parents, children will gain opportunities to indulge in an activity motion play. Because parenting can only act indifferent, let, permit, encourage, provide guidance or development, restrict, or even prohibit children with a variety of reasons. Thus, the number of experiences movement that they experienced during childhood, will have an influence on the ability of its movement in the future. Opportunity movement in a lot of play activities provided by the parents of the child, will give an opportunity to children to gain extensive experience of movement, so their fundamental movement skills will be encouraged to flourish.

Organizing educational activities as it is known is a shared responsibility between government, communities and families. The main function of the family is the first educational institution for children. This shows that family has the tremendous weight of responsibility for education in building human resource development in accordance with the ideals of national education goals. If





parents seek to develop fundamental movement skills, are expected to be obtained in the future human resources of healthy physical, mental, spiritual as well as the ability of a various sports skills specifically on the issue of mobility related to sports. Haywood stated, children, adolescents, and adults who are involved in sport activities is a reflection or a picture of the attention and encouragement of their parents at the beginning period of childhood. Parents can encourage children to participate in activities which include motion play skill, or parents can support the activities of his children playing (Katheleen M. Haywood, 1993, p.306).

Based on the statement of the family as an institution of education for the children, have a very decisive role in the child's development of motion activity. Child would become a man who has the ability in a wide range of motion activities, depending on his parents. The more children are seen in the motion activity, the more opportunity given for a positive stimulant for children.

If parents do not much give a chance or much curb the activity of movement, there is a trend in the future will be a lot of children experiencing adjustment problems in the environment, especially sports-related movement, or movement activity in their daily lives. Hence the family primarily as a function of education for children in all aspects, parents play a key role for the success of the future child.

One of the many activities that the motion carried children is through play activities. Parents should provide support to the motion activity of children through play activities. It should be understood by parents that children's play has a function that is very strategic for the development of both movement skill, intellectual, social and emotional child.

Based on the explanations above it can be concluded that the activity of playing movement in this study is how the role of parents with their child play activities that include movement. Children are given the free expression of play, how parent does oversight activities related to children's play, how parents give their children time to play with his friend, how parents give their children the opportunity to choose the type of game, whether parents apply verbal punishment or scold their children when they play, and whether parents also apply physical punishment on their children when playing .

## **Suggestions**

- 1 . Parents should give their children a chance, time, and also to the child's supervision to perform various activities play activity play motion because the motion which carried the child is an important activity in stimulating a child's motor development.





- 2 . Parents should give children the opportunity to determine the type of game that will be played with playmates, because it is a form of trust parents to children, so the child will learn to be responsible with his choice.
- 3 . If the penalty may be given to children because of violations of the agreed rules, the punishment given, either verbally or physically should remain instructive, which means parents still provide an explanation or excuse to them. Conversation or communication intensive can be constructed so that they gain an understanding of the mistakes that have been made and the long term they will not repeat the mistake.
- 4 . Scope of this research is still very limited and the population of students with very limited sample, so that generalization can only be done on these population, It is suggested to other researchers to be able to examine a sample of the more number in a different area .

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## Fleksibility for Brisk Athleths

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### Abstract

*Race walk is moving forward with the foot steps done in such a way that no single moment is lost relationship with the land and be maintained so long as the race lasts . During each time step, the front legs walker must remain in contact with the ground before the rear foot leaves the ground. One leg must be straightened, not bent at the knee and at least a moment when the goods in an upright body position . The main goal in a fast way is to walk quickly from start to enter the finish line . To achieve fast time then needed a fast pace and length . Speed and stride length a fast walker greatly affect the success of a fast walker . The stride length is determined from the movement of the hips to maximize the movement of the front foot or the back foot to foot swing or thrust feet. hip joint movement influenced the level of flexibility athletes quickly, so it takes a good flexibility to be able to improve the way athletes move faster during a race.*

**Key word:** Race walk, flexibility

### Introduction

Walk is a step movement in any direction will be undertaken by anyone , and do not know the age . But not with a Race walk . Fast road race goal is obviously to reach the distance of the place / point A to point B in the shortest possible time . Restrictions / definitions of the IAAF on the road quickly is moving forward with the foot steps done in such a way to cut off ties with the land without a moment and be maintained so long as the race lasts . During each time step , the front legs walker should keep in touch / contact with the ground before the rear foot leaves / lifted from the ground . one leg must be straightened , not bent at the knee and at least a moment when the goods in an upright body position / vertical .

Therefore a referee / judge is obliged to look for a quick way two things: to see if the athlete was Race walk with legitimate or not , namely : a) contact with the ground and b ) . Knees are bent .

The main goal in a fast way is to walk quickly from start to enter the finish line. The distance covered in a race walk starts from 5.000m to students , 10,000 m to 20 km for juniors and seniors, to achieve fast time then needed a fast pace and length. Speed and stride length a fast walker greatly affect the success of a fast walker. The stride length is determined from the movement of the hips to maximize the movement of the front foot or the back foot to foot swing or thrust feet. The movement influenced hip join athletes race

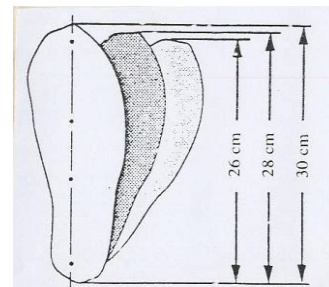


walk level of flexibility. How did the forms of flexibility for an athlete fast way ?

Race walking techniques

Locomotor path is not explosive and which provide advanced full motion without shifting weight to power on at all and especially with the economical nature . Due to the foot must be grounded to the ground , this movement is a movement of pure leverage , working from the heel to the toes because this is the second point of resistance to the ground. The hind legs should be brought forward as close to the ground , landing on the heel with ( attitude )  $\pm 450$  feet to the ground . At this point the weight is distributed equally between the two points of contact with the ground phase of the double buffer . Since the hind legs begin to move forward , the weight began to gradually moved to the foot of Epan to achieve single-phase buffer . At this point the weight is fully supported by one leg and the whole momentum of the fast walkers - dating of encouragement hind legs . Legs should be straight in a long time. Race walking is an adaptation of the regular running race utuk maksut purposes . By optimizing the mechanics of motion , one can achieve a longer step with a high frequency motion that will result in a rapid way . In the usual way the toes pointing slightly out , sedangkat on the road quickly we make your toes toward the front straight without deviation to the side . If the foot does not land with a line pointing straight towards the line along the way, then

obviously there is loss of distance measures . In fact when the foot lands with the angle 300 has lost 16.6 % means that for the average walker - fast losing distance of 2 inches or 5 cm . More so when the forward thrust by the hind legs are not in line with the body , which must be held at a time correction are brought forward foot. See picture 1.



Picture. 1.

Loss of distance

(PB PASI 1992)

Directing the fore foot heel in contact with the ground in front of the body at the beginning of each step is very important with both feet landing on a straight line. See picture 2



Picture 4

Mobility due to a good waist.

(PB PASI, 1992)

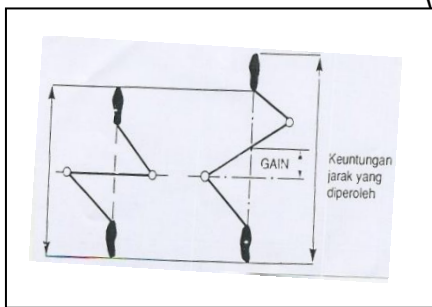
Picture. 2

Position of foot.

( PB PASI 1992)

Waist

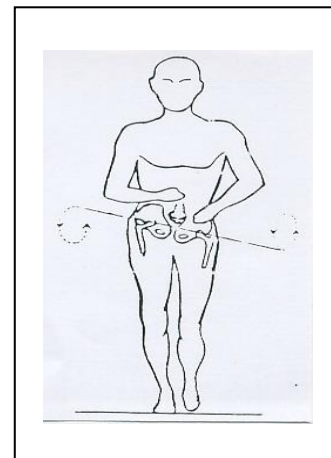
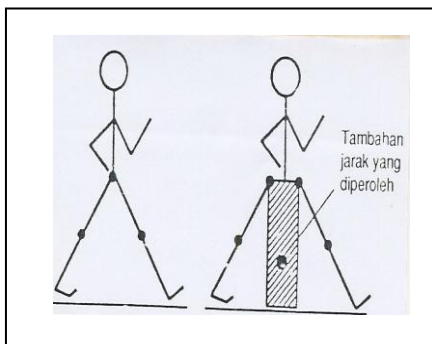
Waist is central pedestrian movement quickly. Bula a fast walker does not have mobilita waist, this will reduce the length of stride length with a hefty amount. Figure 3 shows the achievements of mobility due to a good



Picture 3

Mobility due to a good waist.

(PB PASI, 1992)



Picture 5

Mobility of waist Pinggang

(PB PASI, 1992)

When a walker is in full step, flat waist with one another. When a Tongkat mounted







transversely connects the hip to the hip joint, then the stick left and right will membewntuk circular path (imaginary) the same between the left and right paddles similar to snapping on two opposite sides.

A good waist movement is a great movement to correct a legitimate way to force your toes under longer, and this then gives the heel extra time required for contact with the ground. Additional time is right to distinguish between the imposition of disqualification for failure to maintain contact with the ground or not . Good waist movement is often more difficult for the older athletes mumurnya , while the athletes are more limp or outgoing is possible to obtain a better piggang movement and get a good technique. Generally waist movement is in two areas simultaneously, and vertical horizontal motion, and is happening in the natural setting quickly . Never too done that this movement will only occur in the horizontal and vertical plane only. Then it must be careful donot happen movements ( excessive ) waist from side to side which could result in the loss of balance and shortening step.

This will make stress on the abdominal muscle. All the anatomy involved in techniques that work from the waist down, is the cause not in disqualification . However, the upper body is not at all times be neglected because small errors by the waist up can be a contributory factor . To improve

on the time step and movement to maximize the movement of the waist , it is necessary to be trained flexibility .

## Flexibility Exercises (Flexibility)

Flexibility is the ability to perform the movement in the joint space. Besides flexibility is also determined by the elasticity of the muscles tendons and ligaments.

Forms of flexibility exercises, namely:

- 1) dynamic stretching, done by moving the limb rhythmically with rotating movements or bouncing limbs that seemed stretched muscle . Example : rotate to two arms and hands forward and back, move your hips forward and backward, rotate your hips forward and backward.
- 2 ) Static Stretching can be done by taking a stand such that the stretch of a particular muscle group . Example: a stand with legs straight and try to touch the floor bowed , pulling both hands to the right side, and pull kedau hand side to the left.
- 3 ) Passive Stretching , relaxation movement towards a particular muscle group . Can also be done with the help of another person slowly stretch the muscle to the point of maximum flexibility, eg sit up and kiss dri impetus behind the knee aided by the theme .
- 4) Stretching relaxation or contraction known as PNF , contractions against a resistance given by others in a group of muscles for six seconds . Examples of movements : pick the leg up with one friend hold the leg movements , resulting in the arrest on foot .

Conclusion:





To increase flexibility in race walk athletes extend particular remedy measures, necessary to exercise flexibility, including: dynamic stretching, static, passive stretching and PNF stretching.

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## The Analysis Divergent Teaching Style Spectrum in Implementation Curriculum 2013

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### Abstract

*The problems faced by physical education teachers based learning curriculum in 2013 rooted in different perceptions among the components implementing the curriculum implementation. Each curriculum has different characteristics and to achieve the learning objectives in accordance with the curriculum of physical education teachers to teach the curriculum. Teachers should pay attention to the teaching style appropriate to the topic or material will be provided. The learning process of physical education in schools needs to match the style of teaching that curriculum applicable. Teaching style that could be developed in the curriculum 2013 is divergent. Divergent teaching style is a form of problem solving in teaching. Stimuli given the divergent teaching styles can guide learners to find solutions or answers individually. Behavior of the teacher will guide the behavior of learners in achieving learning goals. Results of this paper can be considered physical education teachers in implementing the curriculum 2013.*

**Keyword:** Divergent Spectrum, Curriculum 2013

### Preliminary

Education is expected to give birth next prospective future development of a competent, independent, critical, rational, creative, and ready to face a variety of challenges with not abandon religious values. For this purpose required a fairly fundamental change in the national education system, which is viewed by various parties has been ineffective, and unable to provide supplies, and can't prepare students to compete with other nations in the world. Fundamental changes are related to the curriculum, which itself demanding and requires many changes in educational components. Associated with changes in the curriculum, the various parties to analyze and see the need for applied Curriculum 2013. Which provide students with a variety of capabilities to suit the

demands of time in order to meet the challenges of globalization, contribute to community development and social welfare and adaptive to change.

In the intensification of education as a process of human development that lasts a lifetime, the role of physical education is very important that give students the chance to be directly involved in a variety of learning experiences to foster a healthy lifestyle as well as forming and active throughout life. In implementation of the curriculum 2013, physical education teacher as one element in the success of the study should be able to understand the characteristics of the curriculum 2013 and the principles in the implementation of curriculum 2013. By understanding the characteristics and observe the principles of Curriculum 2013, it's possible a shift in the way or style of





teaching. Another implication of the implementation of the curriculum 2013 was the need for a method or style of teaching which is appropriate to be applied. On the basis of the above problems, the authors will try to analyze the divergent teaching styles in response to the imposed curriculum, 2013, because look at the principles and characteristics of divergent teaching styles suitable to be applied in the curriculum in 2013.

## STUDY

### a. Learning Physical Education

Learning is a two-dimensional process of learning and teaching activities are to be planned and actualized and directed to the achievement of competence or mastery of a number of indicators as an overview and learning outcomes (Abdul Majid, 2013). Learning is a curriculum that demands active actualization of teachers in creating and growing activities of learners in accordance with the plans that have been programmed. Suyono & Hariyanto (2012), Learning is a process to acquire knowledge, develop skills, improve behavior, attitude and personality cemented. Teachers must master the principles of learning, the selection and use of instructional media, the selection and use of teaching methods, assessing skills Results of study of students, as well as sorting and using instructional strategies or approaches.

Mulyasa (2005) in an effective and meaningful learning, a teacher must make

strides in learning: (1) Preparation of teaching, (2) Heating and Apersepsi (3) Exploration (4) Consolidation of Learning (5) Formative Assessment. In effective and meaningful learning, learners need to be actively involved because they are the center of the learning activities and the formation of competence. Teachers also must be able to create a situation so that learning material always looks interesting and not boring.

The learning process is successful when positive behavioral changes in learners themselves entirely or at least the majority (75 %). Furthermore, the learning process is successful if it produces a lot of output and high quality, and in accordance with the needs and developments. Thoroughly studied assume that in the right conditions all students are able to study well and get maximum results for all the materials studied. In order for the study of students learning should be the maximum that will be implemented systematically reflected implemented learning strategies, conducting evaluations and providing guidance to pesreta students who fail to achieve its intended purpose. Quality of learning or competence formation can be viewed in terms of process and in terms of results. According Rusli Lutan (2001), there are factors that affect the learning process of physical education, namely : (1) purpose , (2) Content, (3) Methods , (4) Evaluation. Goals will give specific direction or guidance toward



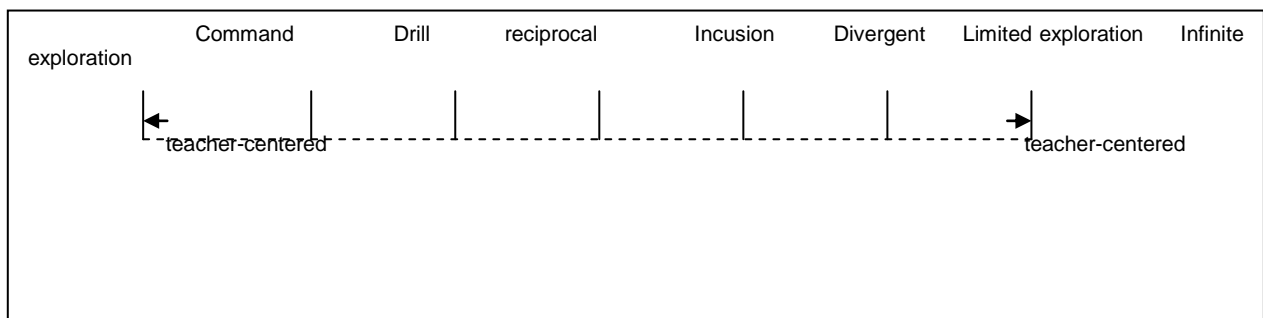


physical education learning process is ongoing.

**b. Spectrum of Divergent Teaching style**

Teaching style according Mosston quoted Agus S.S. (2001), is a specific guideline for structure learning or the learning episode. Teaching is an ongoing series of relationships between teachers and students. Rusli Lutan (2000), the use of the term style

of teaching (teaching style) is often replaced with the term teaching strategies (teaching strategies) are considered the same sense that ploy to encourage the participation of students to perform teaching duties. Further explained that if the teaching style is not planned, the physical education teacher will have difficulty in presenting the material.



- a. Trying to reach harmony between what is intended with what is actually happening.
- b. Conflicting issues about teaching methods.
- c. Overcome personal tendencies teacher.
- d. Teaching-learning-objective, interaction reflects the behavior of teachers and students to teach and learn.
- e. Behavior of the teacher will guide the behavior of learners in achieving learning goals.

Divergent teaching style is a form of problem solving in teaching according to the curriculum 2013. In this style of students the opportunity to take a decision on a specific task in the subject. This teaching style allows diverse response from learners. This style is designed so that students can solve the

problem. Stimuli given the divergent teaching styles can guide learners to seek a solution or answer individually. Purpose of divergent styles namely:

1. Encourage students to find multiple solutions through cognitive considerations.
2. Develop insight (insight) into the structure and activities of finding variations.
3. Allows students to be free of teachers and beyond the expected answers.
4. Examine and develop the ability to analyze his solutions.

The stages in the divergent teaching styles:

**Pre-Meeting**

Teachers make three major decisions

- 1) The subject of general





- 2) The subject of a special episode centered
- 3) Develop a specific problem to obtain multiple answers and solutions are diverging.

## Meeting

- 1) Students determine the answer to the problem
- 2) In the last meeting, the students took Yag decisions concerning specific matters in the subject and respond to the problem posed by the teacher.

## Post-Meeting

- 1) Students assess solutions that have been found
- 2) Examination (verification) covers and compare with the problems formulated by the teacher.

Application of divergent teaching styles are:

- a) At first, students need to be convinced, that the ideas and solutions of the students will be accepted. the students are used to learning usually challenge and told the students what to do.
- b) At the time learners seeking to resolve the teacher should monitor and wait for students to formulate their answers:

- 1) Feedback should be able to guide students to the problem to find the right answer
- 2) Teachers should refrain from choosing certain answers, because it will encourage imitation and not answer individual problem solving

## Benefit of Divergent Teaching Styles

Divergent teaching styles still feels strange by most teachers of physical education, but in practice in the field of physical education teachers sometimes teach with this teaching style but the teachers do not realize that in their teaching styles are divergent teaching styles. However, there is no standard teaching styles in the learning process and nothing is best because every teaching style has different characteristics and objectives between the teaching styles with different teaching styles. Once teaching style emphasized on the teacher as the center of learning, and at times centered on the learner. According to Mosston in Agus S.S. (2001), gains the following divergent teaching styles:

1. Encourage students to find multiple solutions through cognitive considerations





2. Develop insight (insight) into the structure and activities of finding variations.
3. Allows students to be free of teachers and beyond the expected answers.
4. Examine and develop the ability to analyze his solutions.

## Conclusion

The successful implementation of the curriculum is strongly influenced by the ability of teachers to implement and actualize the curriculum. In Curriculum 2013, which is a form of operational decentralization of education will provide new insights on the current system for this. This curriculum change to watch by reviewing various sources and spreading to various parties, especially the executive and executive candidates in the field so as not to misinterpret.

The curriculum is a guideline learning experience that allows students achieve educational goals set. Divergent teaching styles have properties and characteristics are in accordance with the principles and characteristics of the curriculum in 2013, so the divergent teaching styles appropriate to be developed and implemented in accordance

with the teaching of physical education curriculum in 2013.

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## The game is played and Basic Fitness For Students

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### Abstract

*The paper, entitled "Playing is the Basic Fitness For those of Students". Discusses ever al theories play for students aimed at improving physical fitness, the actualization of activity in motion, attitude and behavior, channeling excess energy and the kids get a lot of friends. It also discussed, (1 )principles of play, (2) the basic characteristics of play, (3) Fitt. Games are conducted in a systematic and sustainable manner and the right dosage can lay the basis of fitnesss inclearly childhood, which will furthers pur the growth and development.*

**Keywords:** Play, Continuous-rhythmic, Fitt.

### Introduction

#### 1. Background

On the day a holiday is usually a lot of people doing sports activities, there are jogging, running, walking, cycling, playing golf, badminton, football well in the open field, on the road, stadium, park or enclosed places like fitness centers, galleries gymnastics or sports association gatherings such as heart healthy, elderly etc. gymnastics.

In general, they do sport activities in groups, although there are also individuals, from different ages of children, adolescents, what exactly are they looking for? The answer varies, there is a bandwagon, recreation, social trends, and much more relaxed, but in general they crave fitness. Do feel fitter after the training?

Child's world is a world of play, that's the future child life child, but what if we look

carefully there is a shift of meaning as a result of playing the game tehnologi.Dahulu progress the child has an active dynamic characteristics using physical activity or movement such as flying kites, marbles, jump rope , hide and seek and many more. But now children are more like animated electronic games Play Station or the like, with this type of game the kids will be able to survive for hours in front of the TV screen / monitor and cool with a stick in hand without moving from his seat, the condition can be said to occur behavioral changes of a dynamic passive active dimanis

The different types and ways to play the last time by now certainly have an impact on the quality of child physical fitness, for example, found many children who are overweight. Research conducted Suharto (1991:6) in children and adolescents mostly







have medium and low levels of fitness. To overcome this provides the basis for children's fitness in order to support the optimal growth and development.

## LITERATURE REVIEW

### Play

Citing the view of some experts of psychology and biology, Sukintaka (1992:4) reveals a sense of play, among others:

#### 1. Recreation theory .

This ideology defines a game of human activity as a proportion of work, people will play to hold the release in order to restore the physical and spiritual refreshment .

#### 2. theory Surflus

Excess power will be distributed to children through play activities .

#### 3. theory Teleogi

The looked at each understand that the game has a biological task, which studies the function of living life as a preparation for the next .

#### 4. Sublimation theory

The game not only study the function of living alone, but also an act of sublimation process for improving higher as more noble and more beautiful .

#### 5. Buhler theory

Search Buhler in Sukintaka(1992:5) says that the game in addition to studying the function of living also has the function of desire and ability to be active. Ability to walk, run and jump will be useful for the child in later life .

#### 6. Reincarnation theory

The theory that the children looked at each would play such games carried by his ancestors. However, this theory seems to have no reason at this time relevant children's games continue to evolve in line with advances in science and technology .

Graham (1980) defines play as intrinsic motivation behavior as freely chosen and favored process oriented. While Sukintaka (1992:7) states that the children's play will embody the potential for activity in the form of motion, attitude and behavior. Of the various theories and views can be identified that play is the child's progress to physical activity, voluntary excess to express and gain strength or fitness freshness.

## 2. Physical activity or motion

Physical activity or movement is the realization of a play that is part of the child's life, Gabbard (1987:50) put forward the concept of motion pondamental meluputi:

1. *Locomotor activity* is the transfer of children from one place to another like *bercongklang* (road and jump), sliding and jumping. The movement types including difficult activity because consisting of different combinations of basic motion.

2. *Nirlokomotor*, also known as a stable skill, is a very simple motion, such as twisting, twisting, bending and swaying.

3. *Manipulation*, control movements of this type involves the main objects with hands





and legs are composed of two things namely receptive, such as catch, stop and propulsive, such as throwing, hitting and kicking.

### 3. Fitness

Synonymous with fitness and physical fitness or physical fitness defined as a person's ability to perform work efficiently without causing significant fatigue. Physical fitness is grouped into three sections covering:

1. *Static fitness*: the state of a person who is free from disease or a healthy body condition.
2. *Dynamic Fitness*: capabilities that do not require work specific skills such as running, lifting, pushing, carrying and others.
3. *Motor fitness*, ability to work that requires special skills as a football player should be able to run while carrying the ball over the opponent's head off, volleyball players must be able to jump while hitting the ball from the opponent to avoid dam.

### 4. Components of Fitness

Health-related fitness has four basic components include:

1. *Heart lung endurance*, the ability of the lungs to supply oxygen to the heart muscle work in the long term.
2. *Strength and muscular endurance*: Muscle strength is the ability of muscle to resist loads in a business. Muscle endurance is

the muscle's ability to perform a series of work in a long time.

3. *Flexibility*: the ability of the joints to move freely.
4. *Body composition*: body weight ratio in the form of fat to lean body weight expressed as a percentage of body fat.

From the above description can be explained that in order for children to perform the roles and functions of age need to have the appropriate level of optimal fitness status

### 5 . Efforts Gain Fitness

In order to obtain the fitness status of the prime needs to make the planning and preparation of the program include : behavior and regulation of feed , rest and physical activity settings . The program was conducted during the time from kids to adults . The program includes :

*Food* : to be able to maintain a decent human life requires a fairly good eating quality and quantity that serves as an energy source , regulators and builders . Especially children are in need of food sufficient to optimize growth. Proportionally healthy foods include 60 % carbohydrates , 15 % fat and 25 % protein , enough vitamins , minerals and water .

*Break* : the human body is composed of organs , tissues and cells that have limited capabilities , for example, a child would not be strong runs continuously throughout the day . Fatigue is one indicator of the





limitations of human physical abilities . To that children need adequate rest time to give the body perform recovery , the recovery and growth process . In a day of children aged 6-10 years old took a break of about 10 hours .

*Physical activity* : the motion is done properly will affect the increase in organ function , such as cardiac pulmonary improve employability , increase employment and muscular endurance as well as help the growth process . In connection with this, Soekarman (1990 : 16 ) recommends that children be given every day 3-4 hours to play and physical activity

## 6 . Playing principle

Play contains elements of physical activity , for it to be able to provide benefits to increase children's physical activity , need to pay attention to the basic principles of exercise include :

- 1 . *The principle of overload ( over-load )* , meaning that the game should be done to stem the stress or load on the physical children .
- 2 . *Specificity ( specifity )* , meaning that physical activity or game boy selected according to fitness components that will be improved , for example, that flexibility of joints function well chosen game containing motion in order to stretch or elongate the muscle strength and endurance better children chosen games which have a characteristic against the load .

3. *Back home ( riversible )* , meaning that activities need to be designed and performed continuously throughout the period , when children stop playing within a certain time then stops also impact physical improvement .

## 7 . Basic Characteristics of Play

Not all games are able to contribute to the child's fitness , so the games are selected need to consider the basic characteristics of play include :

- 1 . *Move* , meaning that there should be a movement in the game is done continuously and rhythmically , like the movement of walking, running , stepping , crawling . The motion characteristics will increase heart and lung endurance improve body composition .

- 2 . *Elevator* , meaning that in the game there should be an element of motion against load as lifting, carrying , and holding interesting . The movement will train strength and muscular endurance .

- 3 . *Stretch* , meaning that the play should be an element of motion to stretch the joints including muscle gain . The motion will train joint flexibility and muscle tone . In addition to these characteristics should also consider other movements such as :

- a. *Pleasure* , the chosen type of game as much as possible to bring happiness and joy to the children , so that selected the preferred game . Playing with musical





accompaniment and the use of equipment of diverse , more colorful delight .

b . *Group*, team games have advantages over individual games in addition fun because it also contains an element of competition that gets kids to express their ability and social meaning .

c .*Safety* , so that children can play safely and comfortably , facilities and environment play needs to be safeguarded , for example, equipment and location play is made of a material that does not easily harm , such as playing on grass is much safer than on hard courts

### 8 . Playing the type and dose

The game will have a positive influence on the quality of a child's physical functioning when attention FITT concept , namely :

Frequency ( F ) , play should be done regularly at least three times a week with a hose or a sufficient interval .

The intensity ( I ) , the game will need to be concerned about the quality of excitatory , meaning that the child should be able to make the game move faster than the heart resting heart rate , such as heart rate in a resting state child 70 beats / min , then at the time of playing to 100 beats / min , it would be better if the increase in heart rate maximum heart rate reaches 60 or higher .

Time ( T ) , it took quite a play , try the game can do more than 15 minutes , if it has not been able to play only for a moment

cause adaptation to the quality of the child's body organs .

Type ( T ) , to be able to improve fitness , game type should be selected in accordance with the basic characteristics of play that include : move , such as walking , running , jumping and crawling . Elevator , such as encouraging friends , cradling friends , menarik.Stretchth , another interesting example , twisting the body . It also needs to consider the pleasure , group and child safety

### 9. Playing adaptation

Adaptation is defined as playing a positive effect that is relatively permanent, the play will affect the improvement of physical, psychological and social development. Description of adaptation play as follows:

1. *Physical benefits*, improve the function of organs such as the heart, blood vessels, lungs, muscles, bones, joints, improvement in the body's metabolism, reduce body fat and cholesterol balance.

2. *Psychological benefits*, with play cause children to be more resistant to stress and better able to concentrate. It is caused by increased blood supply and reduce levels of salt in the brain. Anxiety in women before menstruation for example due to increased salt levels in the blood and an increase in the hormone estrogen. In addition to the play can increase feelings of achievement.

3. *Social benefits*, the play can increase the confidence of the child, as well



as the cooperation effective means of communication.

### 10. Game type

Guided by the principles and the basic character of the play, some of these types of games can serve as models and examples for designing different types of games.

#### 1. Cardio Circuit Training:

- a. *The goal:* increase heart lung endurance, strength endurance leg muscles, burning body fat.
- b. *Equipment:* cones or stakes, cardboard bearing the various

activities, boxes, ropes, hoops, recorder type.

- c. How to play: children were divided into several groups, each time the music goes off then the kids have to do the motion in accordance with the instructions written on the stake, after the music stops they have to run to another post in accordance with the order, the music sounded again the next time they have to perform the activity as it is written in the nearest stake, so forth

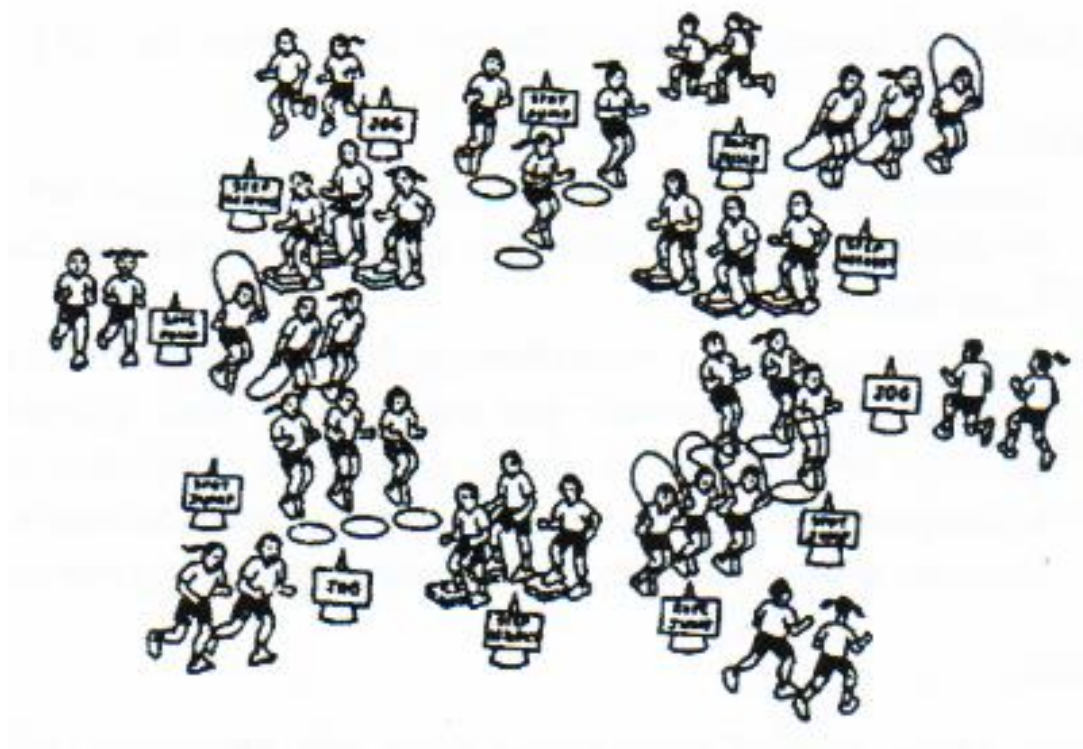


Figure 1. Cardio Circuit (Source: Curt Hinson: 67)



2. Around The bolck

- a. Target: increase the durability and strength of the muscles of the legs and arms.
- b. Equipment: cones or stakes, cardboard bearing the various activities.
- c. How to play: children were divided into several groups, and then they do the appropriate motion commands are written at stake, for example: command jog, jog until they have to do the following signs, then crawl, tiptoe, so crawling with belly facing upward. Each child is doing 3-4 rounds

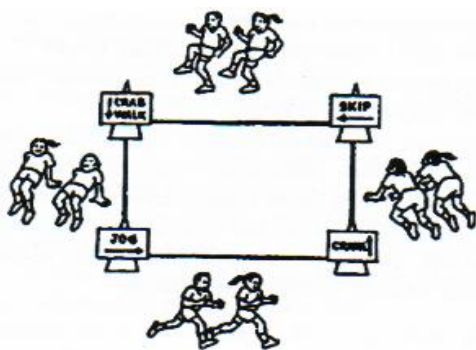


Figure 2. Around The bolck (Source: Curt Hinson: 65)

**CONCLUSION AND RECOMMENDATIONS**

**1. Conclusion**

Playing in the form of physical activity in the form of motion, the actualization of potential, attitude and behavior of children. By playing the child will acquire a positive

adaptation include: satisfaction, pleasure and channeling excess energy. The game is done in a systematic and sustainable manner and the right dosage will be able to create a fitness since early childhood which will further spur the growth and development of children

**2. Suggestion**

Penjas teacher should be able to create a model of learning which in turn is the basis of students' fitness for the participants. Apart from that penjas teacher should be able to understand the basic principles of playing characteristics play is done in a systematic and sustainable as well as understand the right dosage for the right dose of physical fitness is the basis of the child from an early age.

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## The Effect of The Tactical Approach to The Student Game Design Comprehension and Playing Football Improvement Skills at SMPN 1 Cilimus of Kuningan District

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### Abstract

*On the process of learning football game at SMPN 1 Cilimus of Kuningan District, there was found that students comprehension of of football games is still low, so they are feel a difficulty when learning the football game. Therefore PE teachers are required to have the skill to choose the right learning model that is able to being creative, innovative, and fun learning so students easily to understand every subject that be taught.*

*The methods that used are experimental methods, with the design is pretest-posttest control group design. The research sample are 25 students who's following football estracurricular, whereas it's the data collecting instrument using two kinds of instruments, that is multiple choice question form test of football games design and observation sheet of playing football skills. The data analysis processing used SPSS 16.*

*Based on the processing and analysis of the data obtained that is the effect about the tactical approach to the comprehension of the model of football playing design and there are students improvement of playing football games skill learning in football game.*

*Recommendation of this research results that is tactical approach could being one of alternatives to improve the comprehension of the playing football game design and students skills of playing football game in learning process.*

**Key Words** : tactical approach, game design comprehension, playing football skills

### BACKGROUND

Physical education learning purposes that formulated by teacher in teaching and laerning process should based on curriculum purposes, therefore teacher are expected to formulate the learning purposes specifically in behavior form that can be observed and evaluated of the level succsess. Although the purposes of physical education is so diverse, but in every learning process must be compatible with the phases of student

development and growth so that can follow the physical education learning well.

There is so many factors that influence the physical education purpose achivement, including the correct learning model used and compatible with students conditions and characteristics, so students would be understand the subject that given by teacher. Therefore, the learning model using related with the student comprehension level, that thing because there is a differently







of students comprehension and skill to understand and get the subject that be taught by the teacher, including the football learning subject at SMPN 1 Cilimus, Kuningan District.

On the process of the football game learning at SMPN 1 Cilimus of Kuningan District that found problems in there. The interview result with PE teacher at that school, found that students comprehension level of football game designs still low, so that students feel the difficulty when they are do football game activities. Therefore, PE teachers are required to have a skill to choose the correct learning models, so can be able make learning being creative, innovative, andd fun, so that the students easily to understand the subject that be taught.

Based on the explanation above, creator try to use tactical approach as alternative to improve the comprehensions of students about football game design, because the tactical approach focuses is student awareness, and apply the correct technique that be able with real games situation. This thing is able with the opinion of Subroto (2001), that declare if: "Tujuan pembelajaran taktis dalam permainan adalah untuk meningkatkan kesadaran siswa tentang konsep bermain dengan penerapan teknik yang tepat sesuai dengan masalah atau situasi dalam permainan" (The purposes of tactical learning in the games is for improve the students awareness about games concept with applying the correct

tactical that compatible with trouble or situation in the games).

Beside it Sucipto (2002) revealed that: "Pengajaran sepakbola melalui pendekatan taktis berusaha untuk mencapai sasaran tujuan umum pendidikan jasmani yang sarat dengan tugas-tugas ajar yang diberikan kepada siswa, merangsang siswa untuk berfikir dan menemukan sendiri alasan-alasan yang melandasi gerak dan performanya, banyak memberikan kesempatan pada siswa untuk berpartisipasi aktif dalam pelajaran pendidikan jasmani, dan memberikan pemahaman pada siswa akan manfaat dari setiap perbuatan dan perilakunya" (Football teaching by the tactical approach try to achieve the general target purposes of physical education that full of teach tasks that given to students, stimulate students to thinking and find by them-self the reasons that underlying of the movement and they performance, give many chances for students being active participant in physical education learning, and give a comprehension to students about the benefits of every actions and they're behavior).

Based on the foreword study result at SMPN 1 Cilimus OF Kuningan District, students comprehension in the football game still low, especially to understand about the game designs, many students look confused when they're playing football, so that the physical education purposes in not achieved yet. Therefore, applying tactical approach expected could being one alternative to





improved the students comprehension to understanding the games designs, at once to apply it in the football game.

football game designs, so the method that used by creator in this research is experimental method.

**METHOD**

Appropriate with the problems that want to review, about the effect of tactical approach to students comprehension of

**Research Design**

Research design in this thesis is Pretest and Posttest group Design. According to Arikunto (2010) this experimental model research layout describing as following:

Table.1 Pretest-Posttest Group Design

Group	Pretest	Treatment	Posttest
Experiment	T <sub>1</sub>	X	T <sub>2</sub>
Control	T <sub>1</sub>	X	T <sub>2</sub>

Explanation:

T1 : Pretest on experiment class

X : Tactical Approach Learning Model Treatment on Experiment Class

T2 : Posttest on experiment class

**Population and Sample**

Population of this research is the students of SMPN 1 Cilimus of Kuningan District. Although for the research sample is the students that following football extracurricular, totally is 25 students.

is the multipel choices questions test about football game designs, and observation sheets of playing football skills.

**Research Instrument**

Research instrument that used in this study consist on two kind of intruments, that

**RESULT**

**Description of Student Comprehension Improvement**

The following is the table of average score for pretest, posttest, and N-gain values about students of experiment and control class comprehension.

No	Class	Average Score KPS		
		Pretest	Posttest	N-gain
1	Experiment	30.56	82.72	0.74(tinggi)
2	Control	36.96	44.31	0.13 (rendah)





Tabel.2 Comparison of Average Values of Pretest, Posttest, and N-Gain about The Level of Experiment and Control Class Comprehension

Result of N-gain average values on experiment class achieved 0.74 with the high criteria, although for the control class N-gains score achieved 0.13 with low criteria. Based on explanation above, the conclusion that is a differently of the comprehension improvement between experiment and control classes.

**Significance Testing**

The level of student comprehension was normal and homogen distribution, so that hypotesis test about comprehension level used by t-test with using paramatic test for pretest and posttest result, and non-parametic test for N-gain result. The testing result by t test completely showed on table 3.

Table.3 Significance Test of Comprehension Level

Data Source	Class	Mean	Std. Dev	Sig (2 tailed)	Criteria
Pretest	Experiment	7.64	1.995	0.004	Significant
	Control	9.24	1.763		
Posttest	Experiment	20.68	1.749	0.000	Significant
	Control	11.08	2.361		
N-gain	Experiment	0.74	0.10	0.000	Significant
	Control	0.13	0.18		





Based on the table 3, showing for pretest, posttest, and N-gain score obtained the significance > 0.05, so that can say if there is no significant differently about the level of comprehension between esperiment with control class before applying learning model. Therefore, the conclusion that H0 is rejected and Ha is accepted, means there is significant differently of comprehension improvement between the class that using tactical approach learning model with the class that not using the model in the football game.

**Description of Playing Football Skills**

Obsevation activity used to know or evaluated the comprehension that appear on every students when playing football process activities is happening with using tactical approach model.

The following is the result about playing football skill aspects that appear in learning activities using tactical approach model completely showed in this table 4.

Table.4 Recapitulation of Percentage Average Value of Observation Result

Playing Assessment Component	Pre Test (%)	Post Test (%)
1.Decision Making	60 (enough)	76 (good)
2.Skill Execution	62 (enough)	74(good)
3.Support	60 (enough)	80(very good)
Average	60.66(enough)	76.66 (Good)

Based on table 4 pretest average of playing football skills in observation activities using tactical approach model that highest is Skill Execution by 62% with enough category, although playing football skills percentage that was have same average are Decision Making skill and Support with percentage average by 60% with enough category.

Posttest average of playing football skills in observation activities with using tactical approach model, increased the highest improvement that is Support skill by

80% (very good). Although about percentage of playing football Decision Making skill have 76% (good), and for Execution Skill with percentage average by 74% (good).

Based on explanation above, the conclusion is on the pretest comprehension ability of the students included in enough criteria (60%) and on the posttest comprehension ability of students included in good criteria (76,66%).

**DISCUSSION**





## Improvement of Student Comprehension

Based on research result that was did, there is found if applying tactical approach learninf model to the football game designs comprehension at SMPN 1 Cilimus of Kuningan District was success and smooth that compatible with phase applied. From the begin of first phase until last phase, when that phases is a evaluation phase or test phase.

Based on the result analysis of the data, discovered the average of students in experiment class increased very significant, that is from 30,56 of pretest score being 82,72 for the posttest score and gain by 0.74 (high), ther are the control class have increased of the value average, but not significant that is 36,96 for pretest score being 44,32 for posttest score and for gain average by 0.13. Based on the result that is a different of the value average pretest and posttest on experiment and control class. After normality testing and homogeneity, the data was namely normal and homogen distribution. So, hypothesis testing used t test (Independent Sample Test) and the result is  $0,000 < 0,005$ , so  $H_0$  is rejected and  $H_a$  is accepted, means there is an effect of applying tactical approach to the football game designs comprehension. This thing is able with the opinion of Subroto (2001), that declare if: "Tujuan pembelajaran taktis dalam permainan adalah untuk meningkatkan kesadaran siswa tentang konsep bermain dengan penerapan teknik yang tepat sesuai

dengan masalah atau situasi dalam permainan" (The purposes of tactical learning in the games is for improve the students awareness about games concept with applying the correct tactical that compatible with trouble or situation in the games). Tactical approach is learning approach that have a focused on liveliness and involved of the students and along the process of the learning, so can being one of alternative to improving the motivation of students, that can following the learninf process of football game designs, that would be impacted to the students improvement of playing football comprehension.

Beside it, studied apply using tactical approach, according by Mahendra and Sucipto (2008) that is: "(1) Improving of the playing skills through comprehension of relation between technique of the games and skills development. (2) To giving fun in the process of teaching (3) Learning to solved the problems and making decisions along the game. Increased of the student comprehension are confirmed also by Slameto (2003), that's the learning process depending on the effect are posed. This means the lesson are given the nice impression, interesting, ease off the presure, useful or giving impression that stand long enough. So that in this thing, the student responses are so good or very effeptive to this learning model user.

Although for the trouble that have to face in learning process was influence by





many kind of aspects. The problem that very prominent, for example in the defense design that when one of the players communicate by him-self without pay attention for other players, so the defenses of team being so weak and easy to attacked by the opponent. Moreover, factor from inside also take effect, like the endurance being come down and unconcentrate. The thinking ability and reasoned are related by human brain capacity. Aunurrahman (2009) explained that the study concentration is one of the psychology aspects it's not easy to know by other people except it-self that's doing the study. This thing because sometimes what showing by someone activities not necessarily same as what is the happening in the real with the individual thinking about, finally on the learning process not being effective.

Concentration difficulty is indicator of student study problem, because that thing would be problem in saving information process or student memory that's hoped. For help the students to concentrate in the study process, surely need enough times, beside required skills of the teacher. But with the guidance, attentions, and skills provision the teacher belong, with gradually this thing will can do better by applying tactical approach.

## **Result of Playing Football Skills**

The research result about the football game designs comprehension by the tactical approach learning model showing students

comprehension completely have the average percentage value by 60-80%. Based on the interpretation criteria comprehension skills of students divided being four parts, there are > 80% (very good), 66%-80% (good), 50%-65% (enough) and < 50% (less).

Overall the component of football game skills, between pretest and posttest on the Decision Making had average percentage by 60% including to enough criteria, after through trained with the tactical approach the percentage average increased until achieved 76% and including to good criteria.

Skill Execution component placed on top rank between three other components included, is by 62% and including to enough criteria, after through trained by tactical approach the percentage average increased to achieved till 74% and including to good criteria. Although the components of giving Support appeared with percentage by 60% and including to enough criteria, after through trained with the tactical approach the percentage average increased to highest by 80% and including to very good criteria.

Improvement of students comprehension caused student already accustomed by football game with the correct designs, so the conclusion is the tactical approach learning model developed the comprehension of the students about playing football. After treatments given by tactical approach the skills of playing football increased to the better way, that thing showed by the posttest result that the average





percentage obtained 77% and including to good criteria.

This condition compatible with Sucipto (2002) explanation that the tactical approach in the football game try to achieved the general purposes of physical education taht full of study tasks that given to students. In the football teaching, students can playing football with using they're skills, and the performance could be improved with through definition and comprehension along the football game.

The improvemnet of students comprehension in the theoretical or practice increased the develoment with through tactical approach, this thing supported by the helper factors of intellectual development, that being developed by Piaget (Dahar,1989) that explained ther is five factors should be influenced of comprehension development, there are between: manturity, physical experiences, logicalmathematics experiences, social transmision, and balancing processed or self adjustment. Intellectual development based on two functions, there are organization and adaptation. Moreover Piaget said that in doing teaching and learning activities, should be care of the knowledge that get by students before. For that teaching considered is not only as process there are ideas of the teacher to move on the students, but a process to changing the ideas of students that existed.

Overall, the theory around taxonomy is regulated in one of levels, each of which is classified required the skills and abilities are message classification. According to Bloom (Kuswana, 2012) declared if "applying" categories following the rules are needed "comprehension" from theory of applying, principle, method, or resume of reflections. The teachers always says, "if some student really understood about something, he can apply it". Reviewed by students skills in football games, the tactical approach could help the students to apply the designs of the games that his understanding in football games.

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# EFFECTIVE WAY OF TEACHING AND ANTHROPOMETRY DRIBBLING SKILLS

## SPORTS HOCKEY

(Experimental Study On Students For Class X School mengah Marie Joseph Jakarta)

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### Abstract

*The purpose of this study was to determine the effect of teaching style and anthropometry against dribbling skills high school students Marie Joseph Jakarta . The research was conducted in Jakarta Joseph Marie High School in 2011. This study uses an experimental method with 2 x 2 factorial design . Random Sampling Cluster Sampling . The total sample of 64 people and divided into four groups with each group of 16 people . Analysis of the data using Analysis of Variance (ANOVA) and Tukey test further test.*

*The study concluded that : (1) overall, reciprocal teaching learning style is better than learning to practice the teaching style dribbling skills Joseph Marie High School hockey Jakarta, (2) for students who have high anthropometry, reciprocal teaching and learning style better than learning to practice the teaching style dribbling skills Joseph Marie high School hockey Jakarta, for students who have low anthropometry, there is no significant difference between the learning process with reciprocal teaching style and style exercises to teach dribbling skills Joseph Marie high School hockey Jakarta. (3) there is no interaction between teaching style and anthropometry against dribbling skills the sport of hockey.*

### INTRODUCTION

#### A. Background .

Hockey is a team game in which required good cooperation among the players. Cooperation for the creation of a good one determining factor that each player is required to be able to master the basic techniques of playing hockey well. There are some basic techniques that must be mastered by the player in order to play hockey well.

Teaching style is one way to overcome the barriers that exist in achieving mastery dribbling skills the sport of hockey. Teaching style is one of the contributing

factors and determinants of success in teaching, and is a hallmark of professional competence inherent in every human appearance of physical education. The teaching styles according to the Mosston Muska dikutip by Rusly Ahmad is; style exercises, practical style (inclusion), force feedback (reciprocal), checks his own style, select the style itself (coverage / inclusion), guided discovery styles, divergent styles, beyond style (individual program).

Muska Mosston, argues in his book that there are 8 different types of teaching styles used commando style is still dominant, whereas according to the characteristics of





students, commando style was not appropriate but the fact still used constantly.

Based on that, which is more suited to the style of teaching and training students or reciprocal teaching style. The two chosen teaching style of the existing teaching force 8, because in learning dribbling skills hockey feel are most appropriate is the second style of teaching. Basically teaching styles used will also be associated with anthropometry of learners that will be the object of research to determine the extent of the influence of teaching styles and students of anthropometry against dribbling skills the sport of hockey.

## B. Problem Formulation

This problem is formulated as follows :

1. Whether there is a difference overall dribbling skills hockey between the students of class X are taught using drills teaching styles and teaching styles reciprocal?
2. Whether there is a difference overall dribbling skills hockey between the students of class X which has a high and anthropometric antripometri low?
3. Is there an interaction between teaching style and anthropometry against dribbling skills the sport of hockey?

## DESCRIPTION theoretical

### 1. Ball Dribbling skills Hockey

The game of hockey is a team sport played games using sticks. According Primadi Tabarani, hockey is a game played between two teams, each player holds a crooked stick called a stick (stick) to move a ball. Between field hockey and indoor hockey has a difference other than the number of players , game duration and size of the field . In indoor hockey is not allowed to hit the ball (hit ). The specific tools used in a hockey game is as follows:

- 1 . Stick (Stick)
2. ball Hockey
- 3 . Goalkeeper (Goalie)
  - Gloves (Hand Protector / Glove) , Protective Leg (Leg Guard) , Protective Head (Mask / Helmet), Protective Agency (Body Protector), Protective Neck (Neck Protector), Pubic Protector (Pelvic Protector)
4. player
  - Players Costume, Leg Protector (Shin Guard), Protective Gear (Mouth Guard), Protective Hand (Hand Guard)

### 2. Teaching style

As a physical education teacher, according to B. E. Rahantoknam , must process the three competencies to change behavior, namely : (1) knowledge and skills in physical education , including understanding the human body, is able to perform a variety





of physical education activities and how to learn motor skills, (2) the ability to teach or method, and (3) a personal relationship or a significant interaction. Teaching and learning process using appropriate teaching strategy is very important in the effectiveness and efficiency of the process efforts. Style of teaching is the ability to use a variety of methods of disseminating information to students through a variety of media and draw up practical experience that is essentially self-centered, interactive, and self-discovery based.

Mosston found teaching style as well as a strategy of war, which is a way to get around the system of teaching, so that teaching and learning objectives can be achieved effectively and efficiently. Further proposed teaching style selected spectrum, a bridge between students and subject matter. Spectrum of teaching is theoretical conception and design, implementation of teaching styles will be selected by a teacher.

So that mean teaching style is the ability to use a variety of ways to get around the system so that the goal of teaching learning process can be achieved by effectively and efficiently.

## a. Teaching Style Exercise (Practice Style)

Practice teaching style is a style that provides the opportunity for students to carry out tasks, after receiving an explanation and see demonstrations task (movement ) teachers, and students receive feedback

provided by the teacher. To clear understanding of the style of exercise, then the following will discuss the key components of exercise styles.

According to Guthrie theory cited by Lutan, it is useful to drill memeperlancar students to do more number of responses appropriate and correct. It is said that: the skills acquired through repetition. Mastery of a skill or consolidation of new skills will be acquired through repetition in which each phase of training to develop the cohesiveness of the stimulus-response relationship.

So is the teaching style exercise in this study was applied to the model of teachers teaching in physical education, where teachers will have the opportunity to teach in the number of students at once, students can learn to work independently, students learn the consequences of the decisions they make accordance with the existing provisions, students learn about the limitations of time, students can learn about the objectives to be achieved by carrying out certain tasks, and students have the opportunity to increase interaction with each student individually.

## b . Reciprocal Teaching Style

Reciprocal teaching style provides students the freedom to make decisions on the broader task than methods. In addition to the freedom to make decisions with respect to the execution of the task, students are





given to assess learning outcomes are limited. Assessment is limited to only the top valuation on formative assessment or corrective by a student against another student, by a group of students against another student, or by a group of students on a student's learning outcomes. Although students judge granted his freedom, but the judge only on a limited basis, with formative assessment or corrective actual assessment done by teachers. Basically teaching style is to apply the theory of feedback or feedback. This theory assumes that the information about the results of his study will establish or improve their learning outcomes in later life. Information that led to the improvements called negative feedback, while information that actually strengthen learning outcomes bali called positive feedback.

This teaching style archetype theory the feedback (feedback), which led to stabilizing feedback is called positive feedback. Improve the teaching and learning process by systematically observing the movement or discussion of friends. Basically, observing and learning activities that friend is a learning process as well. This learning process is often referred to mental activity characteristic motion practice or fostering.

So it is a reciprocal teaching style in this research is applied to the model of teaching that gives students the freedom to make decisions with respect to the duties and provide the freedom to assess learning

outcomes. Information about the results of this study are expected to stabilize or improve learning outcomes in later life. So as to improve the teaching and learning process.

### 3. Anthropometric

Anthropometry plays an important role in the sport of hockey, as it is the dimension most of the attention from coaches. Anthropometric very supportive aspects of the physical condition of an athlete as well as technical skills to demonstrate current capabilities of the motion.

Then after determining anthropometric components of a coach doing a physical ability test is usually conducted by a trainer early in preparation for the competition, the results of these tests will give a general overview. Test results obtained certainly not equal to each other, that is the picture of the handle as a coach in running a different exercise program which according to his ability. Blommfield furthermore suggests that the physical capacity tests are generally described as follows:

- a. Height and weight
- b . Sususnan Somatotype and body composition
- c . Ke proposionalan
- d . Strength and explosive power
- e velocity
- f . flexibility





g . attitude

h . Balance and agility .

So what is meant by anthropometric measures section height, weight, body mass index and long arms and long legs that can be measured by the unit of measurement to determine your ideal weight a person who can support the formation of the movement in accordance with the needs of other forms of posture particular body in accordance with the sport.

#### 4 . Initial capabilities

Bloom's initial ability (entry behavior) is the knowledge, skills and competencies, are prerequisites that must be owned to be able to learn a new lesson or further. Dick and Carey suggested that students' initial ability is the ability that is already held by the students before attending the teaching to be given. Furthermore, he argues that knowing the importance of prior knowledge of the students are (1) whether the student has to have the skills or knowledge that are prerequisites (prerequisite) to follow the instruction, (2) the extent of what the students have learned the material to be presented.

Based on the above description can be concluded that the initial capability is the basis of the potential of the students before attending an activity. In terms of function, the initial capacity can be used as an indicator to classify students into two major groups, namely homogeneous and heterogeneous groups. Homogeneous group is a group of

individuals who have the ability to start the same relative. While the group is a heterogeneous group of individuals who have the ability are not the same start. In the process of teaching and learning exercise for homogeneous groups will be easier when compared to a heterogeneous group.

#### C. Thinking framework

1 .Differences mastery dribbling skills hockey between the students of class X are taught using a teaching style exercises (Practice Style) and reciprocal teaching style.

Basic engineering mastery hockey massive benefits in the hockey game. Because the basic techniques in the game of hockey is preferred, so that the game can run well. and a good mastery of basic techniques will be key to the success of the team in an attack on the opponent's defense so that the occurrence of goals against an opponent.

Of the two approaches above are disadvantages and advantages. In general, the differences of the two approaches can be seen from the point of execution performance and physiology.

2 . Differences mastery dribbling skills hockey between the students of class X which has antropometri high and low anthropometry.

Besides teaching style that can affect than the mastery of basic techniques of hockey. There are other factors that can play





hockey mempengaruhi mastery of skills, among others are anthropometry. Because anthropometry is one factor that can encourage people to be aware of the potential of the body in the sport to pursue a particular sport of hockey. If students have a high anthropometry, has a tendency to be able to master the skills to play hockey well. Anthropometric which will allow a high school students do all the techniques of playing hockey well as that things by the students of anthropometry is how good he is utilizing to master the basic techniques of playing our best hockey.

With the characteristics described above where the learning task is given to the teaching style of practice and reciprocal teaching styles for students who have a high anthropometric influences are thought to support the acquisition of skills in playing hockey.

### 3 . There are Interaction Between Teaching Style and Anthropometry Against Ball Dribbling Skills Hockey .

Style of teaching practice and reciprocal teaching styles have different execution characteristics. In the style of teaching practice implementation with emphasis on basic techniques of movement repetition for mastery of basic techniques for a better, with repeated movement conducted its own motion will provide stability in learning

techniques, in accordance with the tasks assigned by the teacher.

The implementation of reciprocal teaching style provides students the freedom to make decisions that are more extensive than the task method. In addition to the freedom to make decisions with respect to the execution of the task, students are given to assess learning outcomes are limited. Assessment is limited to only the top valuation on formative assessment or corrective by a student against another student, by a group of students against another student, or by students kelompok to student learning outcomes. Although students judge granted his freedom, but the judge only on a limited basis, with formative assessment or corrective actual assessment done by teachers.

Anthropometric every individual human being is different. For individuals who have a high anthropometry would have a greater opportunity to master the skills and complete the task, in this case the basic techniques of hockey. He will be motivated to perform the tasks optimally study well, so that in itself will assist in the implementation of the basic motion of the motor in terms of hockey although the students also have the effect of higher than anthropometry. The selection of teaching style exercises (practice style) that can be achieved with good, one of which is influenced by the level of anthropometry, so it will affect the movement techniques play hockey. For





individuals who have a low level of anthropometry would be more difficult to show the basic movement skills hockey. But they will be helped by a reciprocal teaching style, which will help students in understanding the range of movement tasks to be carried out. So it will give a positive impact in solving the learning task execution.

Thus, because of anthropometry will be associated with the level of readiness capability of doing work particularly to do with the basic techniques of hockey then there was an interaction between the teaching styles of anthropometry against dribbling skills the sport of hockey.

#### D. hypothesis formulation

Based on the study of theory relevant to the study variables, it can be concluded as hypothesis testing are as follows :

1. Overall there is a difference dribbling skills hockey between the students of class X were taught using drills teaching styles and teaching styles reciprocal.
2. Overall there is a difference dribbling skills hockey between the students of class X which has antropometri high and low anthropometry.
3. There is an interaction effect between teaching style and anthropometry against dribbling skill the sport of hockey.

To be able to dribble technique a good

hockey very necessary process of learning by using appropriate teaching styles.

## METHODOLOGY The research

### A. Research Objectives

This study aims to determine one of the two styles of teaching that is more exercise and reciprocal effect on the control of dribbling skills the sport of hockey . Thus it can be used as a handle for the coaches and PE teachers for the implementation of efficient and effective learning.

In particular, this study aims to determine;

1. Overall there is a difference dribbling skills hockey between the students of class X were taught using drills teaching styles and teaching styles reciprocal.
2. Overall there is a difference dribbling skills hockey between the students of class X which has antropometri high and low anthropometry.
3. There is an interaction effect between teaching style and anthropometry against dribbling skills the sport of hockey.

### B. Place and Time Research

Research carried out on the basketball court Joseph Marie High School in Jakarta. Planned research carried out for a





month with a 5th time division sd July 24, 2011.

**C. Research Methods**

The method used in this study is a field experiment method. Winarno declared field experimental method is the method that was about to discover causal factors, controlling events in interaction variables and the predicted results at the level of accuracy.

Ray and Ravizza declared for research activities using field experiments , design may consist of some sort , depending on how many variables to be studied as well as the number of sel.

Kerlinger states that the research design should be developed and implemented with the full calculation in order to generate empirical clues strong relevance to hipotesis.

In accordance with the problems, the study design was a 2 x 2 factorial. Determination of research design refers to Siswojo.

The variables included in the study consisted of ; independent variables, variable attributes, and the dependent variable are described below.

- a. The dependent variable is dribbling skills the sport of hockey.
- b . As the independent variable is the style of teaching that is divided into

two kinds, namely (1) teaching style Exercise (Practice Style), and (2) reciprocal teaching style. c . As the variable attribute is anthropometry.

Table 3.1. factorial design 2 x 2

Table 3.1. factorial design 2 x 2

Teaching style (A)	Style <i>Practice Style (A<sub>1</sub>)</i>	Style Reciprocal teaching (A <sub>2</sub> )
Anthropometric (B)		
Anthropometric Height (B <sub>1</sub> )	A <sub>1</sub> B <sub>1</sub>	A <sub>2</sub> B <sub>1</sub>
Anthropometric Low (B <sub>2</sub> )	A <sub>1</sub> B <sub>2</sub>	A <sub>2</sub> B <sub>2</sub>
Total	A <sub>1</sub>	A <sub>2</sub>

Description : Siswojo Hardjodipuro, Social Research Methods II (Jakarta: Directorate General of Higher Education Department of Education P2PLTK, 1987), p . 103.

A1B1 : Group of students with high anthropometric taught by teaching style Exercise (Practice Style).

A2B1 : Group of students with high anthropometric taught by reciprocal teaching style.

A1B2 : Group of students with low anthropometric taught teaching style Exercise (Practice Style).

A2b2 : Group of students with low anthropometric taught by reciprocal teaching







style.

A1 : Teaching Style Exercise (Practice Style)

A2 : Reciprocal teaching style

#### D. Population and Sample

Target population included in this study were all students of Joseph Marie High School in Jakarta. While affordable populations in this study are the students of class X SMA Marie Joseph who followed the subjects of physical education and sports health sports especially hockey game material.

Allen said if the design is applied in a factorial design study, the technique of determining the subject of the whole technique.

#### E. Research Instruments

In doing some research first step that needs to be done is to prepare and set the instrument. According to the variables included in the study, the instruments used in the data collection consists of two types of tests, namely : (1) anthropometric tests, and (2) testing dribbling skills the sport of hockey.

#### F. Data Analysis Techniques

To analyze the data collected, used techniques of analysis of variance (ANOVA) in two directions at  $\alpha = 0.05$  significance level. Requirements needed in the analysis of variance test for normality and homogeneity is. Normality test using test Lillefor. As for the homogeneity test using test Bartlet. And if

there was an interaction will be followed by Tukey's test.

#### G. hypothesis Statistics

To test the null hypothesis ( $H_0$ ), the statistical hypothesis in this study can be formulated as follows:

First hypothesis:  $H_0 : \mu A1 = \mu A2$

$H_1 : \neq \mu A1 \mu A2$

Second hypothesis :  $H_0 : \mu B1 = \mu B2$

$H_1 : \neq \mu B1 \mu B2$

The third hypothesis :  $H_0 : \text{Interaction A x B} = 0$

$H_1 : \text{Interaction A x B} \neq 0$

Description :

$\mu A1$  : average dribbling skills the sport of hockey in the group of students who are taught in the style of teaching practice.

$\mu A2$  : average dribbling skills the sport of hockey in the group of students who are taught with reciprocal teaching style.

$\mu B1$  : average dribbling skills the sport of hockey in the group of students who have high anthropometry.

$\mu B2$  : average dribbling skills the sport of hockey in the group of students who have low anthropometry.

AXB : Interaction between teaching style and anthropometry against dribbling skills hockey.

A : Teaching Style

B : Anthropometric

## RESULTS AND DISCUSSION





Hypothesis testing was conducted using analysis of variance (ANOVA) followed by two lines and Tuckey test, if there are interactions in the testing. Analysis of variance was used to test two lane main

effect (main effect) and interaction (interaction effect) between the training and the teaching style of the reciprocal teaching style dribbling skills the sport of hockey to the level of anthropometry.

Obtained by using ANOVA analysis results in the table below 4:11.

Table 4.11 Analysis of Variance Data Results Results Effect of Exercise and Style Style Teaching Reciprocal Teaching

Sumber Varians	dk	JK	RJK	F <sub>hitung</sub>	F <sub>tabel</sub>
Antar Kolom	1	28,8906	28,89	6,331 **	4,00
Antar Baris	1	102,516	102,5	22,464 **	4,00
Interaksi	1	26,2656	26,27	5,756 **	4,00
Dalam Kelompok	60	273,813	4,56		
Total Direduksi	63				

Description :

\*\* = Significant

df = degrees of freedom

JK = sum of squares

RJK = mean sum of squares

Based on the results of analysis of variance (ANOVA) two lines above, can be explained :

**1. Differences Ball Dribbling Skills Hockey Between Teaching Style Exercise with Reciprocal Teaching Style In Overall**

Based on the results of analysis of variance (ANOVA) at significance level  $\alpha = 0.05$  , obtained F value = 6.331 and F table = 4.00. The summary can be seen in Table 4.11 and the calculation can be found in the appendix. Thus  $F_{hitung} > F$ , so  $H_0$  is

rejected, it can be concluded that, overall, there is a real difference between teaching style exercise with the reciprocal teaching style dribbling skills the sport of hockey. In other words that the dribbling skills teaching style hockey practice (= 18.44 ; S = 1.92) better than reciprocal teaching style (= 17.09 ; s = 3,05). This means that the hypothesis which states that the overall dribbling skills hockey practice teaching style better than reciprocal teaching style. This is proved by the results of further trials in the analysis of





variance (ANOVA) using the Tukey test results are as follows :

Table 4.12 Comparison Group dribbling skills hockey Wholly Teaching with Style

No	Comparison Group	Q <sub>count</sub>	q <sub>table</sub>	
1	A <sub>1</sub> dengan A <sub>2</sub>	3,558 **	2,89	Signifikan

Description :

\*\* = Significant

A<sub>1</sub> = dribbling skills hockey with Teaching Style Exercise

A<sub>2</sub> = dribbling skills hockey with Reciprocal Teaching Style

## 2 . Effect of Exercise Teaching Style Differences and Reciprocal Teaching with Style Against dribbling skills For the hockey group has Anthropometric High

Learning by using teaching style exercise influence on dribbling skills the sport of hockey in the group with high anthropometry. This is proved by the results of further testing role in analysis of variance (ANOVA) using the Tukey test results are as follows :

Table 4.13 Comparison of Group Exercise Teaching Styles and Teaching Styles Reciprocal Who Have High Anthropometric

No	comparison group	Q <sub>count</sub>	q <sub>table</sub>	Specification
2	A <sub>1</sub> B <sub>1</sub> with A <sub>2</sub> B <sub>1</sub>	4,915 **	4,05	Significant

Description :

\*\* = Significant

A<sub>1</sub>B<sub>1</sub> = dribbling skills hockey with Teaching Style Exercise Has High Anthropometric

A<sub>2</sub>B<sub>1</sub> = dribbling skills with a hockey style that has a Reciprocal Teaching High Anthropometric

Treatment group had higher anthropometric using drills teaching style (A<sub>1</sub>B<sub>1</sub>) compared with the group treated with high anthropometric using reciprocal teaching and learning style (A<sub>2</sub>B<sub>1</sub>), obtained q<sub>table</sub> and q<sub>count</sub> = 4.915 and = 4.05. Thus q<sub>count</sub>





greater than  $q_{table}$ , so  $H_0$  is rejected, so that it can be interpreted that there is a difference dribbling skills real hockey between teaching style workout with reciprocal teaching style which has a high anthropometry. In other words, that learners who have high anthropometry with exercise teaching style ( $= 17.81$  ;  $S = 1.87$ ) better than the reciprocal teaching style ( $= 15.19$  ;  $S = 2.69$ ) for dribbling skills the sport of hockey.

Thus the research hypothesis stated that students who have high anthropometry with exercise teaching style is better than the reciprocal teaching style dribbling skills the sport of hockey.

**3 . Effect of Exercise Teaching Style Differences and Reciprocal Teaching Style to dribble skills for the hockey group has Anthropometric Low**

Teaching styles do not give significant effect on dribbling skills the sport of hockey in the group with low levels of anthropometry. This is proved by the results of further trials in the analysis of variance (ANOVA) using the Tukey test results are as follows :

Table 4:14 Comparison Group Exercise Teaching Styles and Teaching Styles Anthropometric Reciprocal Who Have Low

No	comparison group	$Q_{count}$	$q_{table}$	Specification
3	A <sub>1</sub> B <sub>2</sub> dengan A <sub>2</sub> B <sub>2</sub>	0,117 <sup>ns</sup>	4,05	Non Signifikan

Description :

ns = Non Significant

A<sub>1</sub>B<sub>2</sub> = dribbling skills hockey with Teaching Style Exercise Has Anthropometric Low

A<sub>2</sub>b<sub>2</sub> = dribbling skills with a hockey style that has a Reciprocal Teaching Anthropometric Low

Groups that have a low anthropometry with exercise teaching style (A<sub>1</sub>B<sub>2</sub>) compared to the group with low anthropometric reciprocal teaching style (a<sub>2</sub>b<sub>2</sub>), obtained  $q_{count} = 0.117$  , and  $q_{table} = 4.05$ . In other words, that learners who





have low anthropometry with exercise teaching style ( $= 19.06$  ;  $S = 1.81$ ) was not significantly better than in the reciprocal teaching style ( $= 19.00$  ;  $S = 2.07$ ) against dribbling skills the sport of hockey. Thus  $q_{count}$  smaller than  $q_{table}$ , thus  $H_0$  is accepted or not there is a significant difference .

#### 4 . Interaction Between Anthropometric the Teaching Style

Based on the results of analysis of variance of the interaction between the anthropometric mengjar style shown in the table above ANOVA calculations, that count price Fhitung interaction = 5.756 and F table = 4.00 It appears that the function F count > F table, so  $H_0$  is rejected. The conclusion that there was an interaction between anthropometry against teaching style.

With interaction, then further testing needs to be done next. Further trials are meant to know about : (1) differences dribbling skills hockey practice teaching style and the style of reciprocal teaching to a group that has a high anthropometry, (2) the difference dribbling skills hockey teaching style exercises and reciprocal teaching style to a group that has a low anthropometry. Summary of test results can further be seen in the table below 4:13 . Calculation can be seen in the attachment.

No	comparison group	$Q_{count}$	$q_{table}$ $\alpha = 0,05$	Specification
1	$A_1$ with $A_2$	3,558 **	2,89	Significant
2	$A_1B_1$ with $A_2B_1$	4,915 **	4,05	Significant
3	$A_1B_2$ with $A_2B_2$	0,117 <sup>ns</sup>	4,05	Non Significant

#### B. limitations of Research

Although this study has been designed and implemented based on guidelines/methods of scientific research, human limitations both as subject and object of research can not be avoided. Realizing

this, in addition to the study has found an important and significant conclusions are also several limitations, among others, as follows:

First, This study uses a quantitative approach, while the variables studied include practice teaching styles, and reciprocal





teaching style certainly has many aspects that should be measured qualitatively. This condition must have caused difficulties in preparing instruments solely using a quantitative approach.

Second, This study is limited to only two independent variables, namely the influence of teaching style and anthropometry. Meanwhile there are still other variables that can affect and / or associated with dribbling skills the sport of hockey.

Third, Time constraints rule out the possibility for researchers to avoid rigidities data collection process and not opening up opportunities to do validation external to the instrument.

**Fourth, This study uses a 2x2 factorial design, so it can not control or influence control variables other ekstragenus strictly, such as the influence of intelligence, intac group, learning style, gender, family environment, peers and other internal and external variables. It needs to be a comprehensive experimental study using a more complex research design and multivariate analysis as Anacova test, so that the influence of other variables can be controlled or controlled statistically.**

## **CONCLUSIONS , IMPLICATIONS AND SUGGESTIONS**

### A.conclusion

Based on the data obtained, the hypothesis testing results and discussion of the results of this study concluded that :

Overall there are significant differences between the styles of teaching practice with reciprocal teaching style to the level of dribbling skills hockey school students Marie Joseph Jakarta.

For students who have a high anthropometry, reciprocal teaching and learning style better than learning to practice the teaching style dribbling skills hockey school students Marie Joseph Jakarta. For students who have a low anthropometry, there is no significant difference between learning by using teaching styles with learning exercises using the reciprocal teaching style dribbling skills hockey school students Marie Joseph Jakarta.

There was an interaction between teaching style and anthropometry against dribbling skills hockey school students Marie Joseph Jakarta.

### B. implication

Results have been presented previously, suggesting that the apparently reciprocal teaching style that applied have a significant influence on dribbling skills hockey school students Marie Joseph Jakarta. Learning with reciprocal teaching style is better than learning by teaching style exercise in improving dribbling skills hockey school students Marie Joseph Jakarta. Based on the various descriptions that explain these





results, it can be argued implications of the study as follows :

Learning to use a teaching style (reciprocal and exercise) have different characteristics of both advantages and disadvantages , although both the teaching style can improve dribbling skills hockey school students Marie Joseph Jakarta . The impact of teaching style and use of anthropometry against dribbling skills hockey school students Marie Joseph Jakarta, is the focus of this study. Field test results as well, for students who can use the low antropometry teaching style as a means of formation drills dribbling skills the sport of hockey, in addition to very easy to play can also impact the dribbling skills hockey school students Marie Joseph Jakarta, although the effect is not larger than the reciprocal teaching style.

complexity of the material being taught, as well as the situations and conditions that will be encountered when the learning process is done.

## C. Suggestion

Based on these results, it can be put forward several suggestions as follows:

Overall reciprocal teaching style and high anthropometry has demonstrated the superiority of the dribbling skills hockey school students Marie Joseph Jakarta than teaching style exercises

and high anthropometry, then penjas teachers or sports coaches in schools are encouraged to use the results of this study. Although its use should pay attention to the characteristics of learners, the level of



# THE SKILL LEARNING PROCESSES OF SWIMMING TO BEGINNING FOR KINDERGARTEN BASED APPROPRIATE FLOAT TOOLS AID AT SWIMMING COURSES IN BANDUNG CITY

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## Abstract

*Swimming ability for children very important to commended, for selves guard. At this time societies expectant towards swimming skills for them children very wide particularly in big city. This is as field works for sports professional as coach or teacher. Although swimming skill as the difficult skill for competence, because does it in the water. More than anything for child of kindergarten, yet is not maturation due motor ability or mental, and intellectual. Therefore, in to allow doing to require appropriate doing with that characteristic child development. One the way usually doing by coach is with float tools aid, although to utilize yet not based principles pedagogies, development, or principles used tools aid. Research problem is how the effort coach in implementation appropriate float tools aid in skill learning swimming child kindergarten. Goal research, is it wish to find implementation appropriate float tools aid. Research method is qualitative method. Collecting data technique by direct observation, open, and structured. Social situation is swimming pools as places courses, coach/teacher as actor coach swimming and activity, learning process swimming skill. Data resources is coach total 20 person and to take by snowball sampling technique . Instrument is myself as researcher. Data analysis by Miles and Huberman model, ( reduction, display, and conclusion). Result; 1. There are varieties float tools aid that used by coaching like; kick board, pull buoy, back float, hand float, rompers float, chubby float. 2. They are used one kind float monotone, two kinds, three kinds simultaneity, and there are not used float tool aid. 3. The used varieties float tools aid, give difference influence toward progress learning produce swimming skill. 4. The used over float is not best in learning progress outcome, but the child to be to idleness. 5 Just a few of coach that to concentrate attention child difference development, in to allow floating tools aid.*

**Keyword;** *Appropriate float tools aid, swimming skill, child.*

## INTRODUCTION

### A. Problem Background

Swimming activity is mostly done by young children wherever there is stagnant water such as pools of the former excavation, sewer and other water attractions. Water has a power of attraction, especially for children as a fun play area. Children will be elated if it appears to see a vast pool of water and this

will stimulate the child to go do various activities. Based on this fact, that human life, especially children can't be separated from the water environment. Water has a philosophical meaning to the lives of children and educational useful in future development.

But on the other hand the presence of water also can be a dangerous threat to the safety of the lives of children drowning







hazard. There have been many cases of child deaths due to drowning while playing water. Like river, lake, water puddles, or pools. Contributing factor is that the child is not able to swim, so it can't save himself.

Seeing the sad reality is, for the protection of children is an obligation of all parties including government, parents, and communities to be able to protect it. One effort is to protect equip children with the ability to swimming skills, by teaching children to swim from an early age began. Emphasis on the importance of children to be taught to swim as has been spoken Prophet Muhammad. Narrated by Annasa'i; "Everything that there is no element of remembrance of Allah, it is negligence. Except for four things: the man who trained his horse, joking with his wife, shooting at a target, and learn to swim. Similarly, as narrated by Abu Raffi, in fact the Prophet Muhammad, said: "The right of children to parents is to teach writing, swimming, archery, and given a fortune just from a halal." (Sheikh Rashid Madun, 2005:118)

The second hadiths emphasizes to his people, especially parents that children provided or taught to swim. It was considered important to show concern for the ability to swim for children. The advantage of swimming ability is primarily to maintain the safety of himself from the dangers of water . The emphasis of the importance of swimming for children are also raised by British Olympic team swimming coach David Haller (2008:6):

personally I think that everyone should learn to swim. Not just for the sake of the pleasure that can be felt, but who knows at all times had to swim to save lives or maybe when we have to help other people who have drowned. So in addition to swimming skills useful for the safety of themselves, are also useful for the safety of others.

Childhood is the time of playing, including playing in the water which can make a risk if that children has no swimming skill. In this period of their age, they still don't understand the dangerousness in water. This matter should be concerned by many people, especially for parents who have to give their kids a swimming skill since they're young.

Base on the study in real life as a swimming trainer, specifically in big cities such as Bandung, middle class parents' awareness of their kids' swimming skill has been seem. This is proven by parents bring their child to a swimming course for being taught of swimming. Almost in every pool in Bandung provides a place for swimming course and because of the members of that course are so many, there is a trainer who feels overwhelmed of handling them. The average of kids' age when they're sent by their parents to be trained in swimming lesson is from kinder garden. Moreover, there is an offering for two years old kid to get the swimming lesson.

Swimming activity for kids beside for their safety, it has also many advantages for their self development such as development





of their motorist, mentality, intellectual, social, and body development. Once he has swimming skill, someday he will have a multi benefit in their future. He will be able to keep himself from water dangerousness in his life, he will use his leisure time for water activities, sustain their fresh body with swimming activity, and also if he has sickness such as asthma, a therapy after operation etc can be cured by swimming.

The question of when is the best time for kids to learn swimming has been asked by many parents who have very young kids. As Tudor Bompa (1985:9) said in his mapping in every sport when or what a certain time of kids to get lesson in particular sport. For swimming lesson, kids can be trained since they're between 3-7 years old, the age of specialization between 10-12 years, and for the highest performance between 16-18 years old. It means that all kids can be trained starting from 3 years old. In the reality, there are so many parents who send their kids to get swimming course since they're three years old like the researcher has experienced itself. Application of the buoy as to what and when to get used to the students and the body part where the buoy attached so that effective use. Questions like this are going to be solved.

Based on this background, the study was intrigued to find a more effective model both processes and outcomes in the process of learning swimming skills for children kindergarten age. is the title of "model of

learning swimming skills for preschool-based tool that aids float appropriate".

## **B. Restrictions and the formulation of the problem**

Limitation of the study

1. Research subjects will be limited to children aged kindergarten class B or between the ages of 5 and 6 years, basic considerations, given this age are prone to accidents in water, is still weak in terms of motor maturity, and intelligence, for ages 5 and 6 old will be considered sufficient time to obtain meaningful progress according to the time required during treatment subjects will be set based on the willingness of parents to involve their children in research.

2. Location of the research will be conducted in a swimming pool around Bandung city.

3. Swimming style will be focused on the breaststroke and, considerations of this style are considered easier to take a breather compared to freestyle.

4. Object / target of the study will focus on the effectiveness of the process of actively practicing, enthusiastic children, comfort, pleasure, and a significant level of progress, and the results of the skills pool skills are mastered quickly (how long the average child can master the skills of swimming the breaststroke, and how many meters the distance that can be taken).

Research Problems.

Different ways by each coach swimming in dealing with students, in





learning the skills pool, as well as train the kindergarten children, a wide range of assistive devices used buoys, but its application has not been the way of consideration in accordance with pedagogical principles, the principle of development, as well as individual differences, only children seem happy just, and safe, but significant effect on the progress has not been unnoticed therefore with a sense of curiosity to the problem, formulated by asking the following issues; Issues to be answered through this research include:

Models use a tool like what floats more effectively applied in the process of learning swimming skills for children kindergarten age especially swimming breaststroke.

The detailed formulation of the problem formulated in the research question as follows:

1. How does the process of learning swimming skills by swimming coaches for kindergarten-age children in breaststroke swimming skills taught at this time.

2. How does the process and learning outcomes breaststroke swimming skills for children kindergarten to the model using the tools and hands float, kick board, back float, hand float, vest pool, and tube float.

3. How does the process and learning outcomes breaststroke swimming skills for children kindergarten with direct assistance (without assistance)

4. Which model among that models are more effective on both process and outcome in the process of learning swimming skills are applied for kindergarten age children.

## C. Assumptions

The need for mastery of the skills pool in today's society, especially the growing middle class continues to increase. Along with the development of modern life which is decorated with a hedonistic lifestyle. Growth of swimming pools for pleasure or recreation, especially in large cities mushroomed even to the local levels have built many recreational swimming pools. Similarly, in hotels, apartments, elite residential complexes equipped with a swimming pool. Beaches or lakes made the stimulus for parents and awaken to the importance of the ability of swimming skills for children.

Parental awareness of the need for mastery of the swimming skills for children, especially in the city such as already appears. This proved to parents who come to the courses to be trained swimming. And they bring their children ranging in age from kindergarten. Based on the observations of researchers in the field, almost all swimming pools in the Bandung city organize swimming courses. And every year increased the participants.

While based on the observations in the field, the trainer of kindergarten children pool, in the process of training or analytical study was multi-faceted for example; anyone





using just one kind of buoy monotonically, anyone using a variety of exercises to buoy from early child can, some are not at all using floats or held directly. And watch out for any train no change model. While in terms of results, with a variety of models are made by the trainer is not yet known the results are more effective. Expected with models that will be try by trainer with the skills of learning model-based customized pool buoy can provide the solution in solving the problems in the process of skills learning swimming especially for children kindergarten.

Swimming skill include hard skill which enough to pre-sighted because it do on the water. Hence, in the process need some help tools, to help students who have difficulties in learning it. Some instrument commonly used in the learning process skill pool for beginners is, a buoy. As kickboard, a back float, a buoy hand or another.

The function of this float is to keep the child's safety, comfort, help buoyancy, comfort when studying the patterns of motion, or coordination of movement. Also to cultivate enthusiasm and motivation of learning, instill confidence child to water. However, in the use of this tool does not arbitrarily, that fact instead of the expected goals, but rather be a setback to the potential child. Does that mean the use of these tools should really be considered as mature, customized based on differences in the characteristics of the child. Such as the type or body shape, body weight, level of anxiety, the level of maturity of the

child, a buoyancy motor, intelligentsia, and the progress of learning each unit learning outcomes. Thus it can happen not every child using help tools, or not every child using the same tool. And when using the tool may not be same, similarly when start reduces or releasing tools are also not same. Similarly in the stage of how to reduce or downgrade tool to help children escape and successfully mastering the skills pool is also different. It is sure referring to the principles the use of the tools, and pedagogical principles.

Therefore, this model is a model that use a variety of tools, but in the use of buoy will be customized to the developmental level of the age kindergarten, and a variety of characteristic differences students.

## **D. Research Purpose**

General purpose is: Finding a model-based learning tool of the buoys in the process of learning swimming skills for children in kindergarten enhances the effectiveness of the process and results to learn swimming skills. The purpose is:

1. Find accurate information about the process of learning breaststroke swimming skills kindergarten-aged children by using based float tool aid.
2. Find accurate information about the influence both process and outcome of learning breaststroke swimming skills for preschool children by using difference floating.
3. Find accurate information about the process of learning breaststroke swimming





skills kindergarten-aged children using the direct guidance without tools. In terms of both process and outcome.

4. Find a model that is more effective in learning the skills breaststroke swimming buoy-based tools for kindergarten age children. In terms of both process and outcome.

5. Research results promised.

The success of learning a skill, there are two dimensions to be measured, which is the first based on the final outcome skills that students can master these skills, and the second span of the speed of the master. Achievement of the final result is the result of a process which sought as much as possible. In the process of learning a skill, one of the implementation efforts is the use of an appropriate module/according to the age level of students they teach.

Students of kindergarten age are considered children who still have many weaknesses of various aspects such as cognitive, motor maturity, and mental. These aspects is needed in the process of learning skills, while to be able to master the skills pool will be undertaken in the water, has a difficulty level that is more than the skill itself on the ground. Seeing such a complex issue to deal with children of kindergarten age and particularly in the context of the learning skills of swimming, then in need of a serious effort in seeking to find the appropriate formulas in the learning process.

Hopefully, through due process and proper, effective results will be obtained. In terms of maturity of each individual has a different, both motor and intelligence, maturity. Similarly, the anxiety levels of the water also have differences. Because of its application is a model of children of kindergarten age, shall be in accordance based on the level of his age, and based on the differences in other aspects. Through this study, expected to be found a learning model that is appropriate for children ages kindergarten in the process of learning swimming skills and is also in line with the range of differences in other aspects, the results of this study will be informed, introduced to the swimming coach who handles childhood or kindergarten teachers in the kindergarten schools robin a books. Hal is to be applied in the process of learning swimming skills, or as guidance for parents who try to teach their own children.

If the model developed was effective, the training process swimming for kindergarten children will take a shorter work than using other models, and it will give satisfaction to the parents who entrust their children to be trained swimming, and in terms of process, each child will feel comfortable, enjoy, and gain significant progress in the corresponding potential possessed, issued in terms of financing to be more effective parents, if the method is more effective coach, will have an impact on increasing public demand that came to him and could





benefit financially from own coach, as well as in terms of satisfaction, parents and coaches were satisfied students had mastered the skills pool in a short amount of time

## F. RESEARCH URGENCY

When parents put their children to be trained swim of skills, of course, parents hope their children have the skills swim. Aside from these expectations, parents expect their children to swim with a relatively short time. Every time her son stayed with trained pool, which is waiting for the advancement and progress successfully able to swim. Sometimes parents do not realize the weaknesses that have children themselves. Many parents who get upset and even angry if their children have not been slow to show progress or have not been able to swimming in a long time. Scolded his son out, upset to the coach, so many of them do not cease to continue. Moreover, if the coach is unable to resolve stalled the progress of children's learning outcomes.

So far, the coaches or teachers who teach kindergarten swimming skills, in applying the learning model used has not been based on careful consideration, based on the principles of distinction, and the principles of passive and function of the use of assistive devices. Who do not use tools in any learning at all, may not understand the importance of the functions of the help buoy. Similarly, the uses of certain aids do not

understand the suitability of the tool with the characteristics of the child.

Therefore, this study is considered to be critical, because during this time many coaches do not have a handle or clear guidelines on the use of assistive devices such as what are appropriate buoys used for kindergarten children. What exactly floats used specifically used for the breaststroke, when a proper buoy was used, when the buoy should be reduced or removed to prevent dependency. Information using a model of learning swimming skills use tools float adjusted, is valuable information as a guide or guidance when his deal with the learning process or training of kindergarten children when subjected to a complex problem. Besides, the results of this study are also useful as a handbook or guideline in the other ages that is having anxiety about the water is high enough. Similarly, the parents who are trying to train their children alone can be used as guidelines or guidance in the process of training skills, especially swimming the breaststroke.

## G. RESEARCH ROADMAP

Advances in the field of science will continue to grow, along with human efforts to solve various problems like fast-paced life

Whether the efficient and effective. Similarly, in science education and learning role experts engaged in education to explore the issues raised issues in education and learning. Similarly, for researchers working in





the field of sports, especially dabbling in sports swimming, as a novice coach has approximately twenty-five years, ranging from kindergarten children and adult children and parents. Researchers also as a lecturer in sports swimming located on the study program of sports science, feel compelled to see the reality in dreams in matter of learning the process of implementation of the swimming skill, whether felt by themselves or by direct observation by a colleague who did swimming coaches and other.

Especially in dealing with preschool children who are learning readiness is low. And in the way of handling the coach seem to have based on the principles of good pedagogical principles, the principle of development, individual differences, special methodical pool, and Principles to practical tool that uses a float. On this basis, then the development of science related to the learning process is very relevant pool. Need a weeks to develop this knowledge in the development of models skills learning of swimming. Research once learning the premises while he tools that have been conducted, focusing on the level of student and freestyle. While kindergarten has its own characteristics that much difference with the students.

Therefore, studies targeting kindergarten ages are very important. Expected to obtain model-based learning tools that are appropriate for kindergarten. Hopefully this model can be applied by

coaches, teachers and parents physical education as an alternative approach to learning the swimming skills.

## LITERATURE REVIEW

### A. Theoretical Studies

#### 1. Influence of individual differences and learning that are customized Against Appearance Motion.

Individual as a human being is a person who has a soul or personality of its own. No two people are alike. Therefore, every human being from one another will differ in various characteristics. Such aspects of age, physical, mental, intelligence, character, skills, motor skills, and so on. The difference in these aspects will affect the speed of a person's progress in learning a skill. As noted by Rusli, (1988:28) as follows: Mastery of motor skills in sport is influenced by the attributes attached to a person, both psychological and physical. Type the body also has to do with mastery of motor skills or movement of a person's appearance. As in swimming, body type fat child will have better buoyancy than in children who are underweight. And Schmidt, (2000:26) argues: it doesn't take a genius to recognize that people are different. They represent different ages, racials groups, genders, and cultural backgrounds. Some individuals have disabilities of physical or metal nature. People have different temparaments, social





influences, and types of life experiences. In addition to this kinds of differences, individual possess other capabilities that can influence the quality of their motor performance.

Similarly, Singer, (1982:94) argues: The study of abilities and characteristics reveals that students differ in many ways. Furthermore, they will not all respond to the same instruction in the same way. They possess dissimilar abilities and capabilities, will learn at varying rate, and will demonstrate relative achievement as a function of a multitude of factor.

Furthermore, he said: But proficiency in complex activity does not come easy. It reflects personal capabilities brought to the learning situation and associated with both potential to accomplish the task and persistent practice at it. Even the ability to learn quickly or slowly is not necessarily a general characteristic of an individual but probably is related more to the nature of the task. Thus a person may be a relatively fast learner in swimming and a relatively slow learner in basketball. Learning differs not only in rate of learning in a particular task, but also in their motivation and strategies and techniques for learning.

This is in line with the basic psychology of why this should be considered the principle of individuality in the context of teaching is attributed to the following:

1. Each individual has attributes, talents, and abilities.
2. Each individual has a way of learning by

himself.

3. Each individual has different special interests.
4. Each individual has a different family background.
5. Any individual requiring special assistance in receiving appropriate teacher taught individual differences.
6. Each individual has a rhythm of growth and development are different. (Nasution, 2006:74) Furthermore, Prof. S. Nasution suggested four ways to tailor lessons to individual ability.

1. Individualized teaching. Learners receive completed tasks according to their ability.
2. Additional tasks. Learners who are clever get an additional task, beyond common tasks for all students.
3. Teaching project. Students do something duties in accordance with the interest and ability.
4. Grouping according to ability. The class is divided into groups consisting of students who have similar abilities.

Regarding the importance of the implementation of a model that is considered suitable or appropriate to individual characteristics suggested by Sujana, (2009:164) as follows: in addition to the need to establish a model of teachers teaching appropriately, the learning process requires more effort from teachers that teach the principles of the use of such motivation, the correlation, and the integrated,







cooperation and competition, application and transformation, individuality. Through the principles of teaching and learning activities of students are expected to remain in optimal conditions.

More assertive in pointed by Nasution, (2006:76) as follow; that a method is said to be better than the other, difficulty preserved, if not taken into consideration personal and wishes the students themselves. Any method may be better, according to a private home and student desires.

With regard to equipment used in his study suggested; running individual teaching method in order to improve the quality of instruction must be supported by a variety of facilities, resources, personnel, and assistive devices. Sources and tools are adequate and appropriate, allowing students to learn individually.

Regarding the suitability of equipment as a tool to be used in teaching as proposed by Metzler, (1999:36) as follows: Equipment is matched to the size, confidence, and skill level of the children so that they are motivated to actively participate in physical education class. Similarly bredcamp and copple, (1997:18) points out: Teachers incorporate a wide variety of experiences, materials, and equipment, and teaching strategies in constructing curriculum to accommodate a broad range of children's individual differences in prior experiences,

maturation rate, style of learning, need, and interest.

In the definition proposed by oleh NAEY's (National Academy of Early Childhood), (1992) in Bredcamp and Copple, (1997:32) about training tailored to the development of the following : The process of professionals making decisions about the well-being and education of children based on at least three important kinds of information or knowledge :

1. What is know about child development and learning-knowledge of agerelated human characteristic that permits general predictions within an age range about what activities, materials, interaction, or experiences will be safe, healthy, interesting, achievable, and also challenging to children.
2. What is known about the strengths, intertests, and needs of each individual child in the group to be able to adapt for and be responsive to inevitable individual variation. And
3. Knowladge of social and cultural contexts in which children live to ensure that learning experiences are meaningfull, relevant, and respectfull for the participating children and their families. Similarly, as mentioned Robert Lees, Johnson, and M.Taylor,





(1995:417) as follows: There are many facets to coaching that the coach need. One of these is the flexibility to be able to adapt to he differing needs of each player. Some examples of the differences that coachs might encounter and accommodate are indicated opposite.

**Age of the performer :** The coach of children must coach them to have fun in a non-compotetive situation. This group should also not be over-strssed but for different reasons from the young. The challenges for the young should be organised in short bursts because of their limited attention spam.

**Stage of training:** at the begining of season, the emphasis will be on quantity work rather tan on quality work.

**History of training:** The history of training of athlete, if it is known to the coach, can provide the coach with parameters to work'within. Amore experienced athlete will know how hard to exert him or herself. An i experienced athlet many not and accordingly the coach will scedule activities where the person can learn his or her limited of exertion.

**Skill level :** The skill level of an individual will greatly determine the particular types of drills a couch uses. This is especially important from a motivational viewpoint. If the athlete is a novice at a skill and the has planned a difficult dril, the persson may be

turned of. Alternatively, a skilled performer asked to perform a mundane of simple task may not find it sufficiently challenging and los motivation.

**Nature of the skill :** The nature of the skill a couch is teaching or practising needs to be considered to ensure a quality learning envorenment. Skill that are strenuous should not be attempted after fitess work. The coach should not finish training with activities that require a high work rate but rather more appoprite warm-down work. As well the coach should be aware that some individuals do not pick up more complex tasks as quickly as others.

This is in line what is contained in the underlying principles of learning kindergarten curriculum, which one of them is the principle of flexibility. The principle of flexibility in the program of activities in kindergarten should be involved also in the adjustment program / application activity units, in certain environments such as socioeconomic background and family culture, and the kindergarten. Similarly, in an effort to combine the interest in order to be prepared a program of activities into a unit.

Similarly, the curriculum developed in 1994, some of the principles of education in kindergarten, among others:

1. Kindergarten is one of the early forms of school education, for it is necessary to create situation kindergarten education can





- provide a sense of security and fun.
2. Each child should receive individualized attention, according to the needs of preschool children. (Patmonodewo, 2000:63).

According to some opinions above, then the method used or applied by a teacher or trainer in the teaching process, should be in accordance with the student code. Therefore, the model will be piloted this research, will consider the individual characteristics of students in the context of the learning area with compliance to the characteristics of these tools buoy that will be used.

1. Methods of Learning Skills Swimming with Tools. Tools in learning the swimming skills. Tools in the learning process are anything that can be used as an intermediary to achieve learning objectives. In view Langeveld : Tools is an act of deliberate element to be provided in order to help achieve educational goals.

In the process of learning sports skills, with a wide range of complexity motion, necessary tools as aids that can ease or make it easier for students to be able to

perform complex movements such. For example, in learning gymnastics skills, to perform required front or back flip rope belt at the waist. Similarly, in the study area required a wide range of assistive devices to help buoy the body floats to the surface of the water and give peace to the students in performing movements that are taught.

These tools buoys to assist in the learning process pool is many kinds, such as kickboards, pull buoy, jacket, avoid arm bands, flippers, belt buoy (buoyancy belt), and bubble float. These tools are widely used by trainers or teachers in teaching beginner students. However, the effectiveness of the use of the application and the results obtained are still not showing clarity. In the learning process, there are several factors to consider. As stated by Djamarah (2005:211). In an effort to education, need to be reviewed for each gear as well as possible, lest the tool of itself hinder the achievement of goals. The selection of tools that careless or improper, it will be an obstacle to the achievement of educational goals. Therefore, teachers should choose the tool of education to suit





the purpose of education and teaching has been formulated.

## 1. Principle Selection Tools.

According to its shapes and types, swimming has characteristic which appropriate to the motion element that must be given by its tool. Don't make its function useless, moreover it become barrier of meaning the end. That tool is used for making the instruction/lesson quicker and easier to reach. Sudirman (1991:114) has three principles of choosing swimming aids:

### a. Purpose of selection

Choosing the tool which will be used must have clear goals, such as, movement of arms and legs. It is for help to taking a breath, for learning, coordination, or increase the buoyancy.

### b. Characteristic of swimming aids

Each tool has characteristic itself, ether for its benefit, step of buoyancy, or its usage. A teacher must have clear understanding from each tool that will be used, and must be sure whether the tool that's used is good or not of goal achievement. If our understanding about its

character of that tool is less, it can cause speculative or 'gambling'.

## c. Alternative selection

Choosing is a process of making a decision from many of alternative selection. Teachers can certain about 1 choice of the tool that will be used. If there is several tools which have a function to comparing among them what will be used, it must be properly constructed.

## 4. Factor of consideration in deciding the tools

a. The objectivity of elements in choosing the tools must be avoided. Means, that teacher are not allow choosing them according to his/her interest. Research reveals that they show the effectiveness and efficiency, so don't be bored for using it. To avoiding the impact of teacher's subjectivity, it's better if you asking for help to your friend in choosing the tolls. Because students also have to ask about pleasuring, challenging, ease in doing motions are taught, and its preparing when it must be decreasing or losing

## b. target program





Target here, means student that will be given skill by teaching with a tool. In certain age and condition, they have good ability; weather their thinking or movements physical or their confidence. Therefore, usage of the tool must be suitable with their growing, weather in buoyancy between float tool and weigh body, usage of complexity, psychology encouraging, or our comfortably.

c. situation and condition

Situation and condition can include training or learning centre, such as condition of swimming pool, environment, social around the swimming pool, students physically or psychology.

d. Quality of swimming aids

Make sure that tools you use is in a good condition and don't make a mess of your concentration, decreasing your confidence, or even can make dangerous of our safety. The tools that are used must have good quality to increase a motivation for study. For example, use them with various pictures that can raise student's motivation.

e. Affectivity and efficiency

Affectivity is used for reaching the goals, whereas efficiency is connected with the process. We have to make sure that the tools which we are used are affective and optimal for students. So that the result we hope in change is looking clear. Meanwhile, efficiency which we have to think is managing the cost and usage of our energy in order to make it efficient.

5. Function of swimming aids

Derek Rowntrie (198:168), functions of education or learning media:

- a. A waken student's motivation
- b. Recall earlier learning
- c. Provide new learning stimuli
- d. Activated student's responds
- e. Give speedy feedback
- f. Creating the appropriate practice

6. Function of using the Aids in swimming

Sharron Davis (1992:16), "Swimming aid helping you to float and stay horizontal in the water, while some can help the learning process along"

Whereas, Thomas (1989:7), "Whereas about buoyancies belt or bubble float for those few adults males who have neutral or negative buoyancy: it is suggested that you ask your teacher





to fit you with a solid foam buoyancy belt that gives you enough positive buoyancy to float at eye level in this exercise"

Thomas says that braces buoy have a function to raise self-confidence. So that someone who using it can feel comfortable and safe.

About the aquaplane, Hagerman (1987:12), "Kickboards. As imperative to have a kickboard in order in concentrate on kicking motions without worrying about keeping the upper body afloat. Used by beginners and advanced swimmers alike".

Meanwhile, a kickboard or aquaplane is more focus on leg and body-up n order to make it still float.

From those experts' opinion, we can conclude that the function of tools swimming aid can make our self-confidence growing-up, so we have a motion and rest to help buoyancy to surface, and to keep our body still in horizontal position. If they've have all those aspects, hopefully the swimming process can run well and meaning the end.

The Result Research:

1. In learning swimming skills for beginners, especially children of kindergarten, efforts were undertaken by the coaches in practice-based

approach to assistive devices buoys, have been carried out

2. However, the use of assistive devices this buoy, still based on the considerations appropriate to the needs of the child, and according to the characteristics or functions of these buoys. So that its use becomes ineffective, especially for the advancement of learning outcomes
3. For example, the use of these tools directly with three types of tools such as; kickboard, armbands, and back float, when in fact the children have had the courage. In effect, there is less potential that can be developed, instead there is a tendency could be lost
4. As well as used tires or tire round hand, directly. Without knowing in advance the potential that exists in the child. The impact on the process, the child becomes fun, children can while sleeping, singing, no concentration.
5. There are children who are forced





hand holding kickboard, to study the movement of the foot, when the child is very scared of water. In effect, the learning process becomes less effective.

6. When the pattern of leg movement or weak poor children, coaches only give aid armbands. In effect, the child's body tends to fall into, so that the difficulties raised and encouraged her/his body to move forward. It should be a suitable tool is back float. In order to lower body lift with the help of these tools.
7. There are a frightened child when doing arm movement patterns taking a deep breath, but the coach uses tools back float. It does not help effectively what they need. It should be more suitable is the tool of armbands. Because helping hand tires body buoyancy forward, so that the child confidence to grow.
8. Conversely, there are coaches who do not use floats, but with the direct assistance with the touch of a hand.

Forced child told to slide. Though children to include only the head was still scared. This causes the child to be psychologically distressed. And the process was difficult to run.

9. Less than once a coach who started by doing pre-test, to see the initial ability students. Yet even kindergarten children, not all children are afraid of the water. when the child looks bold with water, the provision of aid of a float can be minimized, even no longer.

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## The Effects of Parenting Style and Teaching Ability of Physical Educations Teachers on Fundamental Movement Skills

(An Ex-post facto Research on Student Grade 2 of Elementary School at Rawamangun, East Jakarta)

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### Abstract

*The aim of this study was to determine the effect of parenting style and teaching ability of physical education teachers on fundamental movement skills of second grade students of elementary school. This Research used is ex post facto method. Based on the result, it is concluded that: (1) There were significant differences between students fundamental movement skills nurtured by the permissive parenting style than authoritarian parenting style. (2) There were significant differences between the students fundamental movement skills who was taught by physical education teachers with high category than low category teaching ability. (3) There was an interaction between parenting conducted by parents and teaching ability skills of physical education teachers in students fundamental movement skills. (4) There were significant differences between students fundamental movement skills nurtured by the permissive parenting style than authoritarian parenting style who was taught by physical education teachers with high category teaching ability. (5) There were significant differences between students fundamental movement skills nurtured by the permissive parenting style rather than authoritarian parenting style who was taught by physical education teachers with low category teaching ability. (6) There were significant differences between students fundamental movement skills nurtured by the permissive parenting style combined with teaching ability of physical education teachers with high category and low category. (7) There were significant differences between students fundamental movement skills nurtured by the authoritarian parenting style combined with the teaching ability of physical education teachers with high category and low category. The results of this study are to provide recommendation and consideration for the parents and educational institutions especially for any physical education teachers in order to maximize the development of fundamental movement students.*

**Keywords:** Parenting, Teaching Ability, Fundamental Movement Skills

### INTRODUCTION

Fundamental movement skills is a series of movements that became the basis of a child's movement in a variety of activities in sports, games, dance and their social environment. Through basic movement skills, a child will be able to show the ability of motion, thereby moving the child will be more active. With the movement ability the more benefits gained. In addition to the healthy

condition of the body, the child will have the confidence and independence.

Mastered basic motor skills that children will make children more confident in doing all the activities because he knew the ability of motion. Children who master basic motor skills also have a positive social skills. They love to play with his friends because it can compensate for motion peers such as jumping, running and other play activities.





Because the child is basically an active person who likes to play with his playmates.

Development of fundamental movement skills in childhood is the responsibility of parents as educators and subsequently became the responsibility of physical education teachers. J. Matakupan (1995:33) asserts that the basic motor development of children is a parent's responsibility as a prime educator and became the responsibility of physical education teachers next.

Responsibility of parents and teachers in the school will have an impact on the achievement child basic motor skills. Currently if we considered that cultural movement that characterizing the child's development is increasingly fading, especially in big cities like Jakarta. Limitation of movement that parents doing will have an impact on the development of basic motor skills of a child because of the education movement by parents in the family is the first and important (Payne & Isaacs, 1995:47). Their rushing time to accompany the children to play is improper reasons for parents to limiting the children time play. The physical education teachers provide opportunities for children to move tailored to the physical education curriculum in primary schools is the right thing to do. In technical guidance module motor development of preschool children in writing that the implementation of physical education in elementary schools have the specific purpose of developing basic motor skills in order to achieve organic and

physical health, mental, neuromuscular, intellectual and social aspects (2004:1).

Based on the problems the research implemented to get the answers related to the influence of parenting style and teaching skills of teachers of physical education to the fundamental movement skills of second grade elementary school students.

## RESEARCH METHODOLOGY

Methods and Research Design

### 1. Research Methods

This research is ex-post facto. This study aimed to determine the effect of parenting permissive and authoritarian parents in play activities and movement ability of teachers to teach physical education high category and low categories of the fundamental movement skills in second grade elementary school students. The data analysis technique used is a statistical data analysis using descriptive and inferential statistics two-way ANAVA.

Instrument used for measure the parenting style and teaching abilities teachers physical education by questionnaire with scale three tiers wears span of one to three. Whereas instrument used for basic skills movements is battery tests. Reliability is calculated with the formula *Alpha Cronbach*. Reliability 0.68 to come by for instruments parenting style, instrument the ability of teach obtained by value 0,89 while the instrument skills the basic motion obtained value 0,44.

This research is executed in 5 (Five) Elementary Schools at Rawamangun area, East Jakarta. Population in research is entire





students class of II grade in Elementary School with teachers background status were from sports science, affordable population amounted to 183 students and selected samples are 36 students.

## 2. Research Design

The study design used was a 2x2 factorial as in the table below :

Research Factorial 2 x 2 Design

The Abilities of Physical Education Teacher		Parenting style	
		Permissive A <sub>1</sub>	Authoritarian A <sub>2</sub>
High Categories	1	A <sub>1</sub> B	A <sub>2</sub> B <sub>1</sub>
Low Categories	2	A <sub>1</sub> B	A <sub>2</sub> B <sub>2</sub>

## RESULTS

### Research Findings Discussion

Discussion has conducted by the file description and hypothesis testing. Further research hypothesis testing are as follows:

1. Fundamental Movement Skills Differences of Second Grade Students of Elementary School Between Permissive and Authoritarian Parenting style.

The results of the research hypothesis which states that the fundamental movement skills of children with permissive parenting style better than parenting children with authoritarian parents received. This statement is reinforced by the results of the

calculations show that the overall mean score of fundamental movement skills of children with permissive parenting style was 51.97 higher than the mean score of fundamental movement skills of children with authoritarian parenting style, which is 48.42. Thus it can be said that the fundamental movement skills of children with permissive parenting style than children with authoritarian parenting style.

2. Fundamental Movement Skills Differences of Second Grade Students of Elementary School With The Ability of Teaching of High and Low Category Physical Education Teacher

The results of the research hypothesis which states that children's fundamental movement skills with the ability of teach in high category physical education teacher better than the children with the ability of teach physical education teachers received low category. This statement is reinforced by the results of the calculations show that the overall mean score of fundamental movement skills of children with physical education teachers' ability to teach high category was 52.87 higher than the mean score of children's fundamental movement skills with the ability of teach physical education teacher categories of low, at 48, 20. Thus it can be said that the fundamental movement skills of children with physical education teachers ability to teach higher category than children with physical education teachers' ability to teach low category.





3. Interaction Between Parenting style and Physical Education Teachers in Teaching Ability Fundamental Movement Skills of Second Grade Students of Elementary School.

The results of the research hypothesis which states that there is interaction between the parenting style and ability to teach physical education of teachers to the fundamental motor skills of children is received. This statement is reinforced by the analysis of variance which states that  $F_{count} 18.99 > F_{tab} 4.15$ . These findings provide evidence that there is an interaction effect between parenting style and physical education teachers' ability to teach fundamental basic skills. This interaction implies that for children whose parents' parenting is permissive and authoritarian parenting children, with the ability of teach physical education teachers in high category and low categories will take effect on the child's fundamental movement skills are different.

4. Fundamental Movement Skills Differences of Second Grade Students of Elementary School Between Permissive and Authoritarian Parenting style with Teaching Ability of Physical Education Teachers in High Category.

The results of the research hypothesis which states that the fundamental movement skills of children with permissive and authoritarian parenting style who both taught by physical education teacher with high category is received. This statement is

reinforced by the results of the calculations show that the overall mean score of fundamental movement skills of children with permissive parenting style was 54.30 higher than the mean score of fundamental movement skills of children with authoritarian parenting style, which is 50.73. Thus it can be said that the fundamental movement skills of children with permissive parenting style higher than authoritarian who both taught by the physical education teacher who has the ability of teach in high category.

5. Fundamental Movement Skills Differences of Second Grade Students of Elementary School Between Permissive and Authoritarian Parenting style With Teaching Ability of Physical Education Teachers Low Category.

The results of the research hypothesis which states that the fundamental movement skills of children with permissive and authoritarian parenting style who taught both physical education teachers with the ability of teach low category is received. This statement is reinforced by the results of the calculations show that the overall mean score of fundamental movement skills of children with permissive parenting style was 49.53 higher than the mean score of fundamental movement skills of children with authoritarian parenting style, which is 45.53. Thus it can be said that the fundamental movement skills of children with permissive parenting style higher than authoritarian who are both taught by the physical education teacher who has the ability of teach in low category.





## 6. Fundamental Movement Skills Differences of Second Grade Students of Elementary School Between Permissive Parenting style With Teaching Ability of Physical Education Teachers in High and Low Category

The results of the research hypothesis which states that children's fundamental movement skills that are equally permissive parenting style with teaching ability of physical education teachers in high and low category is received. This statement is reinforced by the results of the calculations show that the overall mean score of fundamental movement skills of children with permissive parenting style and physical education teachers' ability to teach high category was 54.30 higher than the mean score of fundamental movement skills of children with permissive parenting style and the ability of teach physical education of teachers low categories, namely 49.53. Thus it can be said that the child's fundamental movement skills that are equally permissive parenting style with the ability of teach physical education teachers in high category better than children who are taught by a physical education teacher with the ability of teach in low category.

## 7. Fundamental Movement Skills Differences of Second Grade Students of Elementary School Between Authoritarian Parenting style With Teaching Ability of Physical Education Teachers in High and Low Category.

The results of the research hypothesis which states that children's fundamental movement skills that are equally authoritarian parenting style with the ability of teach physical education teachers in high and low category is received. This statement is reinforced by the results of the calculations show that the overall mean score of fundamental movement skills of children with authoritarian parenting style and physical education teachers' ability to teach in high category was 50.73 higher than the mean score of fundamental movement skills of children with authoritarian parenting style and the ability of teach physical education teachers low categories, namely 45.53. Thus it can be said that the child's fundamental motor skills that are equally authoritarian parenting style with the ability of teach physical education teachers in high category better than children who are taught by a physical education teacher with the ability of teach in low category.

## LITERATURE REVIEW

### Fundamental Movement Skills

Fundamental movement skills is the basis of motion is important for a child's motor development (Teo Koh Sock Miang, 2010: 9), Supandi (1983:48) defines the basic motor skills as movement patterns that form the basis for more complex movement dexterity. While David Gallahu (2002:49) states that the all movement skills is a term of three categories of locomotor movements, manipulation and stability. Dauer and





Pangrazi (1975:128) states the basic skills can be divided into three categories, each of which provides an explanation consideration separately. It's allowing a child to show the differences in the selection of abilities in each category.

Based on this statement it can be said that the fundamental movement skills is a series of appearances in the complex motion of a child that looks clearly when he was capable of performing the task motion in sports activities and other that consists of several components such as movement locomotor, non-locomotor and manipulation.

David Gallahu (2002:48-49) divides into three fundamental motor skills activities such as running and jumping locomotor, manipulative activities such as throwing and catching, and activities such as walking on the stability of the bridge and maintain the balance beam. Pangrazi and Dauer (1992: 292) more fully discuss and divide the motion into three basic categories, namely Locomotor skills, Non Locomotor Skills, and manipulative Skills (1) Locomotor skills, is a movement that uses the body to move from one place to another or lift the body up like jumping and hopping. Where are included in this category such as: walking, running, skipping, leaping, sliding and galloping, (2) Non Locomotor Skills, is a form of motion without change from one place to another. This category includes movement: bending, stretching, pushing, and pulling, twisting, turning, and shaking, (3) Manipulative Skills, is a movement that was in the game when the kids holding some kind of object or tool.

Most of these capabilities involve the hands and feet, but other parts can also be used. Most manipulative of motion also can be foundation for more games. Categories of basic motion like throwing, catching, kicking.

Rusli Lutan (2001: 40) explains as follows: (1) Locomotor movements, each movement is performed in a state of body position moved towards horizontal, or the direction of motion of vertical, from one point to another in a space. Which includes the locomotor movement is running, jumping and landing and hopping, skipping, and jump as high as possible, or as far as possible with a single leg, (2) Manipulative skills, is a movement that involves large muscles in a physical activity that involves (a) deployment of power that is directed into object, and (b) efforts to receive power from an object, such as throwing and catching. However, the deployment was not just using hands, but also with legs. Kicking the ball also an example of manipulative movement, (3) The stability of movement, the movement being stable as a body settled on one position. But he moves on the horizontal or vertical axis. Static balance is also quite basic types of motion. In such circumstances, person trying to maintain balance in order to keep his weight point fall in the pivot field. Movements that fall into the category of motion stability (non-locomotor) is axial movement such as reaching, stretching, bending play, stalling, weight lifting, pushing and pulling.

Based on the definition above it can be concluded that the fundamental movement skills is a pattern of behavior that





is expressed through three motion activities that have different characteristics in each activity, where three traits related to (1) locomotor: running, jumping, (2) non-locomotor: balance, flexibility, and (4) manipulation: throwing, catching, kicking.

## Parenting style

Suyoto (1996: i-ii) said parenting refers to the ways in which parents applied every day in reciprocal dealing with children to establish and foster attitudes and behavior as expected of parents and the community in order for the child to be mature in time. David L. Gallahu., And John B. Ozmun (2002:64) states the effect of treatment on the parents during infancy and early age can affect the development and status of the children themselves. Because of the involvement of children is strongly influenced by parental care. Hurlock (2005:200-201) argues that parenting related how the family provides broad impact for the development of a child. Maurice (2004:75) also states that parenting style not only care for or supervise children, but also: educate, manners, discipline, responsibility, knowledge and relationships are rooted in knowledge of parents.

Syamsul Yusuf (2000:47), states that the parents in the family has several functions, which are (1). Security guard for children and other family member (2). Resource needs, both physical and psychological, (3). A role model for children to learn to be apart in community, (4). Guide for the development of social behavior that is considered appropriate, (5). Guide in learning

motor skills, verbal and social needs to adjust to, (6). Stimulator for the development of children's ability to achieve, both in school and society.

Based on the above statement concluded that parenting is the attitude or actions of parents on adopted children through interaction either verbal or non-verbal on various aspects of child development. Parenting style regarding children's fundamental movement skills is what parental guidance and implementing regulations into children activities.

## *Permissive Parenting style*

Permissive parenting looks at parents who let children do as they pleased, with little restraint. This creates a home that is "child-centered". If this permissiveness is not excessive, it will encourage children to be smart, independent and adaptation to society. This attitude also fosters self-confidence, creativity and mature attitude (Elizabeth B. Hurlock, 2005:204). Permissive parenting is parenting type of pattern that frees the child to determine his choice. The kind of these models caused by parents who are too busy and other business affairs.

Desmita (2009:144) Supervised permissive, differentiated in two forms. First, the permissive-indulgent parenting is parenting style where parents are very involved in the child's life, but set a few boundaries or control over them. Parents tend to let their children do whatever they want. Second, parenting is permissive-indifferent parenting style where parents are not involved in the child's life.







Based on the above statement concluded that the pattern of permissive parenting are: (1). giving freedom to children to express a desire/ impulse, (2). have acceptance. (3). have low control, (4). Rarely criticize, (5). Do not have many rules, (6). Demand slightly, (7). Rarely impose penalties, (8). Be cool/ not emotional, (9). Indifference / do not care, (10). Allow / permit.

### *Authoritarian Parenting style*

Desmita (2009:144) Pattern of authoritarian parenting is a style of parenting that limit and requires children to follow the commands of parents. Parent gave strict limits and does not provide a great opportunity for children to express their opinions. Children of authoritarian parents tend to be suspicious of others and feeling awkward in touch with peers, tend to be difficult to adapt in school and have low academic achievement compared with other children.

### Teaching Ability of Physical Education Teachers

Adang Suherman (2009:50) defines the ability of teachers to teach physical education is a pedagogical interaction between teachers, students, materials and environment. Siedentop (1994:247) stated that the ability of teachers to teach physical education is a set of skills as a planner, as the manager, colleague, professional physical educator, and counselor. Rusli Lutan, et al (2002:76) states the managing preparation activities, and relevance of the four elements, namely the purpose of

teaching, teaching assignments, methods and strategies, assessment and evaluation.

Based on the above statement concluded that the ability of teachers to teach physical education is mastery in managing classroom teacher, master motor skills, expertise in modifying the shape and movement of the game, as well as the right to practice. These things include: open learning and presents the objectives, interests, warming up, control of various movements, using teaching methods, use of tools/ media learning, enrichment teacher creativity in motion, have the physical ability, understand the children abilities, has the action and personality in teaching, and close the lesson.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

There were significant differences in fundamental movement skills of second grade student of elementary school between permissive and authoritarian parenting style.

There were significant differences in fundamental movement skills of second grade students of elementary school between the ability of teach among physical education teachers in high and low category

There was interaction between the parenting style and abilities to teach among physical education teachers to fundamental movement skills of second grade students of elementary school.

There were significant differences in fundamental movement skills of second





grade students of elementary school between permissive parenting style and authoritarian parenting style with the ability of teach physical education teachers in high category.

There were significant differences in fundamental movement skills of second grade students of elementary school between permissive parenting style and authoritarian parenting style with the ability of teach physical education teachers in low category.

There were significant differences in fundamental movement skills of second grade students of elementary school between permissive parenting style with the ability of teach physical education teachers in high category and the ability of teach physical education teachers in low category.

There were significant differences in fundamental movement skills of second grade students of Elementary School between authoritarian parenting style with the ability of teach physical education teachers in high category and the ability of teach physical education teachers in low category.

## Recommendations

Parents should allow time for child to perform a variety activities movement because the it is an important activity in stimulating the development of a child's fundamental movement.

Limited time for parents to accompany the child to playing activities does not make an excuse for parents to restrict children to playing activities because the restrictions

itself will affect a child's fundamental movement development.

Ability to teach physical education teachers can affect students' fundamental movement skills, perhaps physical education teacher can execute well.

Parents and teachers should be able to pay attention and be able to work in a child's growth efforts.

Scope of this research is still limited and the population of students with limited sample, so that generalization can only be done on these population, next suggested to other researchers to be able to examine a more sample in a different area.

Other researchers can examine other variables that can affect the fundamental movement skills of elementary school students.

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# An Integrated Thematic Physical Education Game Model for Grade I Students

## Based on Curriculum 2013

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### Abstract

*Curriculum 2013 requires elementary school physical education teachers to conduct the instructional process using thematic approach and integrate it with other subject matters. This article offers a model of integrated thematic physical education games for Grade I students. Based on student's growth and development phase, playing and game are recommended for this group of students. The offered model consists of: (1) Ordering Number with New Friends Game, (2) Puzzle Constructing Game, (3) Addition Drawing Game, (4) Ball Squeezing and Throwing Game, and (5) Sport Guessing Game. Physical education teachers, especially in the elementary school, could use the model as an alternative in conducting physical education lessons based on Curriculum 2013, which is fun, attractive, meaningful and challenging for students.*

**Keywords:** *Game Model, Integrated Thematic, Physical Education, Grade I Student, Curriculum 2013*

### INTRODUCTION

Curriculum 2013 was launched in July 2013. This curriculum refines the previous ones, that is KBK (competence-based curriculum) and KTSP 2006 (school-based curriculum). Curriculum 2013 has not been implemented yet at every school, but will be gradually applied in Indonesia from 2013 to 2016. Initially, it is implemented at 2.598 elementary schools, 1.521 junior high schools, 1.270 senior high schools, 1.021 vocational schools. The number of schools

which implement it is 132 in DI Aceh, 203 in Bali, 881 in Central Java, 887 in West Java, 1.053 in East Java, 263 in North Sumatra, 225 in Banten, 146 in DIY, and 250 in Jakarta (<http://dikmen.kemdikbud.go.id/html/index.php?id=berita&kode=282>). Moreover, not every class implements it, but only Grades I, IV, VII, and X (<http://www.antaraneews.com/berita/397936/wamendikbud-yakin-kurikulum-2013-berjalan-car>). This curriculum change is hoped to bring about benefit on whole education in Indonesia.





The hope of positive change from Curriculum 2013 is not apart from its superiority over the previous curriculum (Hari A. Rahman, 2013), i.e.: (1) in KTSP 2006, a certain subject matter supports certain competence, while in Curriculum 2013, each subject matter supports all competences (affective, psychomotor, cognitive), (2) a subject matter in KTSP 2006 is designed to stand-alone and has its own competence, while a subject matter in Curriculum 2013 is designed to be related to other subject matters and has basic competence bound by core competence at every class, (3) especially for KTSP 2006 at elementary school, each learning content is given separately, while in Curriculum 2013, learning contents are given in a mutually interrelated and integrated way (cross-curriculum or integrated curriculum).

The superiorities of Curriculum 2013 contrast with problems that appear in many regions because of its implementation. For example, Jember and Malang regions cannot implement it because there are many teachers who were not trained yet, West Nusa Tenggara region is not ready to implement it because they are still socializing it, Solo and some other regions are not receiving all of Curriculum 2013 books yet, and Salatiga region faces a limited number of Curriculum 2013 guidance books and is confused with the assessment report system in Curriculum 2013 because they did not yet get technical direction of it (Tribunnews.com

and Suaramerdeka.com). Those problems, especially the readiness of teachers as a curriculum implementer, need to be solved quickly.

Basically, the central point of Curriculum 2013 execution is placed on the teacher. Teachers as spearhead of curriculum should know in detail of what and how to transfer curriculum in their instructional process. Therefore, teachers need to learn and enhance their knowledge about the way to implement Curriculum 2013. Moreover, Curriculum 2013 is a new thing for teachers, e.g. integrated thematic approach used in elementary school which was thematic approach on the previous curriculum, requires teacher to design learning model that integrate one subject matter with others.

Integrated thematic approach is applied on every subject in elementary school, not to mention physical education. Therefore, physical education teachers need to improve their knowledge about it. Teachers also need to consider the student characteristic in conducting curriculum. For example, the Grade I student has different characteristics from the later grade student, so that different learning models is needed. This article intend to offer integrated thematic physical education game model for Grade I student that has aim to add knowledge and insight of elementary school physical education teachers in planning their instructional process related to Curriculum





2013. The model could be used as alternative in conducting physical education lesson based on Curriculum 2013.

## DISCUSSION

### Integrated Thematic Learning Model

Integrated thematic approach is the propulsion mean of Curriculum 2013 at elementary school level. It is defined as an interdisciplinary learning approach that present subject matter by themes or topics and integrate knowledge from different disciplines

(<http://www.ncrel.org/sdrs/areas/issues/students/atrisk/at7lk12.htm>). Beane stated the same idea that knowledge and skill are integrated in integrated thematic learning on theme and activity context (Min, K.C., Rashid, A.M., & Nazri, M.I., 2012). Ross & Olsen (Cook, 2009) described that integrated model consist of central theme with daily, weekly, monthly, and yearly topic, keypoint, and social/politic action. Further, Cone, Warner, & Cone (2009:4) stated integrated thematic in an interdisciplinary education term, which is process where two or more subjects are integrated with objective to encourage learning improvement on each subject. The benefit of this approach is that the student learn better than using traditional learning that only involve one subject (Yorks & Follo in Kon Chon Min et al., 2012). The conclusion is that integrated thematic learning is learning which integrate two or more subjects using connected topic or theme and has objective

that student learn better so that encourage learning improvement in every subject.

Cone, Warner, & Cone (2009: 5) explained that the benefit of integrated thematic approach or interdisciplinary learning are: (1) providing a new way to present and use concept and skill, (2) enhancing critical thinking skill, such as analyze, synthesize, and evaluate, (3) involving students in a collaborative learning approach, in which students can use their strength to contribute on task or learning problem, (4) motivating students because the learning process is fun and meaningful, (5) encouraging teachers to collaborate, increasing their understanding on other area, and developing collegial relationship, (6) improving ability to know and understand many perspectives, (7) helping to develop creative and divergent thinking skill, (8) teaching student to use many sources to understand one issue, and (9) showing the knowledge transfer from one learning context to another.

Integrated thematic approach has significant differences to conventional learning model that focus on one subject matter. Based on that, the teacher needs to prepare different instructional process. Specifically on physical education, the teacher needs to make relation between that with other subject, e.g. Mathematic, Bahasa Indonesia, and Civic- Education. This condition may cause teacher to spend longer time in preparing and structuring the





instructional process. Teacher need to rethink about what subjects, basic competences, and core competences that could be integrated, what theme that suitable for different subjects, and how to deliver the learning. Teacher also needs to discuss with teachers from other subject matter about what competence that could be collaborated and also need to learn the substance of other subject matter. The complexities will be more if the the teacher has no or little understanding about the concept of integrated thematic and how to conduct the lesson using that model.

## The Principle of Selecting the Type of Game for Learning

Learning process could be delivered through playing game. There are some types of games that could be used, such as *quiet play*, *creative play*, *active play*, *cooperative play*, *dramatic play*, and *manipulative play* (Morrisey, Beth, 2012 and

*First*, Quiet play is a type of game which is not need many energy and space, i.e. reading, listening to music, and coloring. *Second*, Creative Play is a type of game that need creativity, i.e. acting, drawing, and painting. *Third*, Active Play is a type of game that need physical movement and it make children burn their callory, i.e. *gobag-sodor*, football, and chase. *Fourth*, Cooperative Play is a type of game that involved more than one person, so that children need to use their social skill when play and cooperate. *Fifth*,

Dramatic Play is a type of game that make children using their imagination by being different character or live in the world they made. Sixth, Manipulative Play is a type of game that involved the using of hand, muscle, and eye, i.e. playing puzzle, cutting, and building block.

To choose types of game that is suitable with physical education learning, there are some principles need to be considered (Erwin S. Kriswanto, 2008), that are: (1) the game could develop physical aspect, (2) there is balance between quiet play and active play in indoor or outdoor setting, (3) there are many game variation to control students attention, (4) the game could giving students learning experience, (5) the game suitable with students age, and (6) give chance to the students to use their imagination and creativity.

## An Integrated Thematic Physical Education Game Model for Grade I Students

### 1. Ordering Number with New Friends Game

**Theme:** Myself, Subtheme: Me and My New Friends

**Goals:**

- a. Student can order number 1 through 5 with new friends (Mathematic)
- b. Student shows confidence, discipline, and cooperative attitude (Civic Education)



- c. Student can introduce himself/herself to new friends (Bahasa Indonesia)
- d. Student can write number 1 through 5 (Physical Education)
- e. Student can hop and jump (Physical Education)

**Equipment:** model of number 1-5, paper at size 20 cm x 20 cm for all of children, colorful marker for all of children.

**How to play:**

- a. Teacher asks children to make circle formation.
- b. Teacher explains about number 1-5 using a model number and the concept of ordering number from small to bigger.
- c. Teacher asks students to count 1-5 respectively and to remember their number
- d. Teacher guides students to write their number on paper using colorful marker

- and asks children to hold it in front of their chest.
- e. Teacher asks students to spread out and ordering number 1-5 with their new friends by stand up together in one line from smaller number to bigger number (1-5).
- f. Students only may move by doing hopping and jumping when looking new friends to order number. Students should ask friend's name before asking them to order number together.
- g. Teacher checks students answer and checks whether student remembers their friends name.



Figure 1. Illustration of Ordering Number with New Friends Game

**2. Puzzle Constructing Game**

**Theme** : Myself, Subtheme: My Body  
**Goals** :

- a. Student can construct pieces of body's picture with his friends (Culture art and craft)





- b. Student can read and mention body parts (Bahasa Indonesia)
- c. Student shows confidence, discipline, and cooperative attitude (Civic Education)
- d. Student can thicken the letter (Culture art and craft, and Physical Education)
- e. Student can do side run and backward walk (Physical Education)

**Equipment:** model of body, body's picture that is cuted into 7 pieces for every group, paper glue, marker for all of children, pieces of body's picture with the explanation text under it in which some of the letter is the dotted line.

- e. At the finish line, students thicken the letters on the place provided. Each student is thicken the letter on one picture.
- f. Students go back to the start line by doing backward walking.
- g. Teacher checks the student's work.
- h. Teacher asks students to read the word of body part in the picture and

**How to Play:**

- a. Teacher divides students into groups, one group consists of maximal 5 students.
- b. Teacher asks and explains about the body part using model.
- c. The game starts by which each group trying to construct pieces of body's picture that are on start line using paper glue.
- d. After that, all of group members go to finish line by doing side run.

- then touch it at his body or at his friend's body.
- i. The fastest and most right group is the winner.

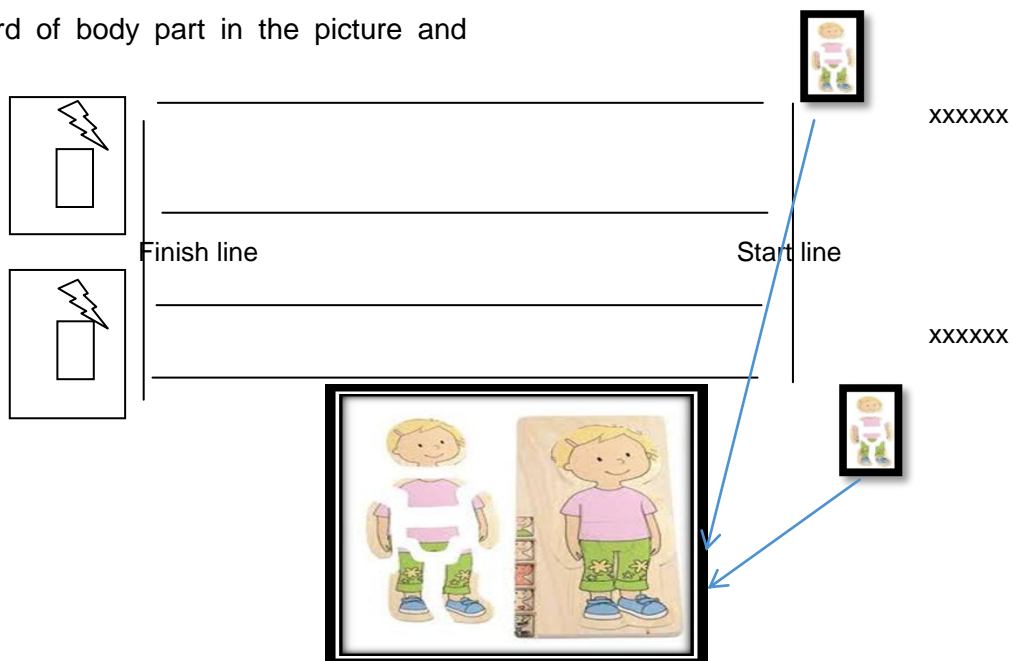


Figure 2. Illustration of Puzzle Constructing Game

Source of picture:  
<http://www.walkingsticktoys.com/index.php/ID/893afc57415a304bcc6777ad1a16dd7e/item/Body-Puzzle-Girl/sID/a8bbb64a/fuseaction/store.detail.htm>

marker, 10 colorful paper for jumping area at size 20 cm x 20 cm for each group

**How to Play:**

**3. Addition Drawing Game**

**Theme** : Myself, Subtheme: My Body

**Goals** :

- a. Student can do addition until 10 (Mathematic)
- b. Student shows confidence, discipline, and follow the rule of the game (Civic Education)
- c. Student can do locomotor movements by run following number shape and write it on the paper (Culture art and craft, Mathematic and Physical Education)
- d. Student can jump following the path of box (Physical Education)

- a. teacher explains about an addition and give example.
- b. To do the game, student goes to the finish line by jumping on boxes area provided.
- c. Student answer the question on finish line by running in form of his answer (drawing his answer by run)
- d. Student writes down the answer on the paper. Teacher checks the student answer.
- e. Student goes back to the start line by jumping on boxes area provided.

**Equipments:** Addition question in the form of picture for all of students,

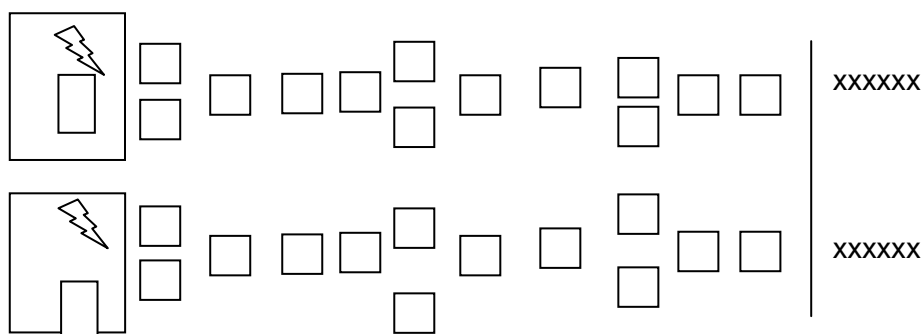


Figure 3. Illustration of Addition Drawing Game





## 4. Squeezing and Throwing Game

**Theme** : Me, Subtheme: Me and My New Friends

**Goals** :

- a. Student can introduce themselves by mention their nickname and asking favourite color of friends (Bahasa Indonesia)
- b. Student can mention their friends name (Bahasa Indonesia)
- c. Student shows confidence and follows the rule of the game (Civic Education)
- d. Student can do a locomotor movement that is zigzag crawl (Culture art and craft and Physical Education)
- e. Student can squeeze paper to shape ball (Physical Education)
- f. Student can throw the ball the basket (Physical Education)
- d. Student on the first line of each group presents his friend name and his favourite color based one paper ball that he had made.
- e. Students are doing zigzag crawl from start line to finish line while bringing his paper ball.
- f. Students throw the paper ball to the basket using both right and left hand.
- g. Students are going back to the start line by doing zigzag crawl, toast with his friend who will do similar activity.
- h. Teacher reviews student activity and asks the number of ball that success get in the basket

**Equipment:** colorful paper as much as twice of children number, one basket for each group, marker area as a sign place to throw.

**How to Play:**

- a. Teacher asks students to introduce themselves to their friends and asking their favourite color.
- b. Teacher asks students to pick 2 colorful papers based on favourite color of one of their friend and squeeze it to make ball.
- c. Teacher divides student into some groups.



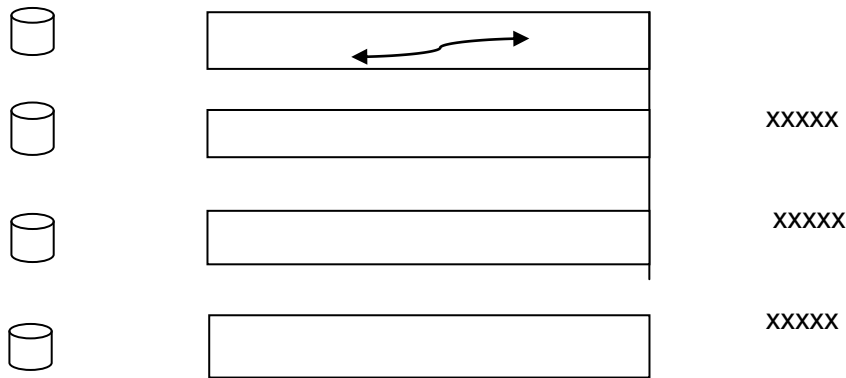


Figure 4. Illustration of Ball Squeezing and Throwing Game

### 5. Sport Guessing Game

**Theme** : My Favourite, Subtheme: Love Doing Sports

**Goals** :

- a. Student can follow the rule of the game (Civic Education)
- b. Student can confidence to explain sport activity by doing body movement (SBDP)
- c. Student can recognize and make ball/circle shape using paper (Mathematic)
- d. Student can complete the letter of the word based on the picture provided (Bahasa Indonesia)
- e. Student can do a locomotor movement on specific sport, such as badminton, tennis, basketball, and swimming (Physical Education)
- f. Student can run and jump through bomb pictures (Physical Education)

**Equipment:** cards of sport equipment picture as much as students with an explanation of equipment's name under it

and some of the letter of the word are eliminated, eight bomb pictures at 20 cm x 20 cm for each group, marker.

**How to Play:**

- a. Students are divided into some groups.
- b. Students on the first line run and jump through bomb pictures to the finish line.
- c. Students complete the letter of sport equipment name and go back to the start line in the same way.
- d. Students practice or model the sport based on the card that he had completed, and their group trying to guess.
- e. After being guessed, the next student doing the same thing.
- f. The group who finish first is the winner.



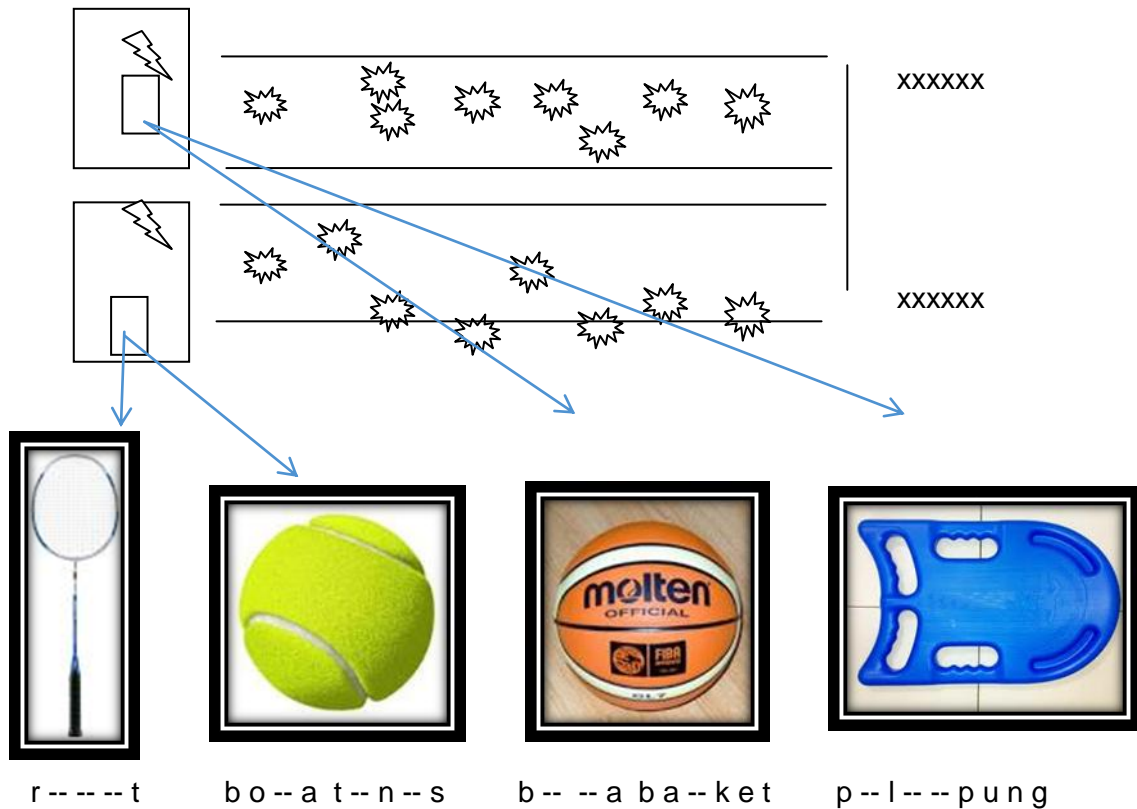


Figure 5. Illustration of Sport Guessing Game

**CONCLUSION**

Curriculum 2013 requires elementary school physical education teachers to conduct their instructional process using an integrated thematic approach. Teachers need to enhance their knowledge so that they can conduct learning process appropriate with curriculum guide. This article offers an integrated thematic physical education game model for Grade I students, consists of: (1) Ordering Number with New Friends Game, (2) Puzzle Constructing Game, (3) Addition

Drawing Game, (4) Ball Squeezing and Throwing Game, and (5) Sport Guessing Game. Those games are designed specifically so that physical education and other subject matters learning goals could be addressed in situation which is fun, attractive, meaningful and challenging for students. Interesting games will make students happy and make their mind opened so they could connect the linkage between one subject matter to another and take benefit from it to their life.





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# THE 3<sup>rd</sup> INTERNATIONAL SEMINAR ON PE, SPORT & HEALTH 2013



*Salatiga Masih Menyisakan  
Persoalan. Suaramerdeka.com.*

Accessed on 15<sup>th</sup> October 2013.





## DIFFERENT PRACTICES OF PLYOMETRIC BETWEEN CONVENTIONAL WITH MODIFICATIONS TO EXPLOSIVE POWER OF LEGS AND HANDSPRING SCORE

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### INTRODUCTION

#### Background of the Study

In general, general gymnastics development in Indonesia is fastly growing because of its pleasant characteristics and its body refreshing function that are needed in one's activities. It is different from the artistic gymnastics that are obscurely known due to the lack of facilities, human resources, and process of its socialization. Artistic gymnastics in Indonesia is known better as performance sport or apparatus sport. Artistic gymnastics is a type of gymnastics that combines the degree of movement difficulties with flexibility and aesthetics elements (Soewandie, 1998).

One dominant element in Gymnastics is the explosive power since this sport uses feet in most of its movement as a footing to jump either from a mattress or from a springboard. Mostly, to land from a jump, gymnasts also need to use their feet. One basic routine that is oftenly used by gymnasts in each apparatus is either a one foot handspring or a two feet handspring. This

routine needs the gymnasts' explosive leg muscle power generated when they rest on springboard before their palms touching the vaults in a handstand position.

Handspring itself really needs speed and power especially on feet and hands to generate. The exercise to develop the explosive power needs strength, speed, balance, and coordination exercises (Nossek, 1982). Plyometrics exercise is one perfect

example of exercise that owns the whole components that are stated because plyometrics itself is a method to develop explosive power (Radcliffe, 1999). Several factors contribute directly in the explosive exercise includes muscle activation rate, and synchronization (Stone, 1989).

Based on the statements above, there is an urge to conduct a research to find the influence and to compare the result of effectiveness between conventional plyometrics exercise and the modified one. The conventional plyometrics exercise is an exercise model that has been applied by a gymnastics coach in an exercise process. On the other hand, modified plyometrics exercise







is an exercise model that never been applied by the coaches in Science Gymnastics club and it will be applied in the exercise process as a routine innovation that is adopted appropriately from a handspring technique in order to find the exercises' effects toward the improvement of an explosive leg muscle power and the perfection of handspring technique to get the handspring score improved.

## Research Questions

1. Does the conventional plyometrics exercise contribute to the improvement of explosive leg muscle power and handspring score?
2. Does the modified plyometrics exercise contribute to the improvement of explosive leg muscle power and handspring score?
3. Are there any differences in the result between the modified plyometrics exercise and conventional plyometrics exercise toward the explosive leg muscle power and handspring score?

## Research Objectives

### General Objectives

1. To get the appropriate methods of limb and body position plyometric exercise while doing handstand to fix the perfection of handspring technique in vault with this following steps (1) scoring of

handspring, (2) scoring of the next step.

2. To compare the effects of modified plyometrics exercise to conventional plyometrics exercise toward the improvement of explosive leg muscle power and handspring score.

### Specified Objectives

1. To prove that the practice of conventional plyometrics exercise can improve the explosive leg muscle power and handspring score.
2. To prove that plyometrics training can improve the the explosive leg muscle power and handspring score.
3. To prove that there are differences in result of modified plyometrics exercise and conventional plyometrics exercise toward the improvement of explosive leg muscle power and handspring score.

## Review of Related Literature

### Exercise

Exercise is defined as a systematic role that aims to increase the capacity of physical function and the endurance of exercise (Pate, 1993). In the end, sport aims





to increase its performance. According to Yusuf, exercise is a systematic process from repeatedly training with an extended training load and intensity of each day (1996).

Besides, exercise is a process to our body to adapt to the working needs that are harder in preparing ourselves to face the competition atmosphere and to increase the athletes' skills (Basuki, 1979).

Exercise is one of the physical stressor that can disturb the stability of homeostasis (Morehouse, 1976). Therefore, the use of exercise packaged in a physical training needs an appropriate measure of dose to give chance to form a coping mechanism that can change the stressor into stimulator. However, if the training dose given is not appropriate, the stressor can make the homeostasis of the body is disturbed and causing harmful biological/pathological disorders to happen (Sugiharto, 2003).

## Exercise principles

In designing exercise program, coach has to consider the interactions between exercise procedures individually and the exercise process thoroughly. The optimal exercise program is an exercise that is conducted based on some principles. The special attention from the coach is needed for each athlete to get an optimal improvement (Pate, 1993).

The program and/or the appropriate dose of the exercise should consider several exercise elements such as: frequency,

intensity, duration, and exercise set. Allister's research (1991) says that the exercise that is going for a 12 weeks will lead to the improvement of muscle response in facing exhaustion because the oxygen transport in blood to the cells will function better.

The exercise program should be guided on these following principles:

### a. Overload principle

The physiology system of this overload principle is mostly adaptable to the functions that is placed under greater stress than it is accustomed to (Pate, 1993). However, thing that we should keep in mind is to prevent outrageously overloading since the physiology system is not adaptable to a very excessive pressure.

The received loads are individual, but in principle the loads are given to its maximum limit (Brooks, 1984:161). Training loads that are hard enough or close to the maximum limit of ability can affect to the improvement of physical ability.

### b. Progressive overload principle

This principle has to be done continually and the *exercise should also be adjusted to the ability of each athlete. The muscle that receives the overload will have the strength increased. Then, if the strength is increased, the extra overload should be given by easy stages so that the muscle's strength will be increased.*





*The overload should be done progressively (Sajoto, 1988).*

c. Specificity principle

Specificity is a branch of exercises that leads to the morphological and functional change that are related to the specificity of its branch (Bompa, 1990). For example, it takes a specified exercise depends on the muscle type, contraction, and also exercise intensity in a muscle formation (Heyward, 1997).

d. Individuality principle

This factor needs to be noticed more than the others because everyone has different characteristics either physically or psychologically. In this case, the working capacity and the adjustment of individual functional capacity and the specificity of organism are the things that need to be noticed (Supriyadi, 1999).

e. Reversibility

If we do not maintain the exercise, its condition will be back to what it was (Soekarman, 1987). Therefore, the exercise should be done continually in order to prevent the reduction of physiological ability of body where physical conditions of body before and after the exercise are the same.

## **Muscular Power**

Muscular power is one's ability to generate a maximum power in a minimum time (Sajoto, 1988).

## **Power**

Power is a physical condition component that relates to the athlete's problem in using their muscles to receive loads in a certain period of time (Sajoto, 1988).

## **Speed**

Speed is the ability of someone in doing continuous routines in the same formation in a minimum time. Speed has a strong relation to the movement's speed and explosive (Sajoto, 1988).

## **Coordination**

Coordination is the ability of someone to integrate different movements into a single patterned movement effectively (Sajoto, 1988). According to Kirkendall (1990) coordination is a harmonious relationship of several muscles while doing activity as a criteria of a certain skill.

## **Plyometrics Exercise**

Several figures define the plyometrics exercise as follows:

- a. Plyometrics is a method that is used to develop explosive power (Radcliffe, 1999). This exercise has a specific characteristic which is a very strong muscle contraction that is actually a response from a dynamic loading or a quick strain from the involved muscles.
- b. According to Frontera (2007), plyometrics exercise pictures a very quick muscular power and followed by concentric contraction. The level of elasticity and the





joints load of each person are different from one to another.

- c. According to Diallo (2001), plyometric exercise is an exercise that enables the muscles to reach a maximum power in a minimum time.

From the definitions above, we can conclude that plyometrics exercise is an exercise that combines isometrics and isotonic exercises (eccentric-concentric) that uses dynamic loading, a sudden strain that happens before the muscles contracted.

**General guidance of plyometrics exercise**

In plyometrics exercise, there is guidance that needs to be followed to reach the aims of the exercise. Several plyometrics exercise guidance that need to be known are as follow:

1. Duration of working period : 6 – 8 seconds.
2. Working intensity : maximum
3. Recovery duration : 1 - 2 minutes
4. Repetition of working sets : 8 – 10 (Plyometric training).

**Specified guidance of plyometrics training**

Exercising with high intensity yet generated in a short time takes phosphagen energy system (ATP) that is needed for muscle contraction. If the exercise needs speed and maximum power to be reached in a short time, it is called as anaerobic exercise. The classification of the role of energy system is shown from the table below:

Table 2.1. The role of energy system

Exercise duration	Classification	Primary energy source
1 - 4 seconds	Anaerobic (alactacid)	ATP (inside muscles)
4 – 20 seconds	Anaerobic	ATP + PC
30 – 45 seconds	Anaerobic	ATP + PC + Glycogen of muscles
45 – 120 seconds	Anaerobic, lactic	Glycogen of muscles
120 – 240 seconds	Aerobic + Anaerobic	Glycogen of muscles + Lactic acid
240 – 600 seconds	Aerobic	Glycogen of muscles + Fatty acid

(Asmi, 2002)



Plyometrics exercise itself needs maximum power and speed as it uses ATP energy system, therefore, recovery time is needed to have a maximum result of exercise. According to Fox (1993), the maximum exercise needs a two-to-five minutes muscle recovery.

**a. Hurdle jump**

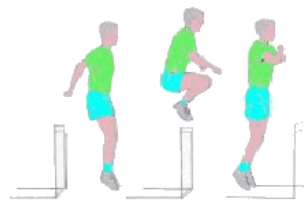


Figure 1. Hurdle jump

**Conventional plyometrics exercise**

The intention of this conventional plyometrics exercise is: either junior or senior athletes are still using the kind of exercise that is oftenly used.

**Goals:**

1. To develop a dynamic elasticity of hip joint
2. To develop the strength and muscular power.
3. Strengthen abdominals

**Benefit points:** To improve knees' strength optimally to reach the altitude based on the maximum ability (leg plyometrics).

**b. Handstand push up**

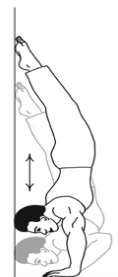


Figure 2. Handstand Push up

**Goal:**

To develop the power of shoulder and elbow's drive and also upper part of the body.



**Benefit points:**

To improve the power of shoulder and elbow's drive (Radcliffe, 1999). Next, to improve upper body part's drive.

plyometrics exercise that never been used at all to specifically used in a handspring on vaults by a gymnastics coach at Science Gymnastic Club.

**Modified plyometrics exercise**

What is meant by modified plyometrics exercise is a kind of modified

**a. Standing broad jump**

Standing broad jump is one of exercise methods to improve the explosive leg muscle power in reaching the front target.



Figure 3. *Standing Broad Jump*

**Goal:**

To find the vertical and horizontal strength of two limbs by combining stability and coordination components (standing broad jump test).

Handspring hop is a kind of exercise models that is similar to handspring move as an effort to reach the handspring itself. Handspring hop is meant to train the shoulder and arms to repulse quickly in a handstand position on a spring board or box.

**Benefit point:**

To improve the vertical and horizontal strength of two limbs (*standing broad jump test, 2007*).

**b. Handspring hop**

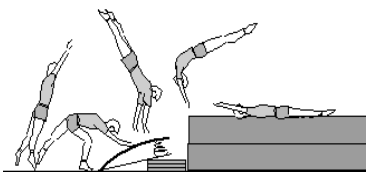


Figure 4. *Handspring Hop*



There are two main points that are needed to train this action:

1. To push the shoulder quickly
2. Bounce movement.

**Goals:**

1. To increase the strength of shoulder drive.
2. To develop the movement that is automatically similar to handspring.

**Benefit point:**



Figure 5. *Handspring* (Prassas, Colorado State University).

To develop a correct and accurate handspring technique (Watanabe, 1997).

**Handspring**

Handspring is a basic artistic gymnastics routine on vaults for both male and female gymnasts. This routine needs a muscular power both from legs and arms.

**Judging system**

Judging system in gymnastics is subjective while still based on the applied rules from *Code of Points FIG Rule year 2007*.

The judging is done by several E panel judges by **removing the highest and lowest scores** and counting the average of the remaining scores.

The gymnast gets the initial score of 2.40 P for handspring (*Code of Points FIG 2007*).

E judges : give score reductions generally starts from the first swing phase until the landing phase. The judging is given from 10.00 P and the total number of reduction score is subtracted from it.

**Score determination**

Score determination for handspring is as the following:

<p><b>Formula: Initial score + E panel score = total score</b></p>
--



**Power measurement test**

**1. Explosive leg muscle power**

Explosive leg muscle power test is a kind of test to measure the explosive leg muscle power forward (Johnson & Nelson, 2000).



Figure 6. *Standing Broad Jump Test*

Next, if we want to measure the explosive leg muscle power vertically, we are going to use vertical jump test

because the handspring itself will need to use the vertical explosive leg muscle power



Figure 7. *Vertical Jump Test*

**Research Design and Type**

*The Pretest – Posttest control group design (Zainudin, 2000).*

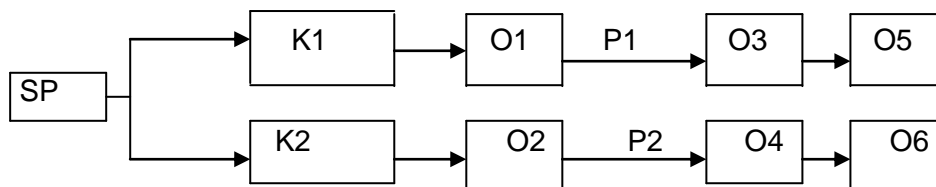


Figure 8. Scheme of *pretest – posttest control group research design*

**Details:**

SP : Research subject (sample)







- K1 : Control Group and Treatment Group of Conventional Plyometrics
- K2 : Treatment Group of Modified Plyometrics
- O1 : Pretest of group I
- O2 : Pretest of group II
- P1 : Treatment of group I
- P2 : Treatment of group II
- O3 : Posttest of group I after 3 weeks
- O4 : Posttest of group II after 3 weeks
- O5 : Posttest of group I after 6 weeks
- O6 : Posttest of group II after 6 weeks

Details:  
 n = Amount of sample  
 $Z\alpha$  = standard value  $\alpha$  0,05 = 1,65  
 $Z\beta$  = standard value  $\beta$  0,2 = 0,842  
 $\sum D$  = standard deviation  
 $\delta$  = mean differences of control group and treatment group

Total number of the population is divided into two by drawing technique of eight athletes in each group. Then, formed two groups as the result of previous step which the conventional plyometrics group belongs to group 1 and the modified plyometrics group belongs to the group 2.

**Population, Sample, Amount of Sample and Sampling Technique**

Subject that is used in this research are junior athletes of Science Gymnastic Club.

The number of sample in this research is limited, therefore the existing population is chosen as a whole and it is usually called as "Whole Sample". Based on the things above, the calculation uses this following formula:

$$n = (Z\alpha + Z\beta)^2 \sum D^2 / \delta^2$$

With  $\sum D^2 / \delta^2 = 1$ , so

$$n = (Z\alpha + Z\beta)^2$$

$$n = (1,65 + 0,842)^2$$

$$n = 6,21 \text{ assumed into } 7 \text{ (Steel \& Torrie, 1981).}$$

**Research Variables**

**Independent variable**

- a. Conventional plyometrics exercise (*hurdle jump and handstand push up*).
- b. Modified plyometrics exercise (*standing broad jump and handspring hop*).

**Dependent variable**

- 1. Explosive leg muscle power (*vertical jump and standing broad jump*).
- 2. Handspring on vaults' score

**Control variable**

- a. Sex



The sex of the research subject is female junior athletes who are trained in Science Gymnastics Club.

b. Age

The age of research subject lies between 9-12 years.

### Moderator Variable

a. Height (cm).

b. Weight (kg).

### Operational Variable Definition

Generally, variable is declared as an operation of a particular concept. Therefore, variable is a concept that can be analyzed and measured to find the variation (Zainudin, 2000).

1. Explosive leg muscle power

The implementation of explosive leg muscle power test by using standing broad jump owns its best result which is jump as far as possible and the distance is measured in the units of meter and centimeter

The measurement of vertical muscle power using vertical jump test is to measure the strength or power of vertical jump.

2. Conventional plyometrics exercise (hurdle jump and handstand push up)

Plyometrics exercise using hurdle jump is a kind of exercise to develop the leg's power especially the

knees to jump to the expected height. This exercise is done by jumping over the hurdle continuously as many as 8 jumps. The amount of sets in each exercise is 3 to 8 sets with a minute break for each set. The frequency of the exercise is 3 times per week.

Different from the hurdle jump, plyometrics exercise using handstand push up is done on the wall to hold the body against the different direction. Both of the palms are placed on the floor and the two legs are stuck up on the wall so that the handstand action is formed. This action is done by bending two arms down until the head is touching the floor. Then, straighten the arms back to a very straight position. This action is done 5 times. The sets amount of each exercise is 3 to 8 sets with a minute break for each set. The exercise frequency is 3 times per week.

3. Modified plyometrics exercise (standing broad jump and handspring hop)

Plyometrics exercise by using standing broad jump is done directly. The jump is performed as far as possible with a one foot footing and two feet landing and then another jump is performed with those two feet, and land also two feet. The jump repetition is 8 times and the amount of





exercise is 3 to 8 sets with a minute break for each set. The exercise frequency is 3 times a week.

Plyometrics exercise by using handspring hop modifies the real handspring to gain a skill in handspring directly. The repetition of this exercise 5 times and the amount of exercise is 3 to 8 sets with a minute break for each set. The exercise frequency is 3 times a week

## 5. Handspring score

Score is a final form of score from a handspring on vaults with 2 numbers after point. The score is given after the gymnasts perform handspring action and judged by 4 B panel judges.

### 6. Sex

The sex is a female sex that is mentioned in the family card of the gymnasts.

### 7. Age

The age of the gymnasts in year is looked from the family card.

### 8. Height and weight

The height measurement is in centimeter and the weight is in kilogram are measured by using an SMIT Health Scale (body scale and height gauge) type ZT – 120 with the tool's accuracy of a number after point

## Muscular Power Measurement

### 1. Explosive leg muscle power

A. The application procedure of standing broad jump test is as follow:

1. The gymnast is standing before the demarcation line, the two feet are aligned, the knees are bent, and the two arms are on their back.
2. Without using a start, the two feet repulse together and jump forward as far as possible.
3. The jump distance is measured from the demarcation line to the closest line to the body part that touches the mattress (Johnson & Nelson, 2000).

B. The application procedure of vertical jump line is as follow:

1. Use jump MD tool on the waist tightly.
2. The gymnast is standing on the black carpet as the place to jump and to land.
3. Take a start based on the needs of the gymnast while still standing on the black carpet.
4. The gymnast jumps as high as possible with a help of their arm swing.

## 2. The judging of handspring score in vaults

The determination of handspring score is as follow:





The gymnast gets an initial score of 2.40 (Code of Points FIG 2007).

Judges : to give the score reduction generally starts from the first

swing phase to the landing phase. The scoring is given from 10.00 P and reduced by the whole reduction.

**Formula: Initial score + judges score = final score**

### Result of the Research

The result of the research that is obtained from the conventional plyometrics group is as follow: (1) The vertical power of leg muscle vertically experiences a meaningful power improvement between time through vertical jump test for ( $F = 39,186, p < 0,05$ ), (2) The power of leg muscle forward is also experiencing improvement although it is not too much for ( $F = 6,698, p < 0,05$ ), (3) The power of arms muscle is experiencing a meaningful improvement between time ( $F = 6,937, p < 0,05$ ). This result is obtained from a handstand push up test. While the handspring score for this group is also improved for ( $F = 28,258, p < 0,05$ ). In modified plyometrics group, the result is as follow: (1) The vertical power of leg muscle is having a meaningful difference between time for ( $F = 2,325 p > 0,05$ ). The improvement of this modified group is a little bit higher if compared to the conventional group although it is not much, (2) The power of leg muscle forward is also having a meaningful difference between time ( $F = 5,449 p < 0,05$ ). Seems that the change of standing broad jump of modified group is a little bit

higher than the conventional group. This is caused from the goal of the exercise program of standing broad jump to improve the power of leg muscle vertically as well as horizontally (3) The power of arm muscle in this modified group seemed to degrade at first and improved rapidly after that. In this condition, the muscle adaptation starts to degrade gradually because of the exercise program that was always using push up as the warming up but was not done in the research process. The arm muscle that has a gradual power in the beginning experiences a degradation because of the thing that has been stated before. However, there is a significant improvement between time in the modified plyometrics group after the degradation ( $F = 5,449 p < 0,05$ ). But, it is relatively the same with the pre test so that it can be said that there is no significant improvement on the power of aarm muscle in this group. Meanwhile, the handspring score of this group is experiencing a higher improvement compared to the conventional group although it is not significant, which is ( $F = 52,532, p < 0,05$ ).





## EFFECT ON THE PERFORMANCE OF COMPETENCE TEACHER PHYSICAL EDUCATION AND RECREATION HEALTH

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### 1 . INTRODUCTION

#### 1.1 Background

Quality education is a key condition to realize the life of the nation is advanced , modern and prosperous . Historical development and the development of nations teaches us that a developed nation , modern , and prosperous nations that are having the systems and practices of quality education . Meanwhile , the quality of education depends on the presence of qualified teachers , the teachers are professional , prosperous , and dignified . Problem of teachers is a topic that is not discussed in the inexhaustible variety of seminars , discussions , and workshops for various alternative solutions so that teachers are able to carry out their duties as teachers and educators at the school are optimal . Based on the results of educational research , teacher believed to be one of the dominant factors that determine the success rate of students . Especially in making the improvement of science and technology as well as the ethical and moral internalization . Therefore , it is no exaggeration when people give appreciation to the various issues that arise in the field of education . This is a very critical issue in the context of education in

elementary school education is seen as a reflection of the quality of the future .

Teachers have a very important role in the implementation of the learning process, because teachers are the "key person" who deal directly with students in the teaching and learning activities. Teachers should be able to create a conducive atmosphere so that students are willing to engage fully in the learning activities, so that the learning objectives have been set can be achieved effectively and efficiently.

Teacher performance in teaching and learning to be one of the most important part in supporting the creation of effective educational process, especially in building the discipline. However, when teachers fail to minimize student misbehavior is done, often make teachers become discouraged and lazy in teaching. This is certainly should be avoided by every teacher. For teachers who have high-performance learning stages should be able to prepare students to be able to learn by creating a more conducive learning atmosphere and positive.

Given the important role of teachers in determining the success of the learning, the teachers are required to have a high performance, ie the ability of a set of teachers





in implementing activities related to the teaching and learning process in a professional manner in accordance ethics teaching profession.

As well as a Master of Physical Education Sport and Health are required to perform in line with expectations. Philosophically about Penjasorkes proposed by Corbin, et. all., (1979:1) that, "Being physically educated is an important part of one's total education."

Teacher of Physical Education and Recreation Health as a source of information in the learning process, of course, have the greatest responsibility in an effort to streamline the teaching of physical education. Learning effectiveness of Health Physical Education and Sports is reflected in the involvement of students during and after the study ended. Essence of Sport and Physical Education pembelajaran Good health is a essentially enables students to enjoy the experience and chose to continue his involvement in such activities outside school hours.

Conditions of the poor performance of teachers of Physical Education and Health Sport is becoming a concern that should be addressed in the context of learning , due to lack of discipline and the impact on student learning outcomes . The low performance of teachers of Physical Education and Health Sport has become a major issue in the world congress of Physical Education Sport and Health in Berlin , Germany in 1999 . As

described Lutan (2001 : 14 ) that , " Physical Education Sport and Health experienced serious threats and pressures with such sign is seen as a field of study that marginalized and unimportant to career " . The low performance of the teacher , based on the results of surveys at the global level is more due to some indications , namely : starting from the allocation of limited time , lack of infrastructure , personnel qualifications are not appropriate , up to a very minimal cost ( Lutan , 2001 : 15 ) . Results of research conducted by Sudjana ( 2002 : 42 ) indicates that 76.6 % of student learning outcomes are influenced by the performance of teachers , the details : the ability of teachers to teach to contribute 32.43 % , mastery of subject matter contributed 32.38 % and the attitudes of teachers the subjects contributed 8.60% .

Competence implies that a person's ability to do certain jobs hinted at the world of work and there is official recognition of the capabilities. Based on the Regulation of the Minister of National Education of the Republic of Indonesia Number 16 Year 2007 on Standards of Academic Qualifications and Competencies Teachers, explained that the Teacher Competency Standards developed entirely in 4 main competences, namely: (1) pedagogical, (2) personality, (3) social, and (4) professional. The fourth competency is integrated in teacher performance.

The term competence in the Act No. 14 of 2005 on Teachers and Lecturers interpreted as a set of knowledge , skills , and





behaviors that must be owned, lived, and controlled by the teacher or lecturer professionalism in carrying out the task. Based on the above limitations, it can be concluded that competence refers to: (1) the ability of a person, (2) include knowledge or understanding, skills and attitudes or skills as a totality, (3) emphasis on measurable behavior as the application or transfer of their competence, (4) emphasizes outcomes, (5) competence is used in a particular context that may be different from the one place and the other place. Sudjana (2000: 36) suggested four competencies of teachers, which has: (1) knowledge about human learning and behavior, (2) knowledge and control of the cultivated fields of study, (3) the right attitude about yourself, school, peers, and cultivated fields of study, and (4) have the skills to teach. While Lavay, French, and Henderson (1997) describes three Penjasorkes professional competence of teachers, which has: (1) knowledge of Penjasorkes and, (2) skills in a variety of sports that will be taught in schools, and (3) have the ability to manage and evaluate student behavior in a positive direction to achieve success in learning.

The results infallible (2009) showed that (1) the relative competence of the teacher education Penjasorkes optimal views of active time and motion study enrollment of students in learning; unfortunately tenure is inversely related to their competence, (2)

professional competence in pre-service as well as in-service is still lacking; (3) personal and social competence of teachers is relatively high, but the longer the period of declining employment personality and social competence, (4) the time for professional development is still relatively low, at between 24-42 minutes per day. Teachers with low tenure tend to use the time for the fulfillment of basic needs.

Teacher of Physical Education and Health Sport has a tough task in learning. Teacher of Physical Education Sport and Health should be able to manage the learning of Physical Education Sport and Health as well as possible. Effective teachers and efficiently meet the following requirements: (1) the teacher is not easily angered, (2) reward teachers for student success, (3) conditioning the teacher to make students behave in a steady, (4) set a time-saving classroom management, (5) regular classroom in an orderly manner; (6) academic activities; (7) creative teacher, students must be currently active and creative; (8) energy saving teachers; (9) the task of unsupervised students (Agus S SURYOBROTO, 2003:74). These requirements will be able to help, in regulating the learning of Physical Education and Health Sport in schools, especially primary schools. Learning management Penjasorkes teachers do include organizing infrastructure conditions and organizing human Penjasorkes the students. Teacher of





Physical Education Sport and Health which is able to manage learning effectively and efficiently will be able to achieve the goal Penjasorkes optimally . Penjasorkes teacher should have expertise in many areas that directly or indirectly determine how they perform and how well students are learning each unit of study and teaching materials . Shulman in Metzler ( 2000:21 ) recommends seven basic categories of knowledge for teaching , namely : Content knowledge , general pedagogical knowledge , Pedagogical content knowledge , curriculum knowledge , Knowledge of educational contexts , Knowledge of learners and their characteristic , Knowledge of educational goals . Metzler further explained that the seven basic knowledge of teaching is essentially Shulman is still very common . So Metzler ( 2000:23 ) shows 11 areas of knowledge -based model of teacher for learning in physical education , namely : ( 1 ) learning contexts , ( 2 ) learners , ( 3 ) learning theories , ( 4 ) appropriateness development , ( 5 ) learning domains and objectives , ( 6 ) physical education content , ( 7 ) task analysis and content progression , ( 8 ) assessment , ( 9 ) social / emotional , ( 10 ) equity in the gym , ( 11 ) curriculum models for PE . Knowledge - base of knowledge that must be possessed by a teacher of Physical Education and Health Sport will be needed to implement the various approaches and methods of learning , especially learning

models Sport Physical Education and Health are currently being spread .

Studies conducted Heyneman & Loxley in 1983 in 29 countries found that among the various inputs (input) which determines the quality of education (indicated by student achievement) is determined by a third teacher. Increasingly important role of teachers in the midst of limited facilities and infrastructure as experienced by developing countries. The full results of the study are: in 16 developing countries, teachers contribute to student achievement by 34%, while 22% management, 18% of time learning and 26% physical means. In 13 industrialized countries, the contribution of teachers was 36%, 23% management, 22% of time learning and physical means 19% (Supriya, 1999: 178).

## 1.2 Identification of Problems

Penjasorkes teacher plays an important role and strategic , especially in efforts to form a national character through personality development and the desired values , making it difficult position to be replaced . While saying that his relationship with the infallible teaching , the role of the teacher of Physical Education and Health Sport can not be replaced by other media ( 2009 ) . No denying that the teaching profession of Physical Education and Health Sport is currently the expectations of the young generation of Indonesia in order to establish a personal , attitudes , and abilities .







Teacher of Physical Education and Health Sport elementary school has a fairly central role in developing students' character and disposition . This is demonstrated by Suroto et al . that the teaching of physical education is taught about the values of discipline , responsibility , respect for rules , fair play , respect for opponents , and so forth . The International Charpther of Physical Education who didklarasikan by UNESCO in 1978 declared that physical education and sport is an activity to actualize human rights in order to develop and maintain physical, mental and moral , therefore everyone should have access to education physical and sports . Physical education and sport can contribute to the control of human values underlying the foundation of the development of every human being fully on . (2009 : 42 )

## 2. DISCUSSION

Studying the behavior of human resources in the organization according to Robibins (2003 ) cited in Hasbullah ( 2007:113 ) can be divided into 3 levels: the level of individuals, groups , and organizations . At the individual level , the study will focus on issues related to : ( 1 ) characteristics brought by human resources to the organization , such as perception , personality , and motivation , ( 2 ) the things in the organization , which can affect attitudes , perception , motivation , and job satisfaction of the individual , and ( 3 ) personality and its implications on the behavior and performasi in the workplace . Level group will discuss

matters related to group dynamics , including , among others : the description of the formation of the group , the processes that occur in groups , group cohesion , competence , and conflict . Whereas the level of organization , more focused on activities on how the influence of organizational size , organizational climate , organizational policies , the level of hierarchy in the organization .

### 2.1 Teacher Competency

Based on the analysis it was found that teachers' descriptions of Health Physical Education and Recreation at City of Semarang has the ability and height characteristics possessed the knowledge, skills and attitudes in launching the behavior of his duties as a teacher in the form of pedagogic abilities, personality, professional and social good in performing his duties as a teacher.

Health Physical Education teacher competence and Recreation influenced by the guidance system, a means of education and training infrastructures with each system to see the magnitude of the effect of coaching on the competence of 0.354 or 35.4%. The magnitude of the effect of infrastructure conditions on the competence of 0.068 or 6.8%.

A teacher of Physical Education and Recreation Health should have the basic skills and general organizer that includes mastery of the material to be taught and mastery seta assessment delivery methods .





In detail the characteristics that should be possessed of Health and Physical Education teacher Recreation is having the ability to identify the characteristics of the child 's physical growth , mental development , social and emotional development in accordance with the phases of growth . Teacher of Physical Education and Recreation Health should be able to generate and give children the opportunity to create on and active in the learning process of physical education , and be able to develop the potential abilities and motor skills of children. Able to provide guidance and development of children in the learning process to achieve the goal of physical education . Can plan , execute , control and evaluate and correct the fields of study in the learning process of physical education in schools . Penjas teachers must understand and master the fine motor skills . Elements capable of physical condition . Having the ability to create , develop , and utilize environmental factors that exist in achieving educational goals jasmani. Memiliki ability to identify potential learners in the sport and hobby of learners in the world of sports .

Standardization of teacher competence consists of four components, namely: Competence personality, competence paedagogie, professional competence, and social competence according to Law Teachers and Lecturers No. 14/2005 and Government Regulation No.

19/2005. Fourth Competence can be described by the following indicators:

1 ) pedagogical competence is the ability of teachers to manage student learning . This competency is measured by the proportion of study time allocation motion ( active time allotment) and the proportion of the number of students in a learning activity motion

2 ) Professional competence is the ability of teachers in the mastery of subject matter is broad and deep . This competency is measured by using a questionnaire that contains : ( 1 ) the profile of activities that include teachers teaching load , extracurricular load , sports organizations , training , and educational history , ( 2 ) the professional component includes the knowledge , skills , and attitudes in pre - service training and in- service training , and orientation of common values that teachers in developing teaching and learning of physical education

3) Competence personality is the ability of a solid personality, noble, wise, and dignified and exemplary learners.

4 ) Social competence is the ability of teachers to communicate and interact effectively and efficiently with students , fellow teachers , parents / guardians of students , and the surrounding communities

## 2.2 Teacher Performance

Based on the descriptive statistical analysis found that 58.1% performance of primary school teacher education jasmanai





Semarang city has a very high performance in carrying out his duties as an educator, has a good personality, have a professional attitude, and social good. However there is a small part of physical education teachers who have sufficient performance because it is not good competence and facility infrastructures are still not good.

Teacher performance is very important to note and evaluated for teacher professional task , meaning that tasks can only be done with special competencies acquired through education programs . According Danim S teachers have responsibilities can be broadly grouped as follows:

- (1) the teacher as the teacher
- (2) teachers as mentors and
- (3) the teacher as class administrator

Performance (performance ) a person in an organization is influenced by several factors . Satisfaction factor is one of the determinants of a person's performance . Job satisfaction is an emotional state experienced by teachers as it relates to the duties and obligations as educators in schools / educational institutions ( Hoy & Miskel 1991) . Individual's performance can also be influenced by the organizational culture and organizational leadership ( Lako , A.2004 : 70 ) . Furthermore Lako ( 2004:72-73 ) suggests that organizational culture and leadership as predictor variables that determine the

implementation efektifivas BSC ( Balance Score Card ) .

According to Yamin Marno (2010:22), effective teachers are able to perform the duties and functions in a professional manner. To be able to perform duties in a professional manner, required sharing requirements such as academic competence, methodological competence, personal maturity, dedicated attitude, adequate welfare, career development, work culture, and a conducive working atmosphere.

According to Law No. 14 of 2005 the law faculty of teachers, competence is a set of knowledge, skills, and behaviors that must be owned, lived, and controlled by the teacher or lecturer professionalism in carrying out the task, while the teacher competency determination can be interpreted as knowledge, skills and attitudes which berwujudkan with intelligent action and full responsibility in carrying out the task of a learning agent. Teacher competence can be influenced by several factors such as:

- (1) System Development,
- (2) Infrastructure condition, and
- (3) Education Training.

Performance standard terms are: (1) relevant to an individual or organization, (2) is stable and reliable,(3) be able to distinguish between the execution of the work is good, average and poor, expressed in numbers, easily measured, and can be understood by the employee or supervisors and (4) provide unambiguous interpretation (Simamora,





1999:16). According Prawirosentono (1999), performance (Performance) is the result of work that can be achieved by a person or group of people within the organization, in accordance with the authority and responsibilities of each in the context of efforts to achieve the goals of the organization in question legally, do not violate the law and in accordance with morals and ethics.

Performance can also be interpreted as a result of the quality and quantity of work achieved by an employee in carrying out their duties in accordance with the responsibilities assigned to him. Besides influenced by Systems Development, Infrastructure Condition and Exercise Education, penjas teacher performance is also influenced by the competence of teachers. In general, there are several factors that teacher performance. Such factors include: System Development, Infrastructure Conditions, Education Training and Competence to teacher performance.

Teacher competence is the ability or the ability of teachers to manage learning. Tekannya point is the ability of the teacher in teaching is not what is to be learned (learning what to be learned), teachers are required to create and use a positive state to bring them into the learning so that children can develop competencies (Hizbullah, 2005). According to Marshal, P. (2003:39-40) in the book "people and competencies" Competence is a basic characteristic of a person that enables it provides superior

performance in a job, role or situation. Models tip of the iceberg, as directed in the different competency levels, namely: skills, knowledge, social roles, self-image, character and motives.

Based on 2004 data from the Ministry of Education that there has been a shortage of elementary school teachers Penjasorkes as many as 60 648 people. This condition is addressed by providing education and training for six months in the eye Penjasorkes for elementary school teaching to teachers of religion in primary schools. This training is for schools that do not have teachers Penjasorkes. With arguments rather than learning Penjasorkes not delivered, the better religious teachers are empowered to teach Penjasorkes. Although it is common sense can not be accepted, but such a move could be a solution shortly before the appointment of the teachers Penjasorkes truly qualified in their fields of expertise. So expect performance Penjasorkes future teachers will be more professional in their duties at school.

There are several reasons why the "standard of competence" was chosen as a reference for the development of human resources

First : The speed of change and technological advances applied diindustri requires human resources that have the adaptability and competitiveness are flexible to deal with it .  
Second: High demand and global competition in education, especially the educators to plan





strategies that have an impact on the demand and the need for a flexible adjustment. Formation that needs no adjustment in the education office will affect penjas teacher needs to be filled.

Third: With the demands that are likely to change the form of organization, human resource development, which refers to a fixed standard office / raw, will quickly fall behind, it is necessary to look for other models are more efficient approach.

Fourth: It has been introduced and wore the standard model by the International Labour Competence Organization (ILO) in several Asia-Pacific countries that declared "compatible" in International.

Fifth : The desire " stakeholder " or the interest of the various parties , both government and private , to have a container or body that formulates national policy direction in the development of human resources , which are currently underway in the process of its formation . One of the thoughts that have been formulated in the standard model is used to benchmark the development of HR competencies .

Increased physical education teacher competence can be implemented by making one of the supporting organizations to establish Centre for Development and Empowerment of Educators Pernjasorkes (P5) organization of Organization and Work Centre for Development and Empowerment of Educators Penjasorkes. As a key staple in the professional development of teachers of

physical education. In performing its duties, P5 the following functions:

- 1) Preparation of program development and empowerment of teachers and elementary school physical education.
- 2) an increase in data and information management competencies of teachers and elementary school physical education.
- 3) Facilitation and implementation of the increasing competence of teachers and elementary school physical education.
- 4) The implementation of the cooperation in the field of development and empowerment of teachers and education personnel;
- 5) Evaluation of programs and facilitation of increased competence of teachers and elementary school physical education.
- (6) Implementation of administrative affairs Educator Development and Empowerment Center Penjasorkes (P5).

### 3. CONCLUSION

Ability of teachers to organize teaching and learning is one of the main requirements of a teacher in seeking better results than teaching undertaken. Teachers will be able to carry out professional duties properly and can act as an effective teaching force if it has met the competencies that should be possessed by a teacher. As stated in article 8, paragraph 3, that the teacher as an agent of learning in elementary and secondary education and early childhood





education include: (1) paedagogie competence, (2) personal competence, (3) professional competence and (4) social competence .

The fourth teacher competence is absolutely necessary in carrying out their duties and obligations as educators, teachers, and mentors. For when teachers are competent, then he will be able to make students intelligent, independent, and good quality for the development of the nation as well as individual development of the student.

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## KARONBALL: SOFTBALL GAME MODIFICATION AS A PHYSICAL EDUCATION TEACHING FOR UPPER CLASSES OF PRIMARY SCHOOL STUDENTS

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### ABSTRACT

*Physical education is an education that uses physical activity as a means to achieve the expected goals. A games material is one of the curriculum scopes that have the largest percentage of Physical Education subjects in upper classes of elementary school. Softball game is still very rare in elementary school teaching due to limited facilities and infrastructure. Karonball game is a modification game that was developed with the aim to introduce the softball game in the elementary school. This game combines baseball, rounder and softball game, thus, it is called karonball. Though this game, elementary school students are expected to be familiar with softball game although in the simple regulations steps and also can be used as physical education teaching at the elementary school for upper-class students.*

**Keywords:** Karonball, modifications, softball games, Elementary School  
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### INTRODUCTION

Physical education is an education that uses physical activity as a means to achieve the expected goals. One of the supporting components of the implementation of physical education in order to work well is the curriculum. Curriculum is a set of plans and arrangements regarding the objectives, content and learning materials, as well as the means which is used to guide the implementation of learning activities to achieve specific educational goals. Through curriculum, the improvement of quality and relevance of education can be done thoroughly.

The Physical, Sport, and Health Education Subjects (*Penjasorkes*) is one of the subjects held in schools that are expected to seek and embody the whole man, both primary and secondary education. The Ministry of Education of Indonesia (2003: 5) states that there is no education which does not have the pedagogical goals, and no education is complete without the presence of physical education. It is because the motion as physical activity is the basis for man to know the world and him which naturally develops in line with the changes of times. *Penjasorkes* is a medium to encourage physical growth, mental development, motor skills, knowledge and reasoning, appreciation





of the values (mental - sportsmanlike attitude - social - spiritual) and habituation healthy lifestyle that leads to stimulate the growth and development of the physical quality and psychological which is balance. *Penjasorkes* goal achievement in elementary school (SD) is expected to consider the purpose of learning; students' skills, methods, materials, facilities and infrastructure, as well as the pleasure of students learning activities for the learning process can run well.

The game material is one of the curriculum scopes that has the largest percentage of *Penjasorkes* subjects in grade IV ( four) to VI ( six ) or more often called by the upper classes. Games and sports which are included in the curriculum contains a variety of games and sports individually, in pairs or teams. In this activity as well as aspects of the development of knowledge / relevant concepts and value systems within such as teamwork, sportsmanship, honesty, critical thinking, and comply with regulations. Besides, students must also be sportive, honest and critical thinking as well as abide by the rules so that the game can generate maximum points. Coverage of sports games by Ministry of Education (2003: 10) includes a small ball game and a great ball game. Small ball game that is taught in the elementary school classroom include rounder , kippers , rounder , softball , and baseball , while for the big ball game that is taught in the elementary school classroom include football , volleyball , and basketball . From the scope of the

material above, softball is a matter that should be implemented in order to achieve the learning objectives.

Although the material of softball game obviously contained in the curriculum, this cannot be done well in elementary school. From the survey results, this is due to the limitation of softball game facilities and infrastructure in the school. The high price of the tools and the limited number of softball fields are factors that greatly affect the enforceability of the softball game in elementary school. Besides the infrastructure limitations, understanding of the softball regulation is still very minimal mastered by the *Penjasorkes* teacher. The limitations result less possibility to teach softball game in elementary. In fact, if it is implemented, it would be very beneficial for students both psychologically and physically.

Softball game material should be taught as a means used in the educational process. The material should be tailored to the stage of growth and development of the children so that they do not find it is difficult and do not feel that the game is hard. This of course refers to the stages of growth and development of primary school students in upper classes which is in the playing age. At the game time, what child feels is just the fun and excitement without thinking of the end result that will be obtained. By playing, child is expected to be able to recognize the characteristics of the game and can interact well with their peers. Interaction with peers







will become their motivation to do the higher game so that they are not aware of physical activity. Physical activity is expected to be a medium for the children growth and development, especially in psychomotor aspects of learning and the attainment of the objectives of physical education in their schools.

To introduce the softball game from elementary level is necessary to modify a game that can be used for *Penjasorkes* learning in primary school though the stage is still a simple game.

## THE NATURE AND THE ROLE OF PHYSICAL, SPORT AND HEALTH EDUCATION IN PRIMARY SCHOOL

*Penjasorkes* is one of the subjects carried out on primary education, secondary and even higher education. *Penjas* is always in education from time to time, which contributes to the growth and development of the whole child through experiences of motion. Capel and Piotrowski (2001: 9) argue that the characteristics of *penjas* centered to the child which have the correct values as good as education in general. This opinion can be interpreted that *penjas* teaching should see the child as a subject of education that should be prioritized in order to achieve *penjas* objectives.

Physical Education or *Penjas* as an integral part of the education is defined in a different opinion. Physical Education Association of the United Kingdom (PEAUK)

cited by Capel and Piotrowski (2001 : 10 ) states *penjas* as physical activities which are directed and related studies , usually in the educational context is to develop physical competence , helps promote physical development , and allows participants to learn about and value of the participation benefits. Basically, *penjas* is a formal cultivation of knowledge and values through physical activity. Broader definition proposed by Chandler, Cronin and Vamplew (2007: 166) that *penjas* includes instruction in the development and body treatments, from simple exercises to train callisthenic hygiene , gymnastics , and also the performance and management of the game . Historically, it has been focused on diet, exercise and hygiene, as well as muscular - skeletal and psycho - social development. Several sub-disciplines of science are biomechanics, exercise physiology, sport sociology, history, philosophy and psychology.

*Penjasorkes* plays a very important role in school, which gives an opportunity to students to gain direct experience in a variety of opportunities through physical activity, exercise, and health are selected and carried out systematically. Granting practices matter consists of the game and sport , development activity , gymnastics activities , rhythmic activities , water activities , outdoor education classes can provide opportunities for students to move physically / directional motion that can provide students with opportunities to learn more about the world





and himself that students naturally continues to benefit in the form of health and fitness . Besides the provision of material on the theory of health is very beneficial because health material which consists of material and cultural patterns of healthy living as well as its application in everyday life to provide basic understanding to the students about the importance of having a healthy life habits .

## CHARACTERISTICS AND COURSE OBJECTIVES

*Penjasorkes* is an integral part of education as a whole, aims to develop aspects of physical fitness, motor skills , critical thinking skills , social skills , reasoning , emotional stability , moral action, aspects of a healthy lifestyle and clean environment through the introduction of physical activity, sport and health selected systematically planned in order to achieve national education goals (BSNP , 2006: 702 ) . This subject is a medium to encourage physical growth, mental development, motor skills, knowledge, reasoning, appreciation of the values (attitude - mental - emotional - sportsmanship - spiritual - social) and habituation to a healthy lifestyle that leads to stimulate the growth and development of physical and psychological quality in balance.

Penjas destination in SD according to Thomas , Lee and Thomas (2000 : viii ) there are two , namely : (1) create movement and exercise to be more efficient so that students can apply for specialization in sports activities , and ( 2 ) establishing and or maintaining

physical health . Similar opinion was expressed by the Ministry of Education and Science, quoted by Capel and Piotrowski (2001: 10 ) which states that *penjas* school aims to develop control , coordination and body control . It mainly deals with how to learn through action, sensation and observation

## THE SCOPE OF THE MATERIAL

According to the Ministry of Education (2003: 10) *penjas* material scope covers the following aspects : 1) Games and sports include : traditional sports , games , movement exploration , locomotor and non-locomotor, and also manipulative skills, athletics , rounders , rounders , kippers , softball , baseball , handball , football , volleyball , basketball , table tennis , tennis , badminton , and martial arts , as well as other activities, 2 ) development activities include : posture mechanics , components of physical fitness , body posture, and other activities, 3 ) Gymnastics activities include : floor exercises , agility without tools , dexterity with tools , and other activities , 4) rhythmic activities include : free movement , Indonesian morning rhythmic gymnastics, SKJ , aerobics and other activities , 5) water activities include : game on water , water safety , skill moves in the water , swimming, and other activities , and 6 ) education outside the classroom includes : picnic / field trips, camping , exploring , mountain climbing and other activities





## SOFTBALL GAME AS A SMALL BALL GAME IN PENJAS, SPORTS, AND HEALTH LEARNING IN PRIMARY SCHOOL.

Softball game is one of the small ball game, which is taught in *Penjasorkes* teaching in the upper classes of elementary school. In this activity as well as aspects of the development of knowledge / relevant concepts and value systems contained therein, such as : teamwork, sportsmanship , honesty , critical thinking , and comply with applicable regulations ( Ministry of Education , 2003 : 10-11 ) . Softball game is also a team game played by nine players in a team. The game is done by throwing, catching, hitting the ball and ran. Softball game is played on a diamond -shaped field which consists of a grassy field in the outfield and a short cut that ball rolling average does not change the direction. On the infield made of gravel with a soft flat surface. The game used a ball, bat, glove, helmet, and mask. Game led by referee called umpire. Umpire is authorized to implement every clause of the regulation softball. Umpire also has the power to ask a player, coach (coach), captain, manager to execute or prohibit conduct penalties and umpire judgment is not in accordance with the regulations.

Softball game has a goal to get as many points as possible and try to break the

opponent's attack so as not to get points. How to get points is by running around the base of the base sequence of one, two, three, and home to earn a point. The game was done in a round called inning. Winning team is the team that scored more points until the last inning.

In accordance with the basic competence on the small ball game materials for fourth grade until sixth grade, mentioned that the students can practice basic motion of a small ball game in team with a modified regulations, and with good control. Motion base in a softball game is motion related to the basic techniques of the softball game. The basic techniques of the softball game by Noran (2005: 1-89) is a technique to catch the ball, throw the ball, pitching, hitting the ball, and ran to the base (base running). The basic technique according to Garman (2001 : 1-193) is divided into some form of technique that is catching the ball include : ( 1 ) catches the ball along the ground , ( 2 ) catches the bounced ball , and ( 3 ) to catch the flat ball . Throw the ball include : ( 1 ) handle the ball , ( 2 ) throw up, ( 3 ) long throw , ( 3 ) a quick throw , ( 4 ) side pitch , and ( 5 ) the pitcher . For hit the ball technique include: ( 1 ) hit the ball with a swing and ( 2 ) hit the ball with a bunt hit . Furthermore , for the basic running techniques ( base running ) include : ( 1 ) leave the base , ( 2 ) running between the base , ( 3 ) running around the base , and ( 4 ) sliding ( bent - leg slide , pop - up slide ,





hook slide , headfirst slide , slide and rollover ).

**KARONBALL GAMES AS MODIFIED SOFTBALL GAME FOR UPPER CLASS STUDENTS OF PRIMARY SCHOOL**

To introduce the softball game for the first grade students then karonball game was made. The karonball game is a game played by 12 students for every team. The size of the field and play equipment simplified by using the tools taken from the game rounders, rounders and tonis ball. The rules outline is as follows:

1. The karonball game is a modification of softball game for the class of elementary school children. The game is done using

mostly softball rules, but the tools used in the fetch of rounders and baseball games.

2. Number of Players and Players Position

Karonball game made by twelve players and the free players occupy the position of any part of the field. The position of the player can be seen in Figure 1 below

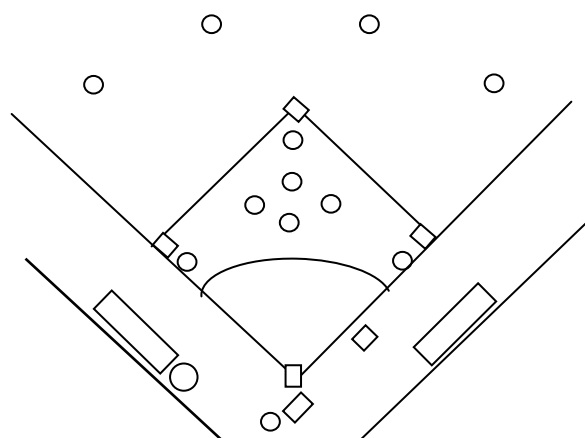


Figure 1. Player Position

3. Playground

Diamond-shaped playing field with the determination of the diamond is done by connecting the end of the flag is not valid with a quarter circle of the pivot line in the middle

of the field. Pictures and part of the field can be seen in figure 2 below:



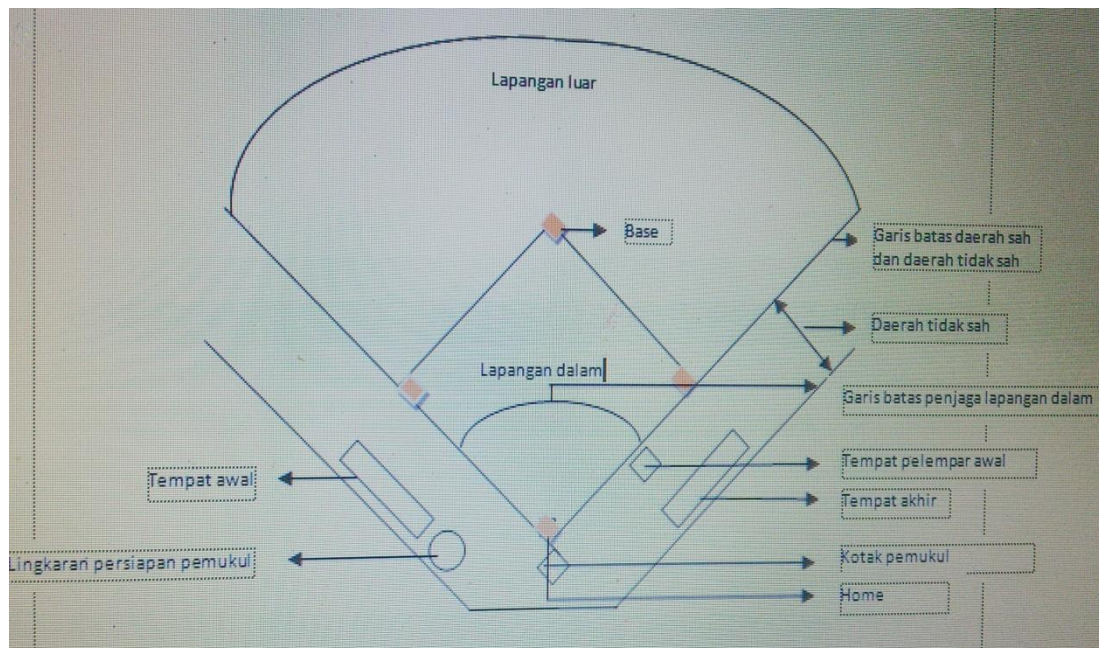


Figure 2. Karonball Field

Size description:

- a. Distance between base :13 m
- b. Distance between home and the end of the legitimate and illegitimate border :30 m
- c. The distance between the border of the legitimate and illegitimate starting place : 1,5 m
- d. Distance to the midpoint of the hitter initial site preparation circle : 1 m
- e. . Unauthorized area distance : 3 m
- f. Distance of a pitcher with a bat box : 5 m
- g. Distance of the bat box home : 30 cm
- h. Starting place : width 1.5 m and a length of 6 m





- i. Base : Width 33 cm , 50 cm long and 5 cm thick
  - j. Hitter preparation circle : radius of 0.5 m .
  - k. Bat box : Width 1 m and a length of 1.5 m .
  - l. Guard the boundary line in the field : 5 m from home to the first base and third base
4. The equipment used was a stick beater using a bat of the rounders game and the tonis ball.
  5. The game started with the first teams' bat which is determined by coins or suit. Game is conducted throughout the five-inning. One inning is counted if both teams have swapped positions from the attacker to the guard. Attacker squads swapped positions as keepers after all members of the team have been doing blow. Last hitter determines free bonus player acquisition and bonuses player is freely chosen by the attacker as long as the selected players are still the team members. Game -based series will be continued with the next inning game until one team ahead of his opponent completely. The winner of extra-inning game is the team that makes more points until the end of the game .A points will be obtained by the team when the attacker has managed to hit a batter and a runner and then ran to touch base. Every runner who can touch base safely will be counted as one point. After the lottery and players already occupy their respective positions, the game starts with a throw of clouds. Initial throw is a throw made by the life jacket. Life jacket before making the throw life jacket must be in place. Life jacket is one of the team members and life jacket attacker may change at any inning. If a turn at the life jacket life jacket must be replaced by one of the other team members. Life jacket gives the ball to the bat as good as possible.
  6. Batsman must be in place when hit a bat. Players who will have to get in the circle punch preparation of the hitter. When the bat is in the circle of preparation of the hitter, hitter may do preparation. Batsman may only leave the preparation hitter if being a turn as a hitter and bat into the box. The order batsman freely determined by a squad of attackers from the first to the last hitter. If the players are mixture of male and female hitter so it has to be alternated arrangement. Last batsman in every inning should not be the same
  7. Batsman must hold the bat with two good hands at the beginning of stance when hitting or swinging the bat. Batsman must take a position in the batter box when the game starts. Throw the ball batter chance to get as much as 3 throws life jacket life jacket and paddle does not have to swing at every pitch tool at the beginning of that given by the life jacket until the third pitch. But if the hitter does not also perform a punch or punches but did not stick at the ball





then the batsman is declared dead. If on the third punch, punch the ball does not enter the area of the legal field, hitter repeated blows to the incoming punches result in unauthorized areas or dead bat, because it could not hit the ball. Bat also declared dead if the batsman keeper player disturb bats or throw so as to interfere with the guards. Bat would be a runner after the batsman successfully incoming punches and legal areas. Runner is declared dead if a runner hitter thrown dead (burned) base in a way that will be addressed before the runner reached base. Runners are allowed to advance to the base of the front and the player may also be turned off by the guards at the bat and hit a ball thrown or hit the legitimate ball. Runners can still be turned off if at any time a runner fails to touch the base they are entitled before attempting to advance to the next base and after occupying one base, runners then separated from the base and try to continue the run to the next base. Runner is entitled to advance without a blow off if the ball bounced legitimate and lawful overextending the back field and a non-member squad, enters the game and annoy.

8. Runner must touch the base of the sequence: first base, second, third, and home.
9. Runners must return to their base, but do not need to touch bases between them if

the ball was illegal and the other team members who are not playing do or make a nuisance after successfully doing punch hitter.

10. Offensive players must go first in the beginning and if the player dies or the attacker is back again to the home then the player must go to the last place.

## **THE CHARACTERISTICS OF PRIMARY SCHOOL STUDENTS IN THE AGE OF 10-12**

According to Hurlock (1978: 38) on the end of childhood (6 to 13 years in girls and 14 years in boys) was a period in which there is sexual maturity and adolescence started. The main development is socialization. This is school age or age group. From this definition it is clear that at the age of 10-12 years had major developments in social life. In addition to social development, children aged 10-12 also has the characteristics of growth and development of others. Characteristics of growth and development of children , both physical growth , mental and emotional , it is important to be known and understood by *penas* teachers in determining the type of physical activity or exercise that will be given . If the type of physical activity or exercise that is given is not in accordance with the characteristics of the child , the physical activity or exercise that is given will not be a positive influence on the development and could give the opposite





result with the goals or objectives to be achieved

## CONCLUSION

Karonball game for primary school students has higher grade appropriateness when it is applied to the upper class of primary school students. The suitability of these include the compliance of the standards of competence and basic competences contained in the 2004 curriculum of *Penjasorkes SD* that is about the small ball game that is taught in the classroom. Besides, karonball game is also appropriate with the characteristics of an elementary school student whose development is in the development of socialization stage. This is because the karonball game is a team game that therein clearly contained an element of cooperation between players with other players. Therefore, it takes a student's ability to have social interaction with his team mates. Karonball game also includes exciting and safe play performed by students.

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## THE EFFECT OF LEARNING MODELS AND TOOLS MODIFICATION TOWARD VOLLEYBALL SKILL RESULT

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### Abstract

*Learning physical education activity in a volleyball game taught to students using a by learning models and tools modification provide optimal contribution that simplify to know and understand how to do the increase volley game skill. The aims of this research was to determine differences in learning models and tools modification overall.*

*Research method was experiment and research design used was a ANOVA 2x2 factorial. The study population was students of high school at Sukabumi with samples of 28 male students. Research instrument used was NCSU volleyball Skills battery test. The analysis used the SPSS software v.20 at p-value  $\leq 0,05$ .*

*The results were 1) there was no significant difference between tactical approach models with control group, a difference 6,14%; 2) there was interaction between learning models and tools modification; 3) for groups using soft volley ball, there was significant difference that tactical approach is better than the control group, a difference 50,86%; for groups using standard ball, there was no significant difference that both groups having the same effect, but there are differences in the results of volleyball skills at 36,00%.*

**Keyword:** Learning Models, Tools Modification, Volley Ball Skills.

### A. Introduction

The development of Volleyball game in Indonesia, all people know about this game. This game is known since primary school students. Similarly, the support of the volleyball clubs that exist throughout the country so that playing on the volleyball enjoy doing by the start of the children, adolescents, and adults. Volleyball game sport development today is very fast even in the school. This is evidenced by the inclusion of a volleyball game sport compulsory education into the curriculum of both primary schools, the level of junior high school and

the level of senior high school. Children, youths, adults and both men and women who loved the game of volleyball.

Physical education learning process especially learning volleyball games should refer to the applicable curriculum and must be done well. But in fact it is not easy to implement the learning particularly in areas that still have shortcomings. Such as : teachers are still having trouble determining so that learning models rely on the concept of traditional models that emphasize basic skills sport that developments in uneven learners, as well as facilities and regulations that are





used directly to the actual rules making it difficult for learners in learning. But playing on a volleyball can sometimes make it difficult for students in a learning activity. Because teachers still require students to be able to perform activities of volleyball game with the correct technique. So that students have difficulties in the learning process, and also teachers still seem monotonous in delivering teaching material, so it will be a game of volleyball activity is not conducive and students will get bored quickly. To support the learning process in school, physical education teachers should be able to adjust or modify instructional volleyball game to suit the needs of learners. Modifications intended to facilitate student learning and foster excitement during learning activities in school volleyball game.

About explanations from above authors wanted to examine and further

analyze the influence of learning models in this tactical approach and ball modification to the results of volleyball skills.

**B. Method**

**Population**

The subjects of research take from the high school students at Aliyah Surade Sukabumi. The subject were drawn at randomize by using the Federrer.

Formula:  $[r - 1][t - 1] \geq 15$

note: t : numbers of treatment

$[r - 1][4 - 1] \geq 15$

r : sum of samples

$[r - 1][3] \geq 15$

$[r - 1] \geq 15/3$

$r \geq 5 + 1$

$r \geq 6$

So the minimum numbers of samples are 6 peoples for each treatment groups.

Table 1. Design and Sum of Subject Research

Ball Modification (B)	Learning Models (A)		Sum
	Tactical (A <sub>1</sub> )	Control (A <sub>2</sub> )	
SOFT VOLLEY (B <sub>1</sub> )	A <sub>1</sub> B <sub>1</sub> (7 students)	A <sub>2</sub> B <sub>1</sub> (7 students)	14
Standard ball (B <sub>2</sub> )	A <sub>1</sub> B <sub>2</sub> (7 students)	A <sub>2</sub> B <sub>2</sub> (7 students)	14
TOTAL	14	14	28

**Method and Variables**

This study used an experimental research method that is seen and analyze the symptoms and every cell, and analyze the impact of the learning model (tactical approach and control groups) were influenced by the ball modification (soft volley

and standards ball) that together can influence of the result volleyball skills.

Research variables, independent variable is learning model (tactical approach and control groups); intervening variables is ball modified (soft volley and standards ball)



and the dependent variable is the results of volleyball skills.

Wilson; 1993) with validity of 0.73 and reliability of 0.88. The skills test consists of underhand passing; overhand passing, and service.

**Research Instrument**

The research instrument used was a test of NCSU volleyball skills test (Strand and

**Research Path**



**Data Analysis**

Data analysis was performed using software SPSS v.20 by Anova 2x2 factorial. The analysis is performed as follows:

- a. Initial power parity test (pre-test); aiming to know that there is no difference in ability between the treatment volleyball skill in tactical approach with the control groups.





Unpaired t-test scores with p-value  $\leq$  0.05 do equality test.

b. Analysis Prerequisites Test: 1) Homogeneity Test; by using the Levene's test with p-value  $\geq$  0,05. This test aims to determine whether all data has the same variance or homogeneous. If not homogeneous then the next step is done non-parametric hypothesis test. If all the data is homogeneous then tested the hypothesis parametric. 2) Normality Test; Do in each group, the technique used is the Kolmogorov- Smirnov with p-value  $\geq$  0,05. To determine the distribution of data is normal or not. If not normal then the next step is done non-parametric hypothesis test. If all the data is normally performed parametric hypothesis test.

c. Hypothesis Testing: For analyzing the hypothesis done with Anova 2x2 factorial, if there are interactions it is thus followed by a further test of Tuckey. Tuckey test performed to analyze hypothesis 3 and 4. At p-value  $\leq$  0.05.

**Time and Place of Research**

The study was conducted in November to December 2012, around 6 weeks: 3 session a week, or 18 times total include pre and post test. As for the details or schedule of research by the author are as follows:

Table 2. Schedule of Research

NO	Time	Day	Experiment	Information
	07.00 - 08.30am	Wed	4 groups	Within hours of physical education
	07.00 - 08.30am	Thu	4 groups	Outside hours of physical education
	07.00 - 08.30am	Sat	4 groups	Outside hours of physical education

Implementation of research activities carried out in the field volleyball Surade Madrasah Aliyah Lodaya Setra Sukabumi.

**C. Result**

**Description**

Summary of the results of the calculation of the mean and standard deviation of all data.

Table 3. Summary of the calculation all data

Modification	Learning Models
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	Tactical						Control					
	Pre		Post		Gain		Pre		Post		Gain	
	d	d	d	d	d	d	d	d	d	d	d	
Softvolley	9,43	7,61	7,57	5,53	,14	,73	1,86	0,99	5,86	,84	,00	,24
Standard	9,29	0,80	5,14	8,80	,86	,63	2,57	1,85	01,71	7,21	,14	,23

**Similarity test capability**

This test aims to determine whether there are similarities between the two models of learning ability that tactical approach and the control group, the test uses the unpaired t-test.

Table 4. Summary of the calculation unpaired t-test

Modification	Learning Models				Different mean	t	p-value
	Tactical		Control				
	Pre		Pre				
	$\bar{x}$	sd	$\bar{x}$	Sd			
Softvolley	89,43	17,61	81,86	10,99	7,57	0,965	0,354
Standard	89,29	20,80	92,57	31,85	3,29	0,229	0,823

Criteria: p-value ≤ 0,05; there was significant different between soft volley dan standard ball

p-value > 0,05; there was no significant different between soft volley and standad ball.

**Normality test**

Table 5. Summary of the calculation normality test in Kolmogorov-Smirnov

All Data	Kolmogorov-Smirnov			
	Stat.	p-value		
Tactical	Pre	0,217	0,200*	
	Softvolley	Post	0,208	0,200*
		Gain	0,376	0,003
		Pre	0,239	0,200*
	Standard Ball	Post	0,229	0,200*
		Gain	0,267	0,141*
Pre		0,317	0,032	
Control	Softvolley	Post	0,249	0,200*
		Gain	0,244	0,200*
		Pre	0,294	0,067*
	Standard Ball	Post	0,262	0,157*





Gain	0,287	0,084*
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Criteria:  $p\text{-value} \geq 0,05$ ; The data has a normal distribution.

$p\text{-value} < 0,05$ ; The data has not a normal distribution.

**Homogenous Test**

Table 6. Summary of the calculation hasil uji homogenitas Levene's test

	All Data	n	mean	sd	Levene's Test		
					F	p-value	
Tactical	Pre	14	89,36	18,52	0,004	0,952*	
	Post	14	93,43	18,15			
Control	Pre	14	87,21	23,55	0,135	0,716*	
	Post	14	93,79	21,31			
Gain	Tactical	14	7,00	3,31	0,659	0,424*	
	Kontrol	14	6,57	5,23			
Softvolley	Tactical	Pre	7	89,43	17,62	0,223	0,645*
		Post	7	97,57	15,53		
	Control	Pre	7	81,86	10,99	0,073	0,791*
		Post	7	85,86	9,84		
Gain	Taktis	7	8,15	2,73	0,497	0,494*	
	Tactical	7	4,00	2,23			
Standard	Tactical	Pre	7	89,29	20,80	0,079	0,783*
		Post	7	95,14	18,80		
	Kontrol	Pre	7	92,57	31,85	0,285	0,603*
		Post	7	101,71	27,21		
	Gain	Tactical	7	5,86	3,63	1,506	0,243*
		Kontrol	7	9,14	6,23		

Criteria:  $p\text{-value} \geq 0,05$ ; The data has a homogenous varians

$p\text{-value} < 0,05$ ; The data has a heterogenous varian.

**Test of Hypothesis**

Using a 2x2 two-way Anova test at  $p\text{-value} \leq 0.05$  does hypothesis testing. The first hypothesis: There was differences in yield improvement Volleyball skills between tactical approach to the control group in over all.

Table 7. Summary of the calculation first hypothesis

Model Pembelajaran				Beda Peningkatan	F-sig	p-value	Besarnya Perbedaan
Taktis	Kontrol						
$\bar{x}$	Sd	$\bar{x}$	sd				
7,00	3,31	6,57	5,23	0,43	0,080	0,780	6,14%

Criteria:  $p\text{-value} \leq 0,05$ ; The Data suggests there are differences in yield improvement volleyball

Skills is significant between the models with the tactical approach the control group as a whole over all

$p\text{-value} > 0,05$ ; The Data suggest are no different in yield improvement volleyball skills is not significant between the models with the tactical approach the control groups as a whole over all.





**The Second Hypothesis:** There was significant interaction between learning model with the ball modification.

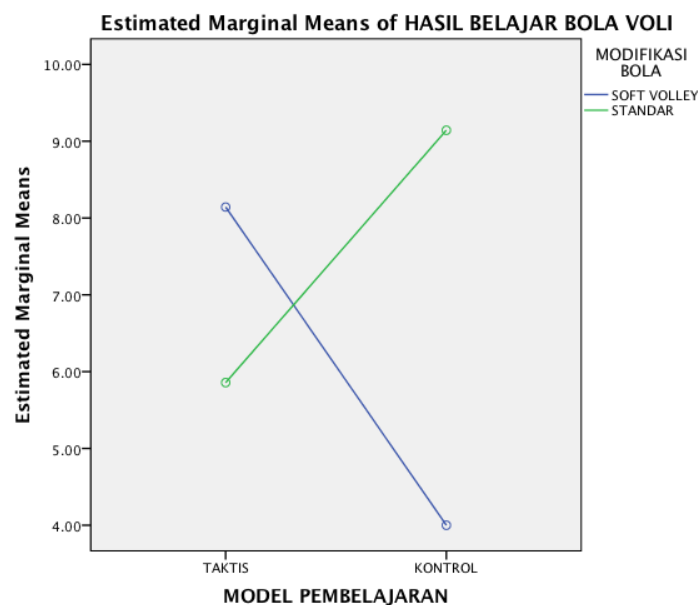
Table 8. Summary of the calculation second hypothesis

Interaciton		F-sig	p-value
Learning Model	Ball Modification	5,996	0,022*

Criteria:  $p\text{-value} \leq 0,05$ ; The Data indicate that there is singificant interaction between learning models with modification.

$p\text{-value} > 0,05$ ; The Data indicate that there is no singificant interaction between learning models with modification.

Picture 1. The Graphic of interaction between learning model with ball modification.



**The Third Hypothesis:** For students who use the treatment soft volley, tactical approach is better than the control group.

Table 9. Summary of the calculation third hypothesis

Modification	Learning Model				Different mean	t	p	Different prozent
	Tactical		control					
Softvolley	x	sd	x	sd				





	8,14	2,73	4,00	2,24	4,14	3,103	0,009*	50,86%
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Criteria:  $p\text{-value} \leq 0,05$ ; the data showed there was significant different in yield improvement volleyball skills between the tactical approach with control group who taught by soft volley.

$p\text{-value} > 0,05$ ; the data showed there was no significant different in yield improvement volleyball skills between the tactical approach with control group who taught by soft volley.

**The Fourth Hypothesis:** For students who use the treatment standard ball, control group is better than tactical approach.

Table 10. Summary of the calculation fourth hypothesis

Modification	Learning Model				Mean different	t	p	Different prozent
	Tactical		Control					
	x	sd	x	sd				
Standard ball	5,86	3,63	9,14	6,23	3,29	1,206	0,251	36,00%

Criteria:  $p\text{-value} \leq 0,05$ ; the data showed there was significant different in yield improvement volleyball skills between the tactical approach with control group who taught by standard ball.

$p\text{-value} > 0,05$ ; the data showed there was no significant different in yield improvement volleyball skills between the tactical approach with control group who taught by standard ball.

#### D. Discussion

In testing the first hypothesis, namely there was a difference in yield improvement volleyball skills between tactical approaches to the control group in over all. In the calculation results indicate that the first hypothesis has not been tested and is not acceptable. However, there are differences in average increase in the amount of 6.14% or  $(7.00 \pm 3.31 \text{ vs. } 6.57 \pm 5.23)$ . Learning model with a tactical approach has several advantages when compared with the control group. These advantages can affect children

without the burden of generating excitement and even students will be able to think of tactical before doing something or students will be able to take the right decision in playing volleyball, so with such a tactical approach to the model will improve not only cognitive skills but it will also increase. Therefore, although the results of this study in the first hypothesis has yet to show significant differences but no significant difference in the increase in the amount of 6.14%. This also assumes that there are







many outside elements that could affect the study-contained research.

In testing the second hypothesis, there was significant interaction between the models of learning by modification ball of volleyball. In the calculation results show that the second hypothesis is acceptable and has been tested and not unexpectedly results in the field. This means between the treatment and modification, interact with each other, for example the results of the group soft volley. Volleyball skills of a tactical group showed better results when compared with controls group, another case with a standard ball at precisely the result group and the control group showed reversed results better when compared with the treatment group models tactical approach. This is consistent with the results of the calculation results of the p-value is below 0.05 ( $0.022 \leq 0.05$ ), thus there is a significant interaction.

The third hypothesis states that for students who use the treatment soft volley, model group tactical approach is better than the control group. Conclusions from the Anova F-test calculation with post-hoch Tuckey test at p-value  $\leq 0.05$  has been tested and accepted. In fact there is a difference of the improvement volleyball skills in the amount of 50.86% or ( $8.14 \pm 2.73$  vs.  $4.00 \pm 2.24$ ) and the p-value is far below 0.05 ( $0.009 \leq 0, 05$ ). The conclusion is the data shows that there are differences in yield improvement volleyball skills were significant between the models with a tactical approach

to the control group of students who are taught by soft volley. This is in line with that expressed by Subroto (2010:6) is a tactical approach in learning the sport of the game is to increase students' awareness of the concept of playing through the application of techniques appropriate to the problem or situation in the game.

The fourth hypothesis states that for students who use the standard ball treatment, the control group is better than tactical approach. Conclusions from the Anova F-test calculation with post-hoch Tuckey test at p-value  $\leq 0.05$  are untested and not acceptable. Counting results showed an increase of 36% difference but the result is the student's skills cannot indicate significant differences in outcomes skills. It can be seen from the increase in the average in the control group and the tactical approach ( $5.86 \pm 3.63$  vs.  $9.14 \pm 6.23$ ). If seen from the increase in the average student between the two treatment groups precisely controls showed an average improvement is better if compared with standard tactical approach on the ball. So that means in the control treatment group using either a ball or balls soft volley standard both have the same impact in improving outcomes skills.

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**THE CORRELATION BETWEEN THE LONG JUMP TUCK STYLE MOTOR SKILL ABILITY AND LONG JUMP DISTANCE AT THE PRIMARY SCHOOL STUDENTS IN JAYAPURA REGENT AND TOWN, PAPUA PROVINCE, 2011/2012**

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**Abstract**

*This Paper presents a discussion about the correlation between the long jump tuck style motor skill ability and long jump distance at the Primary School students, in Jayapura Town dan Regent Papua Province. This research was an attempt at finding out the correlation between long jump motor skill ability and long jump distance, by design : six groups post test design only, with students male 153 persons and female 146 persons, totally amount 299 persons. The research was the verified by means of the analysis pearson correlation and Sig. (2 tailed) with the level of significance 0.05.*

*The result of research had two problems and which been hypotheses and be able conclusion, as follow : (1) the correlation acquirable between long jump tuck style motor skill ability and long jump distance at male/female students in Jayapura Town as follow ; a) the students of SDN 3 Abepura, Jayapura Town, male found Sig.001 < 0.05 (significant), female found sig.000 < 0.05 (significant). b) The students of SDN 2 Abepura, Jayapura Town male found Sig.000 < 0.05 (Significant), female found sig.000 < 0.05 (significant). c) The students of SD YPPK Gembala Baik Abepura, Jayapura Town, male found, sig .000 < 0.05 (significant), female found, sig.000 < 0.05 (significant). d) The students of SDN Sion Padang Bulan Abepura Jayapura town, male found sig. 002 < 0.05 (significant), female found sig.000 < 0.05 (significant). (2) the correlation acquirable between long jump tuck style motor skill ability and long jump distance at male/female students in Jayapura regent as follow ; a) The students of SD Inpres Abe Ale 1 Sentani Jayapura Regent, male found sig.000 < 0.05 (significant), b) The students of SD Inpres Dobonsolo, Sentani Jayapura Regent, male found sig. 000 < 0.05 (significant). The conclusions that the the correlation between long jump tuck style motor skill ability and long jump distance at male/female students in the primary school at the fifth clas are significant in Papua Province.*

**Keywords :** long jump, motor skill ability, and tuck style

**Preliminary**

Sport is a part of human being life from ancient time until nowadays. Sport was intentioned to prepare the strongest men to be a bodyguard or soldiers to face the wild animals strunggling, the extreme climated changes, the war among the groups of tribes,

and the moving life, for keeping the homeostasic of life. The activities of sport at those time were locomotor, non locomotor and manipulative, as follow ; walk, run, jump, throw, catch, etc, depend on the need of life. According to developed of human being skill



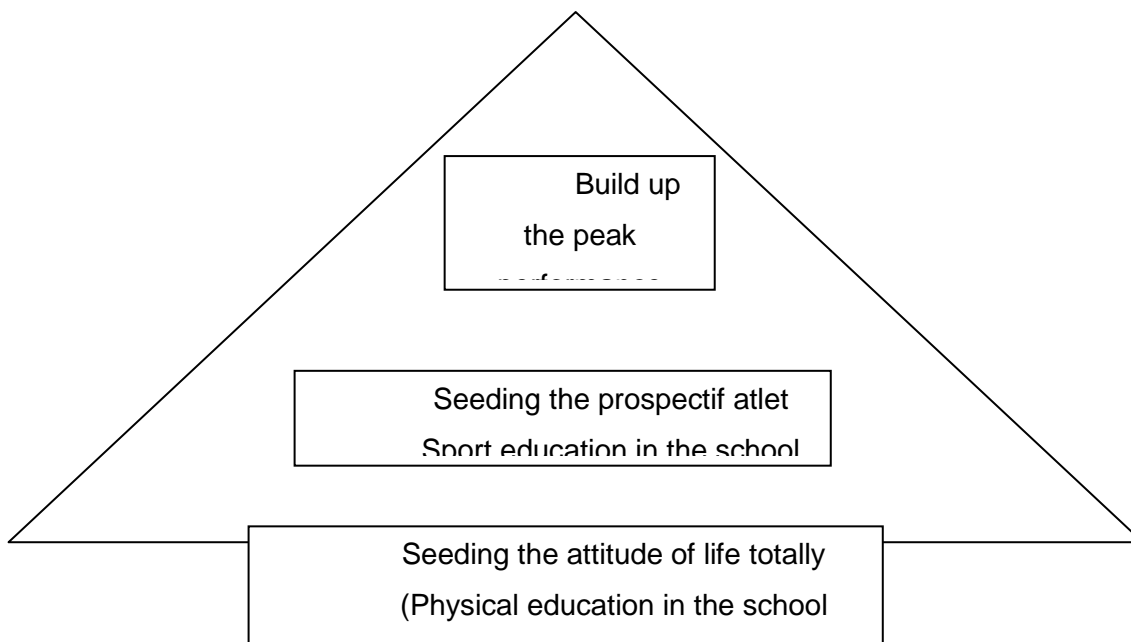


and ability, so the motoric of run, walk, throw, jump are classified to be athletic or mother of sport (Magil, Richard, 2004).

The motorics of athletic are developing gradually and become a sport competitions, into few of numbers, as like ; walk, run, jump and throw. The once of jump numbers is long jump as the combination of motoric run and jump before landing. Sports in the nowadays are depend on human being needed, for instance ; recreation, to fill the leisure time, physical or sport education, performance, politic, social-culture, fitness, economics, tourism etc. In the school is needed sport and physical education, by lawing of sport in

Indonesia (UU Number 3td, 2005<sup>th</sup>) said the sport education are physical and sport education which be done as a part of systematic and sustainable education process to gain knowledge, personality, skills, health dan physical fitness

According to law of sport number 3<sup>rd</sup> /2005<sup>th</sup> so the position of sport education would to be a curriculum of physical education and sport in each of education level from primary until senior high school. The position of physical and sport education in the school develop the talent and the potential of physical and affective, as like the picture in this piramide below



Gambar 1. The level of physical and sport education (Toho Cholik Mutohir, (2002:123)





Mulyasa, (2004:90) said the physical and sport education are the process of education through experience of students as like playing activities which be planned as systematic by attention the students grow up and stimulus the ability of thinking, emosional dan social. Push and Gerber (2005) said physical and sport education are integrated with education program which focus to develop the motoric skill and performance and education potensial with implication for correlation between students activities and psiko social of students.

The subyek of physical and sport education in the primary school, one of them are long jump. The ability of long jump can be measured by combination of running, jumping, style in the air and landing. In the basic of motoric are mentioned ; locomotor, non locomotor and manipulative. The result of long jump learning will be able to change the performance in the relative permanent, as like Davis, dkk (1997:283) said through the process motoric leraning will improve the performance in the relative permanent as an experiences of motoric learning.

The performance of long jump as a mirror of how far the jumper had an ability long jump motoric skill ability, as like Gunter Bernhard, (1986:64) said there are four steps as like ; start for running, ready to take off, in the air, and landing. The fourth of steps can be used to measure the long jump ability. .

The attainment from motoric skill of long jump ability in the school especially in

Papua, are seldom done. All the physical and sport teachers are ver attention to examine the result of long jump. In general, focus in long jump distance, even the long jump distance are become to be indicator of learning long jumpa result.

Once upon time, desired of human being to jump as far as possible had done by many ways, examples ; jumping from hill, jumping from one place to other paces, etc. According to the rules of game, (1974) the competitors leap from a take off board into a sand landing area. Jess Jarver, (1986:32) focus to center of jumper body gravitation and maximum speed. The jumper can jump as far as possible depent on running speed, strength and acceleration while take off (to change the horizontal speed to angle motoric).

The jumper style in the air can used many style, according to Jess Jarver (1986:38-41), U.Jonath, E.haag dan R.Krempel, (1986:195-206), dan Gunter bernhard, (1986:84) there are three style as like ; tuck style, hang style, and walking in the air style. The among of three style will be showed by body position in the air.

Gunter Bernhard, (1986:45) said, the basic factors in the long jump are ; 1) condition factor ; speed, power while taking off, and directing. 2) technic factors ; start for running, ready to take off and moving, body position in the air and landing. Jess Jarver, (1986 :34-42) said the stages in long jump are ; running, take off, style in the air, and





landing. Gunter Bernhard, (1986:207) said to gain the jumping result as far as possible, if amount of factors, as like ; start or initial for running which speed quickly, take off quickly, style in the air normaly and landing in an appportunity area.

The description long jump skill ability, as detail, can be explained as follow ;

1) Start for running. Jess Jarver, (1986:34) said running before take off to increased the maximum horizontal acceleration without appear the strunggling while take off. Syarifuddin, (1992) in the Kawandnews. Sport.com said that start of running must be done by running as speed as possible and don't change the steps running feet while take off. Jess Jarver, (1986-35) said the running motoric while start running must be consistency, so that take off can be done in the right board. Jess Jarver, (1986-35) said for the beginners jumper, need start for running with distance about 10-15 meters. The experience jumper needs about 20-25 meter and can be gained into 30-45 meters. Gunter Bernhard, (1986) said, the result of research, that the top atlet in the world everages the long of start for running is about 30 meters. The students

In the school, averages uses 10-15 meters, and each competitors in the school often uses about 10-15 meters.

- b. Take off. Jess Jarver, 1986:35) said means of take off is to change the running motoric into jumping with maximum horizontal running. The changing from maximum horizontal running to angle motoric will gained the power of take off. The foot which take off on the board must put the feet over the board rightly. The center of jumper gravitation fall in the above of board while feet take off.
- c. Style in the air. The tuck style is one of style of long jump. The tuck style be done by decreasing the knee feet angle until 90 derajat. At those time the take off foot is pulled toward, so the jumper like sit down in the air. The movement of body as long as in the air must be balanced and prepare to landing in the right area (U.Jonath, E.Haag, dan R.Krempel, 1986:200). The picture of tuck style can be seen as below ;





Picture 1. Tuck style motoric (IAAF 2000)

d. Landing. Jess jarver, (1986:42) said to gained the position which the feet can landing as far as possible touch the sand. The jumper must prevent so that unfall into back. The technic of landing in long jump according to U.Jonath, E.Haag dan R.Krempel, (1986:207), the knee must be

bended and the waist of the body brings towards infront after one foot take off on the board, and swing the hand towards infront. The jumper while landing not sit in the sand. The jumper landing in the standing position is the best landing (Jess Jarver, (1986:43).

**Research Method**

The correlation study was designed into four groups posttest design only. The amount of population are 229 students from the primary school in the fifth class, consist of male: 153 and female: 146 students in the

academic year 2010 /2011. The amount of sample about 229 students (sample total), were getting from the quota sampling. The recapitulation of population/sample could be explained as follow ;

o	Primary School The Fifth Class	Population/sample		Jayapura Papua
		Male	Female	
	SDN 3 Abepura	25	25	Town
	SDN 2 Abepura	28	23	Town
	SD YPPK Gembala Baik Abepura	28	22	Town
	SD YPK Sion Padang Bulan	25	25	Town
	SD Inpres Dobonsolo Sentani	22	25	Regent
	SD Inpres Abe Ale 1 Sentani	25	26	regent
	Total	153	146	





This paper used the independent variable and dependent variable. Independent variable was long jump tuck style ability (X) and dependent variable was long jump distance (Y). The treatment to collect data were two instruments, as like the instrument of process and product attainment. The process attainment was long jump tuck style ability, and product attainment was long jump distance.

The long jump tuck style ability was attained from initial running, take off, style in the air and landing. Each part of motoric skill in long jump were examined by instrument content validity. The product attainment were measured by procedure of normaly long jump measurement.

The instrument to examine the long jump tuck style ability by using the stages of long jump, with score 1 (less), 2 (enough) and 3 (good), which can be explained, as follow :

- 1) Intrument to examined the start of running, as follow ; how to used the initial running, about 10-15 meters distance, the consistency of step in the start of running until take off and the consistency of running speed or not change until take off.
- 2) The instrument to examined in the take off, as follow ; the changes from the initial running became angle motoric by giving the maximum strength to the foot while taking off, the position off foot in the

board, the gravitasion of jumper was correct above of the board while taking off.

- 3) The instrument to examined the tuck style lomp jump, as follow: the jumper after taking off, showed the body as like tuck style, the jumper after taking off, keep the balancing as long as in the air.
- 4) The jumper didn't do slowly because of gravitation and the instrument to examined the landing, as follow ; the knee of jumper was bended and the toward body into the front after feet touching the land, the jumper landing with more standing body and feet straight infront and the position of jumper feet, can touched the land as far as possible.

The data from long jump distance were measured in the long jump area, with the best procedure. The jumper did three times jumping and the best of result jumping become the data of long jumpa distance. The data from process and product examined will be analysed by statistic pearson correlation with alpha 0.05.





## Result and Discussion

The descriptive statistic result all the variables which be researched could be explained "the correlation between the long jump tuck style motor skill ability and long jump distance at the Primary School students, in Jayapura Town dan Regent Papua Province" as follow.

1. The male students of SDN 3 Abepura in Jayapura town can be found, ; mean X (30.64), standar deviation X (4.65), mean Y (323.84), standar deviation Y (39.02), pearson correlation 0.624 sig. (2 tailed)  $001 < 0.05$  N =25 (significant). The female students of SDN 3 Abepura Jayapura town can be found, as follow ; mean X (25.72), standar deviation X (4.71), mean Y (284.20), standar deviation Y (41.51), the pearson correlation 0.855. Sig. (2 tailed).  $000 < 0.05$ , N=25 (significant). This research said there were significant different between long jump tuck style motor skill ability and long jump distance for male and female students of SDN 3 Abepura in Jayapura Town, Papua Province.
2. The male students of SDN 2 Abepura Jayapura town can be found ; mean X (28.79), standar deviation X (4.98), mean Y (290.61), standar deviation Y (36.52), pearson correlation 0.667 sig. (2 tailed)  $.000 < 0.05$ , N =28 (significant). The female students of SDN 2 Abepura Jayapura town can be found ; mean X (24.17), standar deviation X (3.76), mean Y (246.30), standar deviation Y (31.35), pearson correlation 0.680 sig. (2 tailed)  $000 < 0.05$ , N =23 (significant). This research said there were significant different between long jump tuck style motor skill ability and long jump distance for male and female students SDN 2 Abepura Jayapura Town Papua Province.
3. The male students of SD YPPK Gembala Baik Abepura Jayapura town can be found ; mean X (22.14), standar deviation X (3.87), mean Y (247.00), standar deviation Y (40.33), pearson correlation .775 sig. (2 tailed)  $0.000 < 0.05$  N =22 (significant). The female students of SD YPPK Gembala Baik Abepura Jayapura town can be found ; mean X (26.07), standar deviation X (4.47), mean Y (286.36), standar deviation Y (40.55), pearson correlation .777 sig. (2 tailed)  $0.000 < 0.05$  N =28 (significant). This research said there were significant different between long jump tuck style motor skill ability and long jump distance at SD YPPK Gembala Baik Abepura male and female students, in Jayapura Town Papua Province.
4. The male students of SD YPK Sion Padang Bulan Abepura Jayapura town





can be found ; mean X (25.12), standar deviation X (3.46), mean Y (307.24), standar deviation Y (37.85), pearson correlation 0.596 sig. (2 tailed) 0.002 < .005 N:25 (significant). The female students of SD YPK Sion Padang Bulan Abepura Jayapura town can be found ; mean X (23.04), standar deviation X (5.41), mean Y (267.52), standar deviation Y (43.64), pearson correlation 0.775 sig. (2 tailed) 0.000 < 0.05, N =25 (significant). This research said there were significant different between long jump tuck style motor skill ability and long jump distance of SD YPK Sion Padang Bulan for male and female students, in Jayapura Town Papua Province.

5. The male students of SD Inpres Abe Ale 1 Jayapura Regent can be found ; mean X (30.52), standar deviation X (5.33), mean Y (311.76), standar deviation Y (37.84), pearson correlation .668 sig. (2 tailed) .000, N: 25. The female students of SD Inpres Abe Ale 1 Jayapura Regent can be found ; mean X (25.54), standar deviation X (4.94), mean Y (255.38), standar deviation Y (27.01), pearson

correlation .775 sig. (2 tailed) .000 < 0.005, N =26 (significant). This research said there were significant different between long jump tuck style motor skill ability and long jump distance of SD Inpres Abe Ale 1 Sentani for male and female students, in Jayapura Regent Papua Province.

6. The male students of SD Inpres Dobon Solo Jayapura Regent can be found ; mean X (29.09), standar deviation X (4.48), mean Y (289.36), standar deviation Y (25.97), pearson correlation 0.760, sig. (2 tailed), 0.000 < 0.05 N =22 (significant). The female students of SD Inpres Abe Ale 1 Jayapura Regent can be found ; mean X (25.24), standar deviation X (4.55), mean Y (245.76), standar deviation Y (25.41), pearson correlation sig. .665 (2 tailed), 0.000 < 0.05 N =25 (significant). This research said there were significant different between long jump tuck style motor skill ability and long jump distance of SD Inpres Dobonsolo for male and female students, in Jayapura Regent Papua Province.

### Implication And Conclusion

The implication of these articles were as follow ;

1. The ability of jumper in the long jump can be increased through the learning process of motor skill.

2. The long jump distance can be achieved as far as possible, if the skill of long jump can be performed step by step





The conclusion of these article were as follow

1. There were a significant correlation between the long jump tuck style motor skill ability and long jump distance at the Primary School for male and female students, from SDN 3 Abepura, SDN 2 Abepura, SD YPPK Gembala Baik Abepura and SD YPK Sion Padang Bulan Abepura, in Jayapura Town Papua Province.
2. There were a significant correlation between the long jump tuck style motor skill ability and long jump distance at the Primary School for male and female students, from SD Inpres Abe Ale 1 Sentani,dan SD Inpres Dobonsolo Sentani in Jayapura Regent Papua Province.
3. There were a significant correlation between the long jump tuck style motor skill ability and long jump distance at the Primary School for male and female students, in Jayapura Papua Province.

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## The Influence Of A Model Of Learning Inquiry Against Lessons Basketball In Smp Kartika XIX-2 Bandung

(The Study Of Experiments On Smp Students Kartika Xix-2 Bandung )

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### Abstract

*In order to improve the mastery of skills play in basketball learning learning model is required that must be applied by a teacher. One of the models that can be used is a model of Inquiry. This research aims to know the influence model of Inquiry against the process and learning outcomes of basketball. Inquiry Learning Model is learning activities that develop students ' creativity in problem solving in learning basketball ...*

*The methods used in this study is an experiment. Design research pretest post posttes control group design. Populations and Samples in this research were JUNIOR HIGH SCHOOL students Kartika XIX-2 Bandung Class VII with a sample of 60 people. The instruments used in this research is a sheet of observer, notes field, and documentation. Data analysis was conducted using the techniques of data analysis deskriptip kuantitatif. The research Instrument used in test game including: dribble, passing and shooting. This research uses statistical analysis i.e. analysis of similarity with two t-test an average of one party.*

*The test results showed that the hypothesis was accepted that there was a significant influence on the model of the process of Inquiry and learning outcomes of basketball.*

*Recommendations that can author pointed out with regard to the results of the research is for teachers of JUNIOR HIGH SCHOOL physical education class VII and readers in General in order to apply the learning model of Inquiry in order to improve student learning outcomes JUNIOR Kartika XIX-2 Bandung.*

### Background problems

In learning physical education much material to be taught one of them is the game of basketball, the reality on the field a lot of students who look less mastered the basic skills of playing a conducive towards the process of playing basketball. This occurs because of the lack of the ability of students to learn the basic skills. To address it, a teacher needs to be able to make a skilled students through a specific festive ways in learning. Implementation of the learning penjas there are many ways of learning such

as styles, methods and models of instruction.

In this study the authors try to apply one of the teaching model is assumed to be able to help to develop the skills of basketball.

One of the models teaching students to meet the needs of developing in teaching is a model of learning inquiry. A model of inquiry is a model of learning that focuses on students and as a tool to search for the truth, information or knowledge in the process of teaching and learning.

With a model of learning inquiry can support students to engage actively in





resolving problems to come to a conclusion. By reason that inquiry very model of learning stressing siswa activity in solving a problem is and researchers believes the model of learning inquiry can be used to develop basic skills play basketball.

In the process of learning in junior high basketball Kartika XIX-2 Bandung shows that found the existence of problems, namely, students feel difficulties to master the basic skills of basketball play performed by students of Class VII. One of the reasons it is assumed because the learning model used less support students in developing basic skills to play basketball, so it's hard to follow students learning basketball and less maximum learning outcomes. To minimize the researchers tried to use the learning model, which is applied in inquiry learning basketball so the learning outcomes for the better

## Method and design research

Methods used in this research is experimental research is defined as research methods that are used to locate a particular treatment effect against the other in conditions completely. This method is used on the basis of the consideration that the nature of experimental research that is trying something to find out or result of any treatment. Therefore examined the influence of the application of the model of Inquiry learning outcomes learning basketball.

Sugiono (2010: 107) posited that: "Metode can be defined as experimental

research methods that are used to locate a particular treatment effect against the other in conditions completely." The implementation researchers created two groups, the first group of the second group of experimental and control. The two groups were given a pretest and posttest are the same, the difference on experimental groups received treatment with the use of the learning model of inquiry while the control group did not receive the treatment. In order to achieve these goals the authors use experimental design i.e. pretest-posttest control group design.

## Population and Sample

Populations that writer use in the study of JUNIOR HIGH SCHOOL students is Kartika XIX-2 Bandung Class VII of 228 students of the population will be sampled as many as 60 students. The sample in this research done by means of random sampling.

## Research Instrument

To obtain the necessary data needs to be used in the research of measuring instrument to find out the results of the research. Data collection tools that authors use in research this is a test of skill to play basketball.





## Data Analysis

Test results has been performed is recorded as data. The data is then processed and analyzed. Data is processed and the analysis is a skill to play basketball. In this study, before JUNIOR HIGH SCHOOL students to treat implemented Karika XIX-2 Bandung Class VII, performed the initial tests by using multiple test items to play basketball (observer). After initial tests, then given treatment to the students group experiments that use a model of learning and inquiry learning model based on teacher (teacher centered) and completed the learning model of treatment given to the study of basketball final tests then conducted using tests to play basketball.

After the test results were calculated using liliefors normality can note that results of L (calculate) the ultimate test of Inquiry learning model (experimental group) 0,0905 less than L (table) and the results of 0,1617 L (calculate) the ultimate test of teacher-centered learning model (the control group) 0,1145 less than L (table) 0,1617. Thus based on the test results the test data end of both groups, it can be inferred that the  $L_o$  L (count)) is smaller than L (table) which means the Gaussian normal data.

From the results of testing the equality of two average one party obtained that 30,38 count greater than t table of critical values of t whereas (0.005: 30) obtained from value table is 1,697. These values indicate that the results of the calculations are on the acceptance of the alternative hypothesis

( $H_a$ ), so it can be said that  $H_o$  is rejected and the  $H_a$  are received. Then, from the results of testing the hypothesis above it can be concluded that the inquiry learning model provides a significant influence on the results of the study on the game of basketball.

## Discussion

The result of calculating statistically, can be seen that kind of classroom inquiry influential significantly against lessons basketball. It is in line with a hypotheses which in proposed in this research as well as answer the troubles in this research. A model of learning inquiry can be solutions to increase study result of the basketball. Vienna sanjaya ( 2010: 199 ) suggest that: “ the main purpose of inquiry is the development of the ability of thinking. Thus, learning is due to the oriented on the outcome of learning also oriented to the learning process.”

Through this inquiry learning model, leading to increased learning basketball results. Therefore, learning through inquiry students involved to the maximum in the learning process, additionally students have ample opportunity to seek and find answers or solutions to problems that occur, for example, students are given the opportunity to seek knowledge or information about how to dribble, passing and shooting. So that students find its own knowledge and information makes learning exciting and meaningful for students. This makes the learning model of inquiry can provide





solutions to improve the learning results of basketball. While learning to use a model teacher centered approach or learning-centered teachers students impressed less active and creative in students not visible at the time the learning process, because on this learning teachers a lot more plays while students are not much involved in the learning process. So that learning becomes less attractive to students and led to a lack of activity of students in the learning process that doesn't have an impact on increasing student learning outcomes in learning basketball. According to the hypothesis testing that has been done that the teacher-centered learning (teacher centered) does not give significant effects on student learning outcomes in learning basketball.

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## Affecting Factors Of Interval Aerobic Exercise On Physiological Function Changes In Elderly

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### Abstract

*The primary purposes was to evaluate the effects of interval aerobic exercise on reduction of Heart-rate variability (HRV), lung performance (VO<sub>2</sub>max) and muscle strength that occurs during aging process. The secondary purposes was to provide a recommendation exercises regarding with form of specific exercises, level of intensity and its effect on physiological function changes in elderly to retards decreased function of physiological aspects which occurs due to degenerative process thus increasing their quality of life.*

*Thirty males of elderly (mean age 63.1 ±3.3 yr; mass 55.1 ±18.0 kg) and 15 females (mean age 60.5 ±2.9 yr; mass 49.1 ±6.0 kg) performed programmed of interval walking on treadmill (≤70%, 71%-80%, 81%-90% of MHR) for 30 minutes (6 sets in 5 minutes, rest-sets in 3 minutes). Factors that would be analyzed are intensity of exercise, Heart-Rate Variability using ECG, Maximal Pulmonary Oxygen Uptake using CPET tester of CORTEX on treadmill, Muscle Strength using Maximal Voluntary Contraction (MVC) test. VO<sub>2</sub>max was taken at the highest level of exhaustion also accompanied by lactic-acid retrieval, ECG is used for 5 min Pre and Post exercise to measure HRV (mean SD of RR-Interval), Maximal Voluntary Contraction (MVC) of ankle plantarflexion was measured using a surface electromyogram (EMG) from the medial belly of the gastrocnemius muscle. After a 5-minute resting period, subjects began submaximal isometric ankle plantarflexion until 40% of MVC was dropped below 95% for 5 seconds, or subject couldn't continue working out due to muscle fatigue.*

*The result describe that intensity of 71%-80% of MHR has dominant effect to increased RHR at rest of males subjects by 57% and females by 23% (58±/4ms to 68±/6ms) and decreased RHR in both the males (-11 beats/min) and females (-7 beats/min, p=0.0001), at peak exercises, males had less parasympathetic withdrawal than the females (-53% vs -66%, p = 0.0001), increased maximal oxygen consumption of males by 49.4±7.1 mlkg<sup>-1</sup>min<sup>-1</sup> and 45.1±10.1mlkg<sup>-1</sup>min<sup>-1</sup>(24% by males vs 17% by females (p=0.0001) and increased muscle strength by 15% of males and 11% by females (p=0.0001). There was no differences in effects of HRV, lung performance as well as muscle strength on gender.*

*These findings suggest that middle intensity of interval aerobic exercises provide a positif effect of HRV, increased ability of lung performance as well as muscle strength which is characterized by positive changes of several physiological function of elderly, that are expected to retards decreased function such above physiological aspects during aging process, thus these exercise are expected to be recommended exercise for the elderly, to be able to improve their quality of life. Nevertheless, the ability of physiological adaptation to physical exercise each person also needs to be considered prior to provides this exercises.*

### Introduction

In few years to come, the number of elderly will be increasingly. The addition of this number of elderly certainly will also further increase the health-related problems

that are often experienced by older adults. The cardiovascular (CV) and metabolic consequences of sedentary behavior are severe and the prevalence of age-related cardiometabolic diseases has reached





epidemic proportions. It is increasingly understood that genetic factors contribute to interindividual differences in CV and metabolic disease risk factors. One of the major problems regarding with aging process is the increased risk factor in case of problems in the body's physiological performance such as the reduction of Heart-rate variability (HRV ), decreasing of lung performance (VO<sub>2</sub>max) and the phenomenon of deficit the muscle strength that occurs during aging process.

Autonomic nervous system plays an important role in the regulation of the cardiovascular system both in ensuring optimal function during various activities in healthy individuals and also in mediating several of the manifestations of cardiac diseases (Costil et al, 2006). This system is responsible for rapid regulation of cardiac rhythm and function in order to match cardiac output with the body need during various exogenic stimuli, as exercise. Therefore, sympathetic outflow to the heart and withdrawal of the parasympathetic system activity underlie the cardiovascular system's first response to exercise, an increase in heart rate. In order to analyse the effects of autonomic modulation on the heart is using Electro Cardiograph (ECG) to monitor the function of the sino-atrial node, i.e. changes in heart rate (Büsse et al., 2004) . Increased vagal activity is characterized by reduced heart rate and variability of heart rate, whereas increased sympathetic stimulation increases heart rate and decreases variability of heart rate (Fröhner, 2001).

Heart rate variability (HRV) analysis, by time and frequency domain methods, is a widely used non - invasive method for evaluating cardiac autonomic activity. Decreased HRV is a reflection of the enhanced sympathetic overdrive and depressed vagal activity. It has a strong association with the pathogenesis of ventricular arrhythmias and sudden cardiac death in general population, and especially in cardiac patients or elderly adults. Some studies has shown that the decreasing of HRV due to metabolic disease and on otherthings it is sldo not yet clear whether there is a relationship between "physiological adaptation" due to cardiac hypertrophy and HRV indices (Hartmann, 2007). It is widely presumed that regularly performed aerobic exercise induces adaptations in the cardiac autonomic nervous system that alter cardiovascular variables at rest and/or baroreflex circulatory control (Wilmore et al, 2002). An Aerobic exercise training leads to enhanced vagal activity at rest, which may contribute in part to the resting bradycardia, complex physiological adaptation, can help to maintain and improve various aspects of heart, lung function cardiac output, and such exercise can enhance endurance particularly by the Autonomic Nervous System (Costil et al, 2002).

Additional problem that can be caused by the aging process is decreasing of lung performance (VO<sub>2</sub>max). Maximal oxygen consumption (VO<sub>2</sub> max ) is the most frequently used indicator of overall cardiovascular function and maximum





capacity. Consistent findings indicate that VO<sub>2</sub>max decreases approximately five to 15 percent per decade beginning at 25-30 years of age (Hartmann, 2007). The decreasing of VO<sub>2</sub>max can be attributed to age-related reductions in both maximal cardiac output and maximal arteriovenous oxygen difference. Maximal heart rate decreases about six to ten beats per minute per decade, and is responsible for much of the age-associated decrease in maximal cardiac output (Hartmann et al, 2007). Several studies has shown that elderly can achieve up to 20 percent increase of lung performance in response to low intensity of endurance exercise training as young adults.

On the otherhand, the degenerative process also lead to decreasing of muscle strength. One factor that caused a reduction in muscle strength is directly associated with loss of muscle mass due to Inactivity or decreasing of physical activity (Fröhner, 2002). Although intrinsic muscle function is reduced with advancing age, age-related decrease in muscle mass is responsible for almost all loss of strength in the older adult. The number of functional motor units also declines with advancing age, which requires surviving motor units to innervate a greater number of muscle fibers. The number of functional motor units also declines with advancing age, which requires surviving motor units to innervate a greater number of muscle fibers. The lack of muscle strength could be avoided with few form of aerobic exercise namely interval jogging with moderate intensity (Hartmann, 2007).

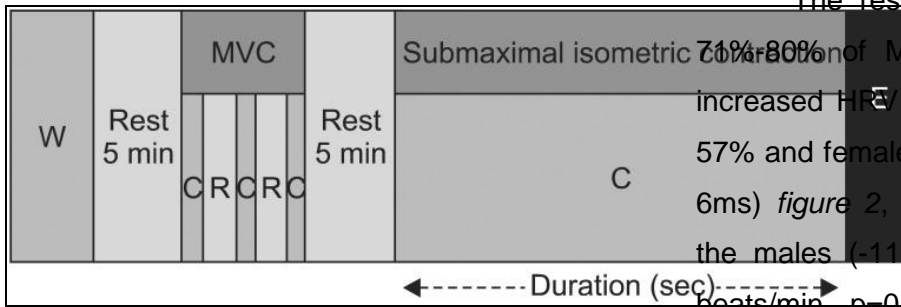
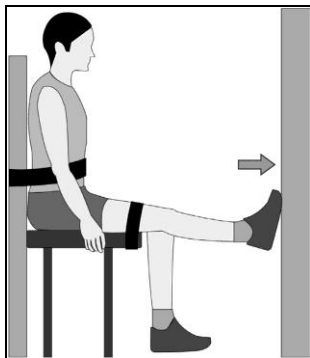
It can thus be concluded that regular aerobic exercise provides benefits in elderly, including improvements of health status or help to maintain improving of various aspects of heart and lung function and cardiac output and in the end it is also provides contribute to an increasing a lifespan and -quality for elderly. Current evidence clearly indicates that participation in a regular exercise program is an effective way to reduce and/or prevent a number of the functional declines associated with aging (Fröhner, 2001). Nevertheless, is still a lot of questions that appear in correlation with the level of intensity of jogging, that provides the most dominant effect to those several physiological factors. Therefore, in order to exam several types of intensity in interval aerobic exercises that can provides a positive benefits become interesting to test in this study.

## **Material and Methods.**

The measurement was done in Laboratory of Sportmedicine in Sportmedizinesche-Ambulanz, University of Leipzig- Germany. The samples of this study was thirty males of elderly adults (mean age 63.1 ±3.3 yr; mass 55.1 ±18.0 kg) and 15 females (mean age 60.5 ±2.9 yr; mass 49.1 ±6.0 kg), which is also as members of sportsclub for the elderly. They performed three times a week of programmed interval walking on treadmill. Futhermore, several measurement devices such ECG, CPET also attached to the samples. Subject performed individual warming-up prior begun the



examination. The first test (Pre-test) was measuring muscle strength using Maximal Voluntary Contraction (MVC). Measurements were performed on plantarflexion of ankle using a surface electromyogram (EMG) from the medial belly of the gastrocnemius muscle.



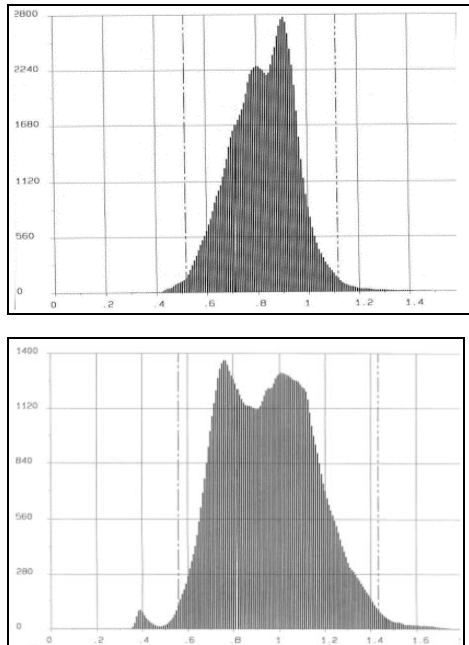
**Figure 1 : Posture of isometric ankle plantarflexion.**

Afterwards, samples performed interval aerobic test on treadmill, however ECG was attached and used for 5 min Pre and Post exercise to measure HRV (mean SD of RR-Interval) previously. The intensity of walking was started from  $\leq 70\%$ , 71%-80% and 81%-90% of Maximal Heart-rate (MHR) for 30 minutes (6 sets in 5 minutes, rest-sets in 3 minutes) in each level. On each end of level of intensity was conducted recording of HRV based on ECG reports, lung

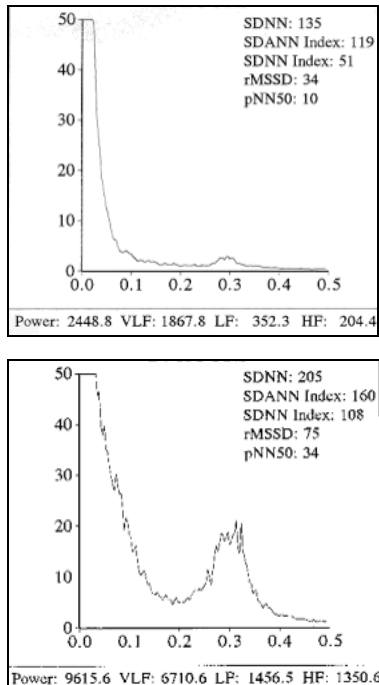
After a 5-minute resting period, subjects began submaximal isometric ankle plantarflexion until 40% of MVC was dropped below 95% for 5 seconds, or subject couldn't continue working out due to muscle fatigue (figure 1). performance based on CPET reports of CORTEX on treadmill and also accompanied by lactic-acid retrieval. All measurements are conducted and recorded until the highest level of exhaustion which is characterized by subjective signal of sample and level of MHR as well as lactic-acid.

**Result.**

The result describe that intensity of 70%-80% of MHR has dominant effect to increased HRV at rest of males subjects by 57% and females by 23% (58+/-4ms to 68+/-6ms) figure 2, and decreased RHR in both the males (-11 beats/min,  $p=0.0001$ ) figure 3 and also at peak exercises, males had less parasympathetic withdrawal than the females (-53% vs -66%,  $p = 0.0001$ ).



**Figure 2 : Pre and Post HRV of male and female elderly**



**Figure 3 : Pre and Post RHR of male and female elderly**

Cardiovascular variability measured during recovery from a single bout of endurance exercise indicated that the total power of HRV did not alter compared with significantly reduced total power found after exercise. However, the HF ratio was significantly increased after exercise, indicating increased MHR and/or decreased RHR. Another study also found increasing MHR of

activities 10 minutes of recovery after 100% of the individual exercises, however there is also study that shown no differences in MHR and RHR activities between pre- and post-exercise measurements, but increased overall HRV as measured by standard deviation of all intervals (SDNN) after exercise. Based on the above table it can be concluded that the decreasing of heart rate at rest can only inferred that heart has a more efficient pacemaker contractions than before exercise. However, it not yet known accurately, whether the decreasing of resting heart rate was due to an increasing volume of cardiac output or due to other factors. Therefore, to determine more precisely that the value of cardiac output was also increasing after exercise futher study is necessary to be done.

The maximal oxygen consumption of males was also increasing by  $49.4 \pm 7.1 \text{ mlkg}^{-1} \text{ min}^{-1}$  and  $45.1 \pm 10.1 \text{ mlkg}^{-1} \text{ min}^{-1}$  (24% by males vs 17% by females ( $p=0.0001$ ))



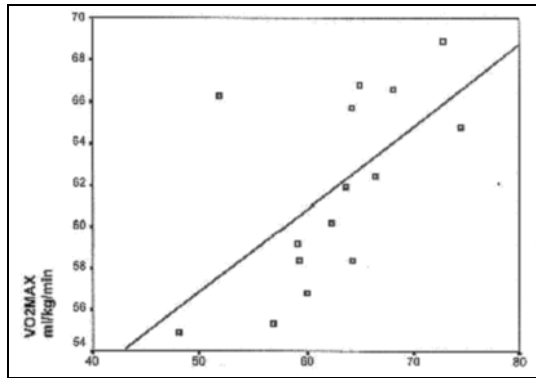
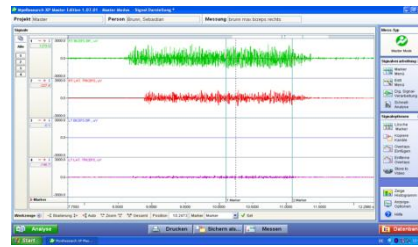


Figure 4 : Distribution of Maximal Oxygen Uptake of samples

Above diagram shown that it is well known that increase in VO<sub>2</sub>max is consequence of endurance training, as result to cardiac and peripheral adaptations. Therefore, it is possible that the improvement of aerobic capacity acts beneficially on the cardiac autonomic outflow, as indicated by increased HRV. However, some studies was also shown that although HRV may be greater in active than sedentary men, any measure of HRV does not appear to be correlated with increasing levels of physical capacity (Hartmann, 2007). Furthermore, it is not well known whether there is a relationship between the variability of HRV and increasing of maximum oxygen uptake of lung performance.

At the same time, The ability of contraction by pantlarflexion of ankle were increased after 6 weeks exercise of the gastrocnemius muscle. Anteroposterior deviation and MVC were also increased, but had low statistical significance. the muscle strength was also increasing by 15% of males and 11% by females (p=0.0001),



Remarks	Mean of value
Maximal Contraction	631mV=100%
Normal Contraction	6,8±2,8%
Contraction 90% of MVC	22,3±6,7%
Contraction 90% of MVC in 5 minutes	36,3±15,5%

These findings suggest that the the aerobic endurance exercise on a regular basis can lead to improved muscle strength in the elderly, so it is expected to reduce a common complaint especially in performing daily activities.

### Conclusion

These findings suggest that middle intensity of interval aerobic exercises provide a positif effect of HRV, increased ability of lung performance as well as muscle strength which is characterized by positive changes of several physiological function of elderly, that are expected to retards decreased function such above physiological aspects during





aging process, thus these exercise are expected to be recommended exercise for the elderly, to be able to improve their quality of life. Nevertheless, the ability of physiological adaptation to physical exercise

each person also needs to be considered prior to provides this exercises. There was no differences in effects of HRV, lung performance as well as muscle strength on gender.





# INFLUENCE GAME BALL SMALL LEARNING ( BOLA BAKAR GAME ) VALUES OF STUDENT DISCIPLINE IN PHYSICAL EDUCATION SUBJECT POST

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## Abstract

*This study aims to determine how the effect of learning the bola bakar game of the value of student discipline in physical education subjects after class VIII in SMP Negeri 2 Subang . The research method used was experimental method . Treatment given as many as 12 meetings . The sampling technique used was purposive sampling aimed sampling , so the decision is not based on the subject of the strata , or a random area but based on their specific goals . The population in this study is the eighth grade students of SMP Negeri 2 Subang . While the study sample was 44 students of class VIII B. The instrument used in this study was a questionnaire and observation . Valid questionnaires a total of 39 items of 50 items . To test reliability obtained  $t ( 20.095 ) \geq t \text{ table } ( 2.040 )$  , which means that the poll is declared reliable . From the data processing obtained  $t ( 2.1350 ) > t \text{ table } ( 1.68 )$  , thus the null hypothesis (  $H_0$  ) is rejected . Thus , it can be concluded that there is a significant effect on the value of student discipline in physical education subjects after learning through play small ball ( game ball fuel ) in SMP Negeri 2 Subang .*

**Keywords :** *Learning Small Ball Games, Bola Bakar Games (Game ball Fuel), Value Discipline Students In Physical Education Post Subject*

## Introduction

Of a human being in carrying out his life will not escape from education, because it serves to increase the quality of human beings themselves either of an individual or in groups, corporeal, the spiritual, matter and ability. In other words, education aims to improve human resources.

To maximize the process of education better education corporeal is a container to develop the values of cognitive, affective, and psychomotor child through a process of learning. Because it was not enough a circuit being in curricula in school without the existence of subjects education corporeal.

The physical education is the subject that is unique, because education corporeal can develop the values of cognitive, affective, and psychomotor child through a process of learning.

In a standard competence competence base ( skkd ) corporeal good education in elementary school ), junior high school ( smp ), through high school ( sma ) much use of the game in their experiences. In a standard competence competence base ( skkd ) is also called words sportsmanship, honesty, coöperation, tolerance, discipline, and confident. This is the aspect of affective child in which there is the social values that







can be developed and improved by the son through a process of learning which is guided by the teacher.

A ball game fuel is one game of ball small that at this point is rarely once played by children aged junior high school ( smp ), in fact in the game containing many values that can be taken as education. In the game of this child required to have value of a proper partnership with a friend his group are the success of his group depends on togetherness group and can win the game.

To the emergence of togetherness strong and each individual must have the discipline that is good. The value of discipline fostered while training lasting or in the process of learning goes. Because if the discipline ' ve grown since early and children will accustomed discipline and responsible for any their activities.

Prijodarminto (1994) in tu'u (2004:31) (nurdinkhan, 2012: <http://nurdinkhan.wordpress.com/2012/05/30/angket-kedisiplinan-siswa>) also explained that 'discipline is a condition that created and shaped through a process of a series of behavior that is indicative values obedience, compliance, allegiance, regularity and attachment'. Can be concluded that discipline is a condition in which a person is in effect obey of order and regulations that had been established formerly with awareness of the self or because of getting punished ( punishment ). By the presence of discipline within oneself will be created a regularity in the group.

Without the presence of discipline attitude of every individual in a group, so will not visible or springs a regularity. Regularity it ' s important to create the state of being neat, orderly, and under control.

School is a place to train attitude disiplinnya, the school is an event to the son to be sociable disiplinnya, while applying attitude where schools have regulations in writing that had been established and students should not interfering way. Students who have the value of discipline must be will have a bearing with what he did. It could impact on the success of the activities of learning students. For students who have the value of discipline and responsibilities good in general they would do her best in the learning process because they realize that a the purpose of learning will not be achieved if there is no considerable effort of themselves.

the subjects of the physical education in school students must be taught discipline attitude as one of the value of affective that were on the physical education. This position was deliberately taught to embedded in self students and students can put them into practice in the activity at a school or daily life in our society. Through game of ball fuel, unwittingly children involved in the process of education will be beneficial for the value of cognitive, affective, and psikomotornya. Besides the value of the discipline that exist in the game of ball fuel could be applied to various activities whether it ' s activities in their schools and day-to-day activities.





Through learning game of ball small ( game of ball fuel ) conducted on class viii in smpn 2 subang, expected students can apply the value of the discipline that formed at the time, learning that takes place at least upon the eyes after the physical education lesson is the subject of information and communication technology ( typewriter ). Writer take subjects this is because compared with eyes another lesson that can orientasinya in the classroom, information technology is the subject that provides more opportunities to a child to apply the value of the discipline that in accordance with the provisions of the lab computers and school while can socialize and cooperate with a friend in working on a task assigned by the teacher in the classroom.

## Method

Method of research that will be used in this research is a method of eksperimen with a design research namely one-group pretest-posttest design found in pre-eksperimental design ( nondesign ). In this riduwan ( 2011: 50 ) explain right that “ research with the approach experiment is a research who seek the influence of certain variables against variable another in the condition of being controlled tightly. “

## Population and Sample

Population in this research is a student of class viii smpn 2 subang. While a sample of this research is 44 a student of class viii b with the sample use sampling

techniques purposive namely the sample aims. So adoption of a subject not based on the strata, random or area but, based on the presence of a particular purpose namely class that has a schedule subjects typewriter after subjects education corporeal.

## Instrument

To an instrument of this research was the use writers observation and poll as a means of a gatherer of the data. Poll propagated to the students who have been determined as a sample ( respondents ) contains statements on discipline attitude students in the eye after the physical education lesson. Students only asked to give a checklist ( & ampères. ; # 61654; ) on the column which has been available namely the columns is very to agree ( ss ), To agree ( s ), hesitatingly ( r ), not to agree ( ts ), or strongly disagree ( sts ). There is a score in each alternative answers on poll, namely of the score at least five, with one. A pentad show that the statement is on poll respondents, attached to the inner self the lower score chosen by respondents the more distant from the self of respondents. There is a statement of negative and positive in the poll.

## Processing and analysis of data

To the sheet observation held by researchers to seeing the development of the value of discipline students at the time of the eye after learning the physical education lesson.





Data obtained by the researcher from spreading poll the value of discipline students in the subject after education corporeal selanjutnya done data processing using methods statistika. Engineering data processing in the study is done by hand and use of microsoft office exel 2007. Steps who writers use to cultivate the data is as follows:

1. Compute the average score poll pretest and posttest.
2. Counting byway raw poll pretest and posttest.
3. Test normality data using kenormalan lilliefors test.
4. Test of homogeneity using test of congruency two variansi.
5. Test hypotheses using test one parties.

**Testing of hypotheses**

to test hypotheses using test one parties. By using test of congruency two average ( one party ) able to illustrate that there is significant influence or not about learning game of ball small ( game of ball fuel ) on the discipline students in the subject aftermath of the physical education in smpn 2 subang. Following this table a summary of the results of the test of congruency two average ( one party ).

**Test of congruency two average value discipline students in the subject aftermath of the physical education**

A Kind of Test	test	T <sub>table</sub>	Conclusion
Pretest and Posttest	5,4266	1,663	Signifikan

To criteria testing of congruency two average is one party received H0 if: :  $t_{test} < t_{tabel (1 - \alpha)}$  in other respects H0 rejected. Dk to list the distribution of t is  $n1 + n2 - 2$ , with a chance of  $(1 - \alpha)$ , With  $\alpha = 0,05$ , Then obtained ( 0.95: 86 ), and  $t_{tabel} = 1,663$ .

It turns out that  $t_{test} ( 5,4266 ) > t_{tabel} ( 1,663 )$ , then H0 rejected. Then can be inferred that there is significant influence on the discipline students in the subject aftermath of the physical education through learning game of ball small ( game of ball fired ) in smpn 2 subang

**Discussion**

Virtue of all explanation as well as the theory that is used on the influence of learning game of ball small ( game of ball fuel ) on the discipline students in the subject aftermath of the physical education in smpn 2 subang with a sample of research class viii b and subjects after education corporeal used that is, information and communication technology ( typewriter ), writer get the result of the processing and analysis of data that it was  $t_{hitung} ( 5,4266 ) > t_{tabel} ( 1,663 )$ , which means  $h_0$  were rejected and  $h_1$  accepted, namely that there is significant influence of learning game of ball fuel on the discipline students in the subject aftermath of the physical education in smpn 2 subang. So through learning game of ball fuel can increase the value of discipline students on the subjects of information and communication technology ( typewriter )





conducted after the physical education in smpn 2 subang.

It is in line with statements from the hartono ( 2009: 204 ) in jurnalnya that was headlined empower national sports that, a sport that by doing exactly and righteous shall be an important factor that strongly supported for development potential of self. Health, the physical fitness and properties of personality preëminent is a factor that very support to the development of potential human, self and through education corporeal, recreation, and sports proper the factors can be obtained. Through the coaching the systematic the quality of its human resources can be directed at an increase of restraint, responsibility, discipline, sportsmanship high containing the value of transfer for other sectors.

With terlihatnya real results that the value of discipline students in the subject aftermath of the physical education can be influenced by learning game of ball small ), fuel ( game of ball it will make an atmosphere of a class more comfortable and orderly. Besides that also the value of discipline students outside of class can sprlngs better again.

This is the value of additional attitude for students to be given by a tutor concerned. The value of discipline is very important owned by students or of all human beings to creating a more comfortable and orderly. Someone who owns the value of the discipline that good enough and will have responsibility for himself and also reliable by

those around him. It is very useful for social life of society.

So the enhancement of value discipline a person may be affected by a factor of internal or inner self based on issues like consciousness and external factors obtained from the influence of environment and can be influenced by the implementation of a sport that by doing exactly, true, and sistimatically. Due to achieve success and success of a thing started from discipline themselves and responsible to him.

## Conclusion

Based on the processing and analysis of data from pretest and posttest poll the value of discipline students in the subject, after the physical education then the implications of this research result is that there a significant influence on the discipline students in the subject aftermath of the physical education through learning game of ball small ( game of ball fuel ) in smpn 2 subang.

It may also be concluded that the better the value of discipline will be created a class of students who feel more comfortable environment and orderly as well.

From exposure to above, it showed that through learning game of ball small ( game of ball fuel ) have a positive impact on the discipline students in the subject aftermath of the physical education in smpn 2 subang, especially on the subjects of information and communication technology ( ICT ).





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## The Implementation of Physical Activity Learning in Enhancing Early Childhoods' Multiple Intelligence

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### Abstract

*The aim of the research was to enhance early childhoods' multiple intelligence through the implementation of physical activity learning, especially in linguistic, interpersonal, intrapersonal, logical-mathematical and kinesthetic intelligence at Aisyiyah Kindergarten Class B, Jatinegara, East Jakarta. This research method is action research with Kemmis and Taggart model by mixing quantitative and qualitative method (mix method) in data analyzing.*

*This research was improved learning system in enhancing class B kindergarten students' multiple intelligences through the implementation of physical activity learning. The result of this research is there are multiple intelligence enhancements by implementing physical learning.*

*Based on the process and the result of the implementation of this action research and supported by the research finding, it can be concluded that the implementation of physical activity learning enhances class B kindergarten students, linguistic intelligence, interpersonal intelligence, intrapersonal intelligence, logic-mathematic intelligence, kinesthetic intelligence.*

**Keywords:** *Physical activity learning, early childhoods and multiple intelligence.*

### PRELIMINARY

Child is a unique individual. As a man, he was given a lot of potential to grow and develop by God Almighty. At an early age which is the golden age (golden age) in human life, a child is experiencing rapid growth in many aspects of his personality, both physically and mentally. At that time the child has received a lot of ease in a variety of stimulus that will affect brain function. Development of child cognition crucial aspects of the functioning of other developments. Because the brain as the center of thought and the ability to control all the functions in the activities of members of

both psychic and physical body. As the times people are no longer focusing on the formation of children's intelligence quotient (IQ). Reality many children because they are a high IQ but his life was not a success. Concepts and new thinking about intelligence continues to evolve. In this case Gardner reveals that every child has a different kind of intelligence, and according to the terms of a potential Vygotsky ready developed with the help of the environment (adults, parents and teachers). Children have a variety of potential intelligence. Gardner believes that every child has a nine (9) potential intelligence called Multiple Intelligence, such as logical -





mathematical intelligence, linguistic intelligence, visual-spatial intelligence, body-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalist intelligence. Recently added intelligence existential .

The degree of appearance of each of intelligence types is different, there are high and some are low. Child who shows the characteristics of a certain kind of intelligence, it can be said that he has the intelligence dominant compared to other types of intelligence. Gardner has managed to provide an alternative to the way of looking at intelligence that is not limited to the issue of IQ alone, but the other dimensions are then better known as Multiple Intelligence (MI). Children get intelligence or knowledge of the environment by moving even by way of moving is the most dominant way to know the environment. For preschool children, play is the behavior and the main activity, while the move is one of the basic needs and fundamental means of expressing himself. Using both activities, weave and use it for education that was the goal of those involved in physical education preschoolers.

Physical education and physical education in kindergarten and other preschool institutions, should not be intended to train the child to master the techniques and tips in a certain type of exercise , but should be more oriented to develop various aspects of child development such as language

development, mathematical logic, interpersonal, intrapersonal, and kinesthetic . Because at this time all aspects of child development and the optimal growing together. For children moving not only the basis for the development of a healthy body but also an important source of experience and very useful. This allows the children to put themselves in the middle of the neighborhood, as well as the basis for developing its ability to act. A child's physical ability in determining the scope of its actions are still limited . It is necessary once our students given the challenge to test and develop motor skills. Forms of games and physical activities should include all the basic movements, such as stepping, running, jumping, crawling, climbing, rolling, pulling, swinging, throwing, and catching. These movements can be linked in a game using the equipment or applied in a running game that includes activity, running, catch, and other sports movements. Thus the importance of the function of physical education for pre-school children as described above must not be separated from the role of teachers in kindergarten teaches his children.

But the reality on the ground that there are many kindergarten teachers in teaching early childhood , giving lessons to adults such as : teaching literacy and numeracy , the children sat quietly and the teacher explained , when children come home from school in the given homework ( homework ) , a special extra hours to teach





reading , counting and others. Teacher-centered learning , teachers' lack of creativity and innovation in giving motion to the child's learning , many teachers in providing physical motor learning , motor skills oriented course only i.e. jumping , throwing , learning is not adjusted for multiple intelligences is owned by the child . There are many teachers who do not have experience in giving motion to motion stimulation in children is not optimal . Thus the teacher can't take advantage of learning multiple motion to increase the child's intelligence. Based on characteristic the child is expected in early childhood learning is adjusted with the development , which at that age played a major activity for the children, the child is a unique individual , early childhood is an individual who is active, learning through exploration of the environment by moving, child should be able to conduct their own experiments and research, children have multiple intelligence that can be developed at an early age, children have the potential plural intelligence that can be developed through physical learning motor skills, physical development through the addition can also be developed linguistic intelligence / verbal, logical-mathematical intelligence, social intelligence (training cooperation and tolerance, sportsmanship with rules made), emotional intelligence (self-confidence, knowing strengths and weaknesses of themselves and

others. therefore children need to be stimulated with the appropriate learning models that match the characteristics of the child . to the study tried to Implement Learning Physical Activity expected To Increase Early Childhood Plural Intelligence , especially in kindergarten class B.

## **METHOD**

The place is the research that has been conducted in kindergarten Aisyiyah Jatinegara, East Jakarta. The research was carried out for 3 months, starting from February 2013 to April 2013. This study uses action research (action research) Action research aims to enhance or improve a situation. In this study to be repaired is a learning system to improve the intelligence of children ages kindergarten plural Learning B through physical activity. The action research model using the model of Kemmis and Taggart with two cycles. Cycle is one round activity through the design stages at each revolution. Steps spiral cycle include: planning, action, observation and reflection. If the first cycle has not been achieved will proceed to the next cycle in order to reach the research objectives.

**Data Analysis Techniques**  
Data analysis in this study uses quantitative and qualitative analysis (Method Mix) by sequential exploratory design strategy. According to Cresswell can be described as follows:





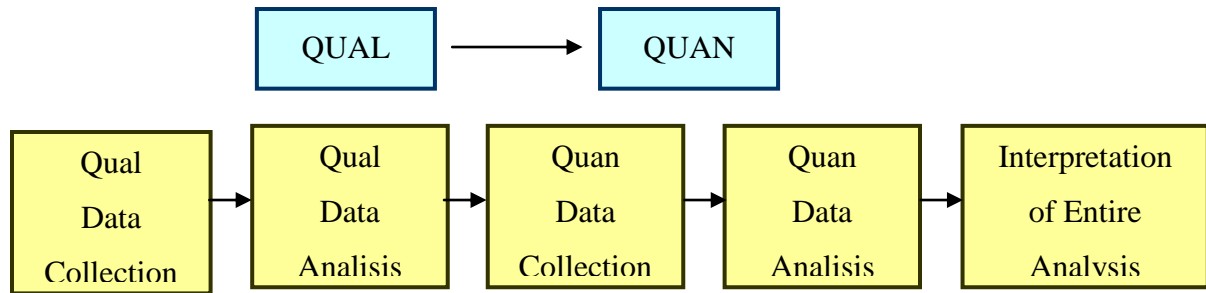


Figure 3. Exploratory Sequential Design Strategy  
(John w.Cresswel, 2003, h.213)

This strategy was chosen because it aims to explore the phenomena found in the application of learning do physical activity, because the priority is qualitative aspects are found. This strategy uses two stages of the process of collecting and analyzing qualitative data then collect and analyze quantitative data. The second analysis method mix is then mutually reinforcing to be interpreted as a whole.

## RESULTS

From the results of research in the data that can be significantly improved intelligence language, which is an average initial assessment is 47, the end of the cycle assessment of the final assessment cycle 74 and two 81. It is addressed that motor learning through physical activity by playing strategy can improve the intelligence of the child's language in kindergarten class B.

From the results of research in the data that can be significantly improved interpersonal intelligence, i.e. an average assessment initial is 47, the final assessment cycles one is 70, the final assessment cycles

two is 82. It is addressed that motor learning through physical activity by playing strategy can improve the intelligence of children interpersonal in kindergarten class B.

From the results of research in the data that can be significantly improved intrapersonal intelligence, which is an average initial assessment is 35, the final assessment cycle one is 68 and the final assessment cycle two is 83. It is addressed that motor learning through physical activity by playing strategy can improve the intelligence of children intrapersonal in kindergarten class B.

From the results of research in the data that can be logical-mathematical intelligence increased significantly, with an average initial assessment 37, the final assessment cycle one is 63 and the final assessment cycle two is 82. It is addressed that motor learning through physical activity by playing strategy can improve the child's logical-mathematical intelligence in kindergarten class B.





From the results of research in the data that can be significantly improved kinesthetic intelligence, which is an average initial assessment is 40, the final assessment cycle one is 71 and the final assessment cycle two is 84. It is addressed that motor learning through physical activity by playing strategy can improve the kinesthetic intelligence of children in kindergarten class B.

So based on the above it can be concluded intelligence multiple intelligences increased significantly, with an average initial assessment is 41, the final assessment cycle

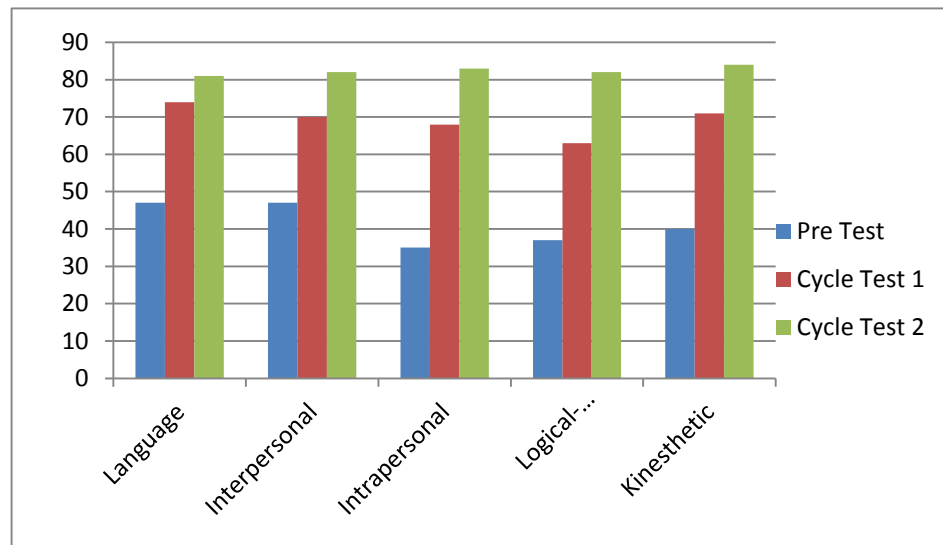
one is 69 and the final assessment cycle two is 82. It is addressed that motor learning through physical activity by playing strategy can improve the intelligence of multiple children in kindergarten Aisyiyah class B, Jatinegara, East Jakarta.

For more details and graphs can be seen in the table below:

Table 1 Percentage of Average Initial Assessment, Final Assessment Cycle 1 and Final Assessment Multiple Intelligence Cycle 2

<b>Multiple Intelligence</b>	<b>Initial Assessment</b>	<b>Final Assessment Cycle 1</b>	<b>Final Assessment Cycle 2</b>
Language	47%	74%	81%
Interpersonal	47%	70%	82%
Intrapersonal	35%	68%	83%
Logical-Mathematical	37%	63%	82%
Kinesthetic	40%	71%	84%
<b>Averages</b>	<b>41%</b>	<b>69%</b>	<b>82%</b>





Graphic 1. Initial Assessment, The Final Assessment Cycle 1 and The Final Assessment Cycle 2 of Multiple Intelligence

## CONCLUSION

Based on the results of the implementation of action research, can generally be summed up as follows: "Physical Activity Learning can improve kindergarten multiple intelligence, which includes language intelligence, interpersonal intelligence, intrapersonal intelligence, logical-mathematical intelligence and kinesthetic intelligence. Evident from the results of the child's multiple intelligence get initial assessment in the average value of multiple intelligences child is 41 then increases to 69 at the final assessment cycle 1 and continued to increase to 82 at the final assessment of cycle 2 assessment. So conclusion of Learning Physical Activity can increase multiple intelligence student of kindergarten. In kindergarten Aisyiyah class B, Jatinegara, East Jakarta.

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## DEVELOPING TAE KWON DO DANCE FOR TEACHING MARTIAL ART IN PHYSICAL EDUCATION, SPORT AND HEALTH SUBJECT AT JUNIOR HIGH SCHOOL

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### Abstract

*The aims of the study are: Developing, Finding out the effectiveness of Tae Kwon Do Dance model based on PAKEM Paradigm (active, creative, effective, and fun learning). The methodology used in this study was research and development. The techniques of collecting data used were observation and questionnaire with technique data analysis of percentage, validity and reliability used was SPSS 16 program. The subjects of the study were 157 of VII graders of Junior High School and 12 teachers. The research showed: 1) Guttman Split-Half reliability coefficient for 157 respondents was 0.566. the reliability of students was reliable since R count was bigger than R table 0.148 with significant level 5%; 2) Guttman Split-Half Coefficient for 12 teachers was 0.898. the reliability of teachers was reliable since R count was bigger than R table 0.576 with significant level 5%. It was suggested for tae kwon do dance model as alternative material for teaching martial art.*

**Key Words:** *Developing, Tae Kwon Do Dance, Teaching Martial*

### INTRODUCTION

The physical education, sport and health learning is an effective and efficient medium for improving the discipline and the responsibility, the creativity and the innovation and also the emotional wits. The martial is one of the materials in the physical education, sport and health that exist in Junior High School curriculum (KTSP) and an integral part of physical education, sport, and health that have a unique function which use the movement as the media of the learning. The aim is the students are able to recognize, comprehend, and practice one of the martial like Pencak silat, Tae kwon do, and Karate. The Tae kwon do is one of the alternatives

martial which differ with another martial like Pencak silat and Karate that have many trends (Gunawan, 2007:35). The Tae kwon do does not have many trends that facilitate the student in comprehend it.

From the description above, it needed to develop the Tae kwon do dance which combined two physical activities, martial and rhythmic activities. The movement of the Tae kwon do dance is modified from the basic technique of Tae kwon do like belting, defending, kicking and the rhythmic activities movement. The implementation of the tae kwon do dance hopefully could create an effective learning in accordance with the standard of the competence and attained an





active, innovative, creative, effective, and fun learning (PAKEM). The objectives of this study are 1) what kinds of the tae kwon do dance which suitable with the learning of martial for Junior High School? 2) Is the tae kwon do dance effective for martial learning for Junior High School? The aim of this study are to (1) develop the tae kwon do dance for Junior High School, (2) find out the effectiveness of tae kwon do dance based on active, creative, effective, and fun learning paradigm (PAKEM).

According to Suryana (2004: 90) the techniques of the tae kwon do are divided into evolving and completing the movement of the body, the timing, and the arrangement of the breath and the movement. The tae kwon do has a basic movement inform of moving one part of the body and the combination of another part of the body for the beauty of the movement. It is like the rhythmic activities which require the beauty movement and the music for visually attractive. The expression of the power is the natural of inner strength of the person in performing an interesting movement with its own style, the spirit, and a restrain power (KyongMyong Lee, 2008:221).

The rhythmic activities are the series of human movement which is performed into rhythm pattern suited with the change of the break or the expression of the body in following the music or the beat outside of the music (Zulfikar, 2012:1). This activities could be developed by the students autonomously or created together with the teacher

accompanied by the music which created by them. Physical activities is general terminology which covering all of human movement including game, sport, and dance (Harsuki, 2003:30). The rhythmic is the basic of the music and the dance. The rhythmic in the dance is a simple movement which uses the music or vise versa. The rhythmic activities have its own characteristics as creative movement which combines the movement and the music for creating an interesting movement.

Dance is a rhythmic activity which performs accompanied by the music. It is used by some people as a media of expression, and lately it is used for entertainment besides as a media of communication and social intercourse which has health effect ( AgusMahendra, 2009: 134). Nowadays, the dance is still assumed by the people as a part of the art. Based on the curriculum of physical education, sport, and health, the dance is categorized as a part of physical education, sport, and health (Rukmana, 2010: 12).

Tae kwon do dance is a physical activity which needs the creativity and the combination of the movement in harmony with the music. The combination is the integration of two or more of the movement (KyongMyong Lee, 2008:109). The combination of the belting and the kicking will affect the motor system of the person. The dance of the Tae kwon do dance has similar elements as rhythm gymnastics. The using of the dance and the music in the Tae kwon





do are to attract the students to learn the Tae kwon do.

The Tae kwon do dance is the development of the movement activities which combine the Tae kwon do with the rhythmic activities (dance) which accompanied by the traditional music instruments like ampar-amparpisang, apuse, hongke-hongke, kekanandankekiri, and manukdadali. The Tae kwon do dance is a physical activity which needs the creativity and the combination of the movement in harmony with the music.

The movements of the Tae kwon do dance are divided into (1) the warming up which consist of 14 movements, (2) the core movements which consist of basic 1 which consist of seogi, makki and cheurugi, basic 2 which consist of seogi, and chagi, basic 3 which consist of the combination of basic one and two, (3) pairs movement, (4) cooling down movement which consist of 10 movements.

## **METHODS OF INVESTIGATION**

The methods of investigation used in this study were research and development. Research and development is a process which is used to develop or to validate the products which is used in the teaching and learning. Sugiyono (2013: 407) stated that research and development is a method of investigation which is used to create a certain product and to evaluate the effectiveness of the product. This study hopefully gives positive contribution to the

development of Tae kwon do dance at Junior High School.

The procedures of the study were consisted of 6 stages inform of draft design, 1<sup>st</sup> try out, 1<sup>st</sup> revision, 2<sup>nd</sup> try out, 2<sup>nd</sup> revision, and the final product. The subject of the study were the teacher of physical education, sport, and health and the seven graders of Junior High Schools like Junior High School 1 Belitang, Junior High School 2 Belitang, Junior High School 3 BuayMadang Raya Belitang, LPB Junior High School, Charitas 1 Junior High School, and Charitas 2 Junior High School. The first try out was followed by 51 students and 2 teachers, and the second try out was followed by 157 students and 12 teachers.

The instruments used for collecting the data in this study were inform of the interview, observation, and questionnaire. The observation and the interview were used for collecting the information about the implementation of the martial learning at the school. The questionnaire was use for collecting the opinion and the suggestion of the product from the teachers, the experts and the students.

## **FINDINGS AND DISCUSSION**

The implementations of the Tae kwon do dance hopefully are able to (1) use as an alternative material for the teaching of martial at Junior High School (2) improve the students interest in the learning physical education, sport, and health, (3) improve the students interest on the martial learning, (4) improve the students knowledge on the Tae





kwon do, (5) improve the students knowledge and ability on the rhythmic movement.

The further action was creating a product by following some steps like analyzing the aim and the character of the product, analyzing the character of the students, determining the purpose, determining the movement used, determining the movement for improving the physical fitness, and determining the actions for improving the competence of the students.

The previous activity before the first trial of the product, the early product of the Tae kwon do dance was validated by the experts. They were Prof .Dr. Soegiyanto, KS. MS as the expert of physical education, sport, and health, IpangSetiawan, M.Pd, as the expert of rhythmic activities, and SinggihHendarto, M.Pd, as the expert of Tae kwon do. The result of the questionnaire from the experts attained the mean more than 3 (3.62) which categorized as good. It could be concluded that the development of Tae kwon do dance for martial learning at Junior High School could be used for limited trial.

The result of the limited trial which conducted at Junior high school 1 Belitang and LPB junior high school could be concluded that the reliability of students respond was reliable since the r count was bigger than r table (0.266) with the significance level 5%. The coefficient of reliability was used Guttman Split-Half Coefficient for 2 teachers as the respondent was 1000. It concluded that the reliability of

teacher respond was reliable since r count was bigger than r table (0.977) with the significance level 5%. The effectiveness of the students toward the product of Tae kwon do dance informs of motivation of students response in martial learning was 95.43% and for the negative response was 4.66%. The effectiveness of the students' response toward the Tae kwon do dance was categorized as good. The result of the questionnaire of the teachers was analyzed and it attained that 92% of the teacher gave positive response and 8% gave negative response. It means that most of the teacher gave positive response to the Tae kwon do dance as the alternative martial learning.

After the limited trial, the product of Tae kwon do dance was tried out into massive scale. The trial was conducted at 6 Junior High Schools that were Junior High School 1 and 2 Belitang, Junior High School 3 BuayMadang Raya, Caritas 1 and 2 Junior High School, and LPB Junior High School. The coefficient of reliability of Guttman Split-Half Coefficient for 157 students as the respondent was 0.566. It could be concluded that the reliability of students' response was reliable since r count was bigger than r table (0.148) with the significance level 5%. The coefficient of reliability of Guttman Split-Half Coefficient for 12 teachers as the respondent was 0.898. It could be concluded that the reliability of teachers' response was reliable since r count was bigger than r table (0.576) with the significant level 5%. The effectiveness of the students toward the tae







kwon do dance was positive since 94.14% of the students gave positive response and only 5.86% of the students gave negative response. The result of the questionnaire on the teachers attained that 94.67% of them gave positive response while 5.33% of them gave negative response. It could be concluded that the tae kwon do dance could be used as one of the materials for martial learning at Junior High School.

## CONCLUSION AND SUGGESTION

Based on the result of the study, some conclusion can be drawn as follows: 1) the tae kwon do dance is an alternative material for the teachers of physical education, sport and health in the learning of martial. The tae kwon do dance is the development of movement activities which combine the movement of Tae kwon do and the rhythmic activities (dance) which accompanied by the traditional music instruments, (2) The implementation of the tae kwon do dance in the physical education, sport, and health learning is able to improve students' psychomotor, cognitive and affective, (3) the tae kwon do dance could be used as an alternative material for the teacher in the teaching learning.

There are some suggestions related to the tae kwon do dance as the following: 1) for the teacher of physical education, sport, and health, the tae kwon do dance could be used in the teaching of martial and could be used for improving

students' physical fitness in the school, 2) the tae kwon do dance is designed based on the need of the user that is the beginner of the tae kwon do, 3) for the next researcher, it is suggested that the tae kwon do dance is developed in different level of the students.

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## KNOWLEDGE LEVEL STUDENTS PJKR 2010 FIK UNY FORCE OF THE REGULATION OFFSIDE FOOTBALL GAMES

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### Abstract

*Known in the implementation of learning the game of football a lot of students do not understand the offside rule. In the study conducted for the purpose of knowing the level of student knowledge PJKR FIK UNY 2010 against the freight forwarder offside rule in the game of football.*

*This research is a descriptive study. Subjects in the study were students PJKR FIK UNY who take courses football game that totaled 115 students. Instruments used in this pelitian was a questionnaire composed himself, as for the validity of this instrument using content validity, while reliability is 0.695. Techniques of data analysis using descriptive statistics.*

*The results are categorized into three, namely: both were 13 students (11.30%), while as many as 91 students (79.13%), approximately as many as 11 students (9.57%).*

**Keywords:** Knowledge, Offside

### INTRODUCTION

Football a sport that is very popular with almost all walks of life the world. In Indonesia, football is very popular in the community from Sabang to Merauke, ranging from children, teens and adults. They can play a football game anywhere, either on the football field, harvested rice fields are depleted and empty lands that could be used for play. They are very simple to play football without referees to enforce the rules as much as possible / simple, but they still show the game being honest when they made mistakes. Field without the line, the goal of the stones or the trees, but they can play happily without any fights while upholding honesty and friendship. This is because they

do for recreation, leisure time, and even to improve their skills even without a coach.

Football is a sport game played by two teams where each team consists of 11 players. The purpose of each team tried to put as many balls into the opponent's goal and try to maintain his own net in order not to concede the ball, which is done according to the rules of sportsmanship and game. Teams that make a lot more goals against the opponent is declared the winner in the match.

Students PJKR is a physical education teacher candidates must master the basic skills of playing soccer through courses Motion Football Association . Here students learn the basic techniques of playing football. In the course Motion Football Association, lecturer of teaching materials will





give students a variety of skills to the basic techniques of playing football without the ball and the ball football techniques, ie; Passing, dribbling, control, heading, steal the ball, shooting, throw-in, feinting and special techniques goalkeeper. Diversity of the basic techniques must be mastered by the students as a preparation for teaching play football in the future . PJKR students as prospective teachers should know and even have to master the basic skills of playing soccer . Football courses Basic Motion granted in semester III , this course provide supplies to students on mastery of basic techniques to play football . The students who have taken courses Motion Football Association are expected to have the basic skills to play football well .

At semester IV courses students acquire the Football Game in principle this course apply the basic techniques to the strategy of how to attack and defend, to solve the problems in the field, as well as understand and practice the rules of the game and the match in the learning process. Through the course Football Game, the student must also recognize, understand and practice the rules of the game and the game rules in the field a bit during the learning process. Regulation soccer game easily understood by frequent reading the rule book, but in its application many students have difficulty.

During this time, students are still many who do not understand the rules of football games, especially the game-related rules. Regulations issued by the soccer game

FIFA consists of 17 rules. Students tend to know the rules of the game are practically on the field while playing the offside offense and although not in depth, while other rules are less well understood. Most students wrestle the game of football as a hobby or for achievements in their respective clubs, but knowledge of the offside rule is still very limited. They know the offside rule when a player attacker stands behind defenders when the ball is fed to the front, the player is said to offside.

This will appear when the student tries to practice his umpiring when playing, often misrepresented offside so little debate. Often seen students in umpiring decisions give less precise, players who are not considered offside offside. Offside rules if applied in the field vary widely, so it needs to truly understand the offside rule. At this point in terms of the offside rule only, not the abuses associated with disrespectful behavior. Theory of learning through football games, students are expected to understand and practice the tactics, strategies, game rules and game rules in a real football game.

PJKR students as prospective teachers of physical education and human being engaged in physical education should be well-informed about the offside rule. People often assume students know about every sport and its rules. Students PJKR indirectly as agent learners in the community, no society rarely ask him something about football events. This is because the people of Indonesia at any time presented a live broadcast of football matches national and





international television broadcasts via the private sector.

According to the Big Indonesian Dictionary (KBBI) Daring, knowledge means everything that is known; cleverness: or everything that is known with respect to (a subject). The knowledge according to some experts:

1. According Pudjawidjana (1983), is the reaction of human knowledge on arousal by contiguity through the natural surroundings through the senses and the object of knowledge is the result of conduct that occurred after the sensing of a particular object.
2. According Ngatimin (1990), knowledge is the memory of the materials that have been studied and the possible concerns about binding together a broad collection of material from the things detailed by the theory, but what is given to use the memory of the appropriate information.
3. According Notoatmodjo (2007), knowledge is the result of the idea and the person doing this after sensing the particular object. Sensing occurs through the five senses, the senses of sight, hearing, smell, taste and touch. A large part of human knowledge acquired through the eyes and ears.

some knowledge of the above definition it can be concluded that the knowledge of everything that is known is derived from sensory contiguity to a particular object. Knowledge is basically the result of the process of seeing, hearing, feeling, and

thinking is the basis of human and behave and act

## Football

Football game played by two teams each consisting of 11 his team players including the goalkeeper. Football game led by a referee and two assistant referees helped. Long football game is 2 x 45 minutes with a break of not more than 15 minutes, the game field rectangular, its length should not be more than 120 feet and shall not be less than 90 meters, while the width should not be more than 90 feet and shall not be less than 45 meters (length of the field in international matches antara 100 meters to 110 meters, while the width of the pitch between 64 meters and up to 75 meters).

All the players should play ball with the rest of his body except the hands. Goalkeeper may play the ball with his hands, but only in the area of his own net. Each team tried to include as many balls into the opponent's goal and try to prevent the opponent to put the ball into the net.

The game of football is one sport that is popular with the people of Indonesia and widely played by all levels of society ranging from children, teens, and parents. In addition, the sport is also played by many women, both in foreign and domestic. The game of football is very popular in the community, so do not be surprised if every afternoon met a lot of children, adolescents, and adults playing football on the football pitch as well as vacant land.





Luxbacher (2004: 2) states that the football played by two teams, each consisting of 11 people. Each team's goal to maintain and strive to break through the opponent's goal. Sucipto, et al. (2000: 7) defines the game of football is a team consisting of 11 players and one goalkeeper. Akros Abidin (2000: 26) revealed that the game of football played by two teams, each team consists of 11 players including the goalkeeper. Roji (2004: 1) explains that football is done by two teams, each team consists of 11 players including the goalkeeper. Setiap bench for his team is seven players. Older games are 2 x 45 minutes. According Muhajir (2004: 22) that football is a game made by a punt, which has the objective to enter the ball into the opposing goal and maintain it in order not to concede a goal the ball.

Based on some opinions on the above it can be concluded that football is a team game played by two teams consisting of 11 players in each of his team, including the goalkeeper, which every team has a goal to put the ball into the opposing goal sebangkanya and prevent the occurrence of goals against its own during game which lasts 2 x 45 minutes.

## Rule of The Game

Every sport permianan definitely have laws that aim to manage the game so that the game can run well . Football a sport that has rules of the game . Regulations issued by the soccer game FIFA consists of 17 rules , namely : 1 ) the field of play , 2 ) the ball , 3 ) the number of players , 4 ) the player

equipment , 5 ) the referee , 6 the assistant referees , 7 ) the duration of the match , 8 ) the start and restart of play , 9 ) the ball in and out of play , 10 ) the method of scoring , 11 ) offside , 12 ) fouls and misconduct , 13 ) free kicks , 14 ) the pinalty , 15 ) the throw -in , 16 ) the goal kick , and 17 ) the corner kick.

Rules of the game of football has beberapa times experienced Anomalies related increments in accordance with the development of the game of football, for example, once the ball is worn only 2 now 6 pieces, balls back pass from forward to goalkeeper should not be held by the keeper. Regulation 11 of the regulations explains the offside where a player is not a foul if only in an offside position. One was in an offside position when the player closer to the opponent's goal line than the ball and the second last opponent when the ball is played to him. A player standing in an offside position, does not violate the provisions of the offside if a player receives the ball directly from a goal kick, throw-in, and corner kicks.

## Offside In Soccer Game

In the game of football, it is very crucial offside in a soccer game at both local, national, and international. This often happens protest against the referee because the player was offside. The player who is in an offside position is not necessarily punished offside offense. Player is offside penalty if the player took advantage of his standing was offside. The player who is in an





offside position is offside violation if the players took advantage of his position

Only if the offense is not in an offside position. A player is in an offside position if: Pemaian closer to the opponent's goal line than the ball and the second last opponent. A player is not in an offside position: 1) is the area of the game itself, 2) which is parallel with the second last opponent, and 3) parallel with the last two opposing players. A player is in an offside position may be penalized if, at the time the ball touches or is played by one of his colleagues, the player is in the opinion of the referee, involved in active play by: 1) mencapuri course of the game, 2) blocking opposing players, and 3) gain advantage by being in an offside position. The player who is offside penalty, the team is sanctioned by an indirect free kick for the opposing players and implemented in places where the offside offense.

A player is in an offside position, does not violate the provisions of offside if a player receives the ball directly from: 1) a goal kick (kick both his own and the opponent's goal, 2) throw-in, and 3) a corner kick. Thus, there is no offside term for players who stood in an offside position to receive the ball langsung from goal kicks, corner kicks, and throw-in.

**METHOD**

This study is a descriptive survey method, so that the steps do not need to formulate research hypotheses. The purpose of this study to determine the level of student knowledge PJKR FIK UNY 11 of 2010 against the rule of offside. Suharsimi Arikunto

(1998: 239), states the following non-descriptive study is a research hypothesis but only describe it as it is on a variable, symptom, or condition. In this study wanted to find a picture of what it is about the student's understanding neighbors about the offside rule 11.

**Subjects Research**

Subjects in this study were students PJKR FIK UNY class of 2010 who took the course "Football Game" which totaled 115. The details of the subject of study as follows:

Tabel 1. Rincian Subjek penelitian

	gender	Population
PJKR 2010	man	102
	girl	13
	sum	115

**Instrument**

Instrument is a tool chosen and used by researchers in the study of data collection, so that the data obtained can be accounted for. Instrument in this study developed a questionnaire to determine the student's understanding of the rules of the game of football in particular about the offside rule 11. According Suharsimi Arikunto (2009: 151) questionnaire is a number of written questions used to obtain information from respondents in terms of statements about personal or things that are known. According Sutrisno Hadi (1991: 7) there are three steps that must be taken in drafting the variables





into sub variable factors. Sub-variables in this study are the factors that mengkonstrak offside, the three steps are:

a. defining construct

Construct definitions in this study were student pemahaman PJKR 201 B class against 11 of the offside rule.

b. investigate factors

The second step is to investigate the factors that make up the construct, ie the ball from a defender, the ball from his own friends, and rebound the ball.

c. Constructing a grain questions

The third step is to arrange a grain questions that refers to the factors that affect this study, namely the ball from a defender, the ball from his own friends, and rebound the ball. To reveal any of the questions respondents provided two alternative answers are offside, not offside. Questionnaire to measure the response was assessed by the numbers. If you answered "true value is 1 and if either the value 0.

The validity of using the instrument in accordance with the content validity of the content of the subject matter of the offside rule issued by world football governing body (FIFA). For instrument reliability of the test results with the method of the split odd even reliability of 0.695 obtained

Data Collection Techniques

Data collection techniques are the ways used by researchers to collect data. Data collection techniques in this study a questionnaire that is useful to know the students' understanding PJKR C and F of regulation 11 of the offside. In a research instrument there are two types of questions, the positive and negative questions.

Data Analysis Techniques

This study is a descriptive analysis deskriptif or by using descriptive statistics. Descriptive statistics were used to analyze statistical data in ways that describe or depict the data that has been collected as without intending to generally accepted conclusions or generalizations.

Categorization of student knowledge level about the offside rule into three categories: High, medium, and low. Categorization of student knowledge level about the offside rule using the formula of B. Syarifudin, (2010:112) as follows:

Tabel 3. Norma Pengkategorian Karakter

No	Cate	Rentang
	High	$X \geq M + SD$
	Medi	$M - SD \leq X$
	Low	$X < M - SD$

**DISCUSSION**

**Description of Data and Research Result**

**1. Description of Data**

Pengelahan outcome data on the level of student knowledge about the offside rule obtained descriptive data, as follows: the





range of scores obtained knowledge of the offside rule mean 83.5826; minimum value of 36.00; maximum value of 100.00, while the standard deviation of 9.15173; score variance 83.754; range 64.00.

**2. Research Result**

Results showed that students had penengetahuan about the offside rule in both categories there are 13 students (11.30%). Students who have penengetahuan about the offside rule in the medium category there are 91 students (79.13%). While students who have knowledge about the offside rule in the poor category there were 11 students (9.57%).

Tabel 4. Pengkategorian Tingkat Pengetahuan Mahasiswa Tentang Peraturan *Offside*

o	Distance of score	Category level of knowledge	reque ncy	Prosentas e
	$X \geq 92,73$	Baik	3	11,30%
	$4,43 \leq X < 92,73$	Sedang	1	79,13%
	$X < 74,43$	Kurang	1	9,57%
Jumlah			15	100%

**Discussion**

The result showed most had levels of knowledge about the offside in the medium and high categories. That was different from the time a student studying his umpiring football practice, many students were wrong in deciding on the offside player. This is according to many people who claimed to master the theory properly / correctly but can

not necessarily be applied in practice. To master the theory can be read as a self-taught through books and can be quickly mastered the theory mastered reading.

Conditions in the field will be very different to read and look at pictures, in the pitch game due to changing conditions. The position of the player while playing is always changing every moment and perdetik Events / position player in the rapidly changing field so that decisions are often wrong. Moreover, students who rarely practice of arbitration and only got a theory. While in the field, the referee should be able to see the course of the game with a broad and carefully.

Lack of student practice in the field of arbitration theory led his students in memwasiti often wrong in determining the decision. As a physical education teacher candidates must master the theory and practice of refereeing football, so that teachers will be the theory and practice of teaching while refereeing a ball game of the game of football in particular.

**CONCLUSION**

Based on the results of the analysis has been done on the level of student knowledge PJKR class of 2010 class C and F on the class B offside rule as follows: either category were 13 students (11.30%), the categories are as many as 91 students (79.13%), and categories A total of 11 students (9.57%).







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## Efektivitas of integrated learning approach to Result of Development Learning of Motorik at Student Pasir Kaliki elementary School

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### Abstract

*Purpose of research is try to expose integrated study approach model effectivity in game matter of motion related to purpose of core namely improvement of ability of elementary motorik as instruktusional effect as well as will decompose in explains about improvement of ability of elementary mathematics as purpose of attendant impact nurturant effect. As comparator will be seen second result purpose of the through study approach of game of motion conventionally.*

*Method applied in this research is experiment method by applying study model of physical education allied with mathematics matter for Pasir Kaliki elementary school student.*

*Result of this research indicates that integrated study approach gives better result compared to conventional study approach*

**Key words :** *Integrated study approach Model, ability of motorik base, ability of base mathematics.*

### Background

Study process of motion at student elementary school which frequently is recognized as game of motion at elementary level become media that is strategic enough to assist student in growth and development of child. One of the educator phrases that growth and development of educative participant with overall of the dimension is education effort reference. Fakry Gafar, (1994). broader arises about meaning education changes, constructs, compares, points, and even forms overall of educative perserta dimension.

One of instructor duty is give opportunity effectively so that educative participant what is required fulfilled. The opportunity is reachable if created relation between teacher and pupil having the

character of stall interaktif giving direction for growing of creativity, thinks stall and self confidence. The role of teacher as assisting partner creates opportunitys for the happening of learning process at educative student itself, will dribble at loaded of professional and ability of professional which unavoidably must be adequate, because when no, hence duty charged upon by teacher is not possibly is done optimally.

One of alternative of think out frequently happened in process of study, peeps out idea to develop study process that kreatif-interaktif through presentation of integrated study approach model. Approach that is enough is this inovatif expected can present various choices for student as well as teacher in execution of teaching and learning process. Integrated study concept seen in physical education especially in level base.





Because increasingly low level or class, hence usage of integrated approach model increasingly compatible is applied. For example, in simplest level of physical education can be related to mathematics, linguistic and relevant other subject (Lutan,1994).

Approach model done by teacher in execution of integrated study consisted of various models, started from simplest come up with which most complex, Udin Saud (1996) arises approach model which can be developed in Indonesia namely connected model ( connectivity model between study areas), thematic model ( model topic core), and intergreted model ( model terpadu/proyek).

In this research, as initial step modeled study which will be applied referring to the execution of game of motion at elementary school applies model who is simplest, that is connectivity model between study areas the connected model). Relates to the thing, writer tries to integrated physical education matter to with mathematics.

Election of lesson of mathematics allied with lesson physical education, solely based on consideration that matters at lesson of very mathematics enables to be allied with physical education lesson matter. As we know, lesson matter of mathematics which must be mastered by first class student, causing lionized to draw up student elementary school (SD) recognizes mathematics matter through via playing at in motion game. Despitefully, mathematics

subject in curriculum review stays in level enough difficult, so that for some of lesson students of mathematics is considered to be by lesson which ' fearful ' and not thing ' pleases'. Even at final exam SMP, and SMA very often student fails because doesn't fulfill target of value targeted.

Bases on reason and result of analysis konkrit in field, researcher feels important to look for an study approach, to be more facilitates student in recognizing, receives, and comprehends mathematics lesson matters. Besides, reality in field indicates that teaching process in study of physical education generally, was time pleasing for student, especially after so much hour must reside in in class. In condition of that way, teaching of mathematics that is at first enough ' fearful ' expected able to become study ' interesting', with concept ' learning playing'.

Relates to this integrated study approach, researcher tries to lay open how integrated study approach influence to result of game learning of motion in SDN Pasir Kaliki school. Approach exploiting of study with this model makes game subject of motion shall no longer as independent subject as usualy executed by teachers in area elementary till now.

Pass approach being based on at intergreted learning presentation of game matter of motion will be related to recognition of base mathematics matter. On that account, as output in lesson end, beside improvement of ability of motorik which wish to be reached,





hence as attendant impact, ability of base calculate will partake considered as result of learning.

Purpose of research is try to expose integrated study approach model effectivity in game matter of motion related to purpose of core namely improvement of ability of elementary motorik as instruktusional effect as well as will decompose in explains about improvement of ability of elementary mathematics as purpose of attendant impact nurturant effect. As comparator will be seen second result purpose of the through study approach of game of motion conventionally.

Critical analysis to data obtained in field is expected to earns dribbles idea at one particular conclusion, which in the end will be able to pulled its(the benefit, especially for learning physical education in Pasir Kaliki school. Support from and presentation various theories and opinion of the experts presumably can enrich creativity and teacher knowledge elementary school in managing and designs study for student elementary school, which will be drawn up enters formal school area namely Elementary school. Study planning also related at development of physical dimension, psychical, and cognate. Equally, result of game study model planning of motion and data acquisition for indication of effectiveness a study model presumably can be exploited as one of study area which can be analyzed teacher elementary school and the observers, so that is stock in entering school at higher level level. Thereby in basik student elementary

school in this integrated model study drawn up manifestly in ownership of two teaching matters at the same time also is mandatory subject later in Elementary school.

For learning elementary school which is learning class, this research expected able to give contribution of information about possibility is applying integrated study approach in process of learning teaches for other teaching matter, especially alli teaching matter which is difficult with easy to be mastered child. Despitefully, this research expected giving an information able to about integrated study approach model effectiveness related to the influence to result of game learning of motion to ability of motorik as purpose of instruktusional, and also to ability of elementary mathematics as purpose of attendant impact.

## Research Method

Method applied in this research is experiment method by applying study model of physical education allied with mathematics matter for Pasir Kaliki school student. This method applied on the basis of consideration that research character of eksperimental that is trying to something to know influence or effect of a treatment or treatment.

Research design applied is initial test design and end test ( pre-post test design) experiment research in principle has assorted of design, which its (the election will be adapted for research done).

Research subject is Pasir Kaliki school student in first class. the research



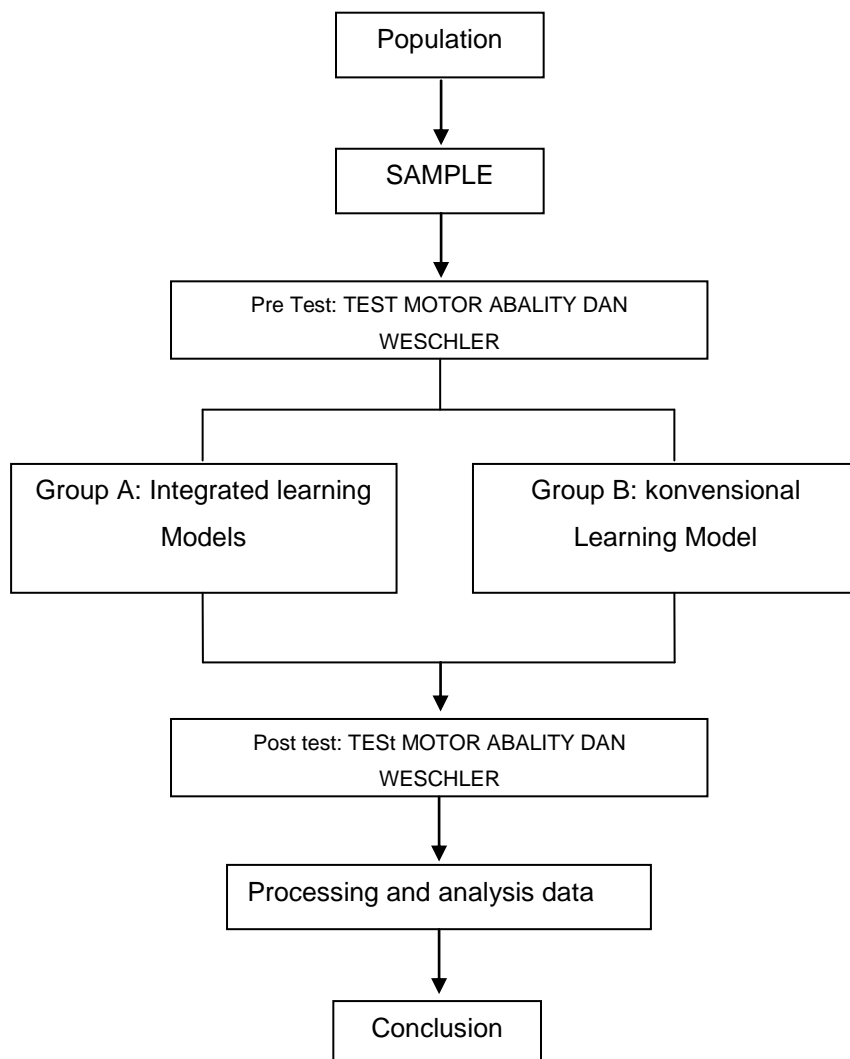


object consisted of 1 independent variable and 1 dependent variables. What intended free variable is study approach. Study approach applied in this research is integrated study approach and conventional study approach.

Dependent variables in this research is result of physical education learning, where in result of this learning there are two things which wish to be reached that is ability of motorik student base as purpose of inatruksional and ability of elementary

mathematics as purpose of attendant impact. Both the components will be seen as one unities result of learning.

Research time is executed by during eight months ( februari - October) while treatment time was 3 ( July up to September 2009) and location of research in Pasir Kaliki elementary school. As for retrieval stages; steps of data in this research like in the form of schema following :





Instrument applied in data collecting is test Gerak base ( Motor ability test) and ability test of base mathematics. Test is done twice ( pre-test and post-tes).

Processing and data analysis done through calculation statistic that is, to knew level of improvement result of expansion learning of physical of motorik and elementary mathematics is explained through descriptive statistic while to test difference between conventional and integrated study approachs is applied by test t.

**Result of Research**

Data result of physical education learning applied to analyse, be totalizing ability value of motorik consisted of by run value, throws and jumps and improvement of cognate ability in the form of student base mathematics value after following lesson during 24 descriptive result of the visible data processing at table 1 following :

Tables 1. Result Of Processing Descriptively

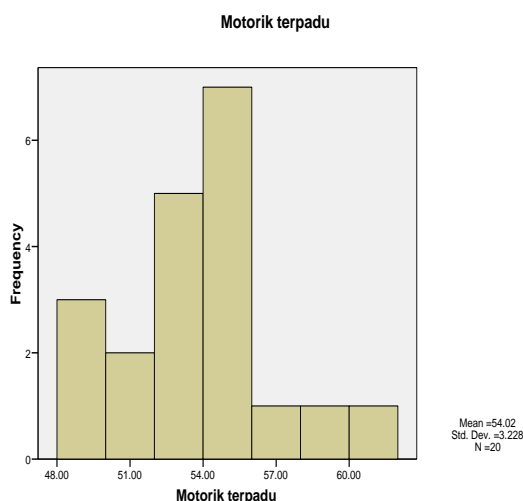
		Motorik terpadu	Motorik konvensional	mtematika terpadu	matematika konvensional
N	Valid	20	20	20	20
	Missing	0	0	0	0
Mean		54.0205	47.4015	6.6500	4.1500
Median		54.2500	47.6750	7.0000	4.0000
Mode		48.24(a)	39.74(a)	7.00	3.00(a)
Std. Deviation		3.22786	3.42202	1.42441	1.26803
Variance		10.419	11.710	2.029	1.608
Skewness		.368	-.507	-.762	.550
Std. Error of Skewness		.512	.512	.512	.512
Kurtosis		.524	.688	.806	-.092
Std. Error of Kurtosis		.992	.992	.992	.992
Range		13.21	14.55	6.00	5.00
Minimum		48.24	39.74	3.00	2.00
Maximum		61.45	54.29	9.00	7.00
Sum		1080.41	948.03	133.00	83.00
Percentiles	10	49.7860	41.4560	5.0000	3.0000
	20	50.6800	44.5240	5.2000	3.0000
	25	51.2775	45.3225	6.0000	3.0000
	30	52.6470	47.1210	6.0000	3.0000
	40	53.5280	47.4600	6.4000	4.0000
	50	54.2500	47.6750	7.0000	4.0000
	60	55.0880	48.0480	7.0000	4.0000
	70	55.1980	49.4420	7.7000	5.0000
	75	55.5100	49.5500	8.0000	5.0000
	80	55.7940	49.7520	8.0000	5.0000
90	59.3810	51.3940	8.0000	6.0000	



Through this knowable 1 tables each mean and standard deviation every group of treatment. For result of physical education dengan integrated study approach is obtained by mean 54,0205 and its(the standard deviation is 322786 ( 3,3) while passing conventional study approach of its(the mean 47,4015 and standard deviation 3,42202 .

For cognate ability of elementary mathematics with integrated study approach is obtained by mean 6,65 and its(the standard deviation is 1,42441 while passing conventional study approach of its(the mean 4,15 and standard deviation 1,26803.

Ten distribution of frequency is 2, 50% ( 10) obtains score result of physical education learning below under mean, and 50% at to mean. Score histogram result of ability of motorik through this integrated study approach showed at picture 1 following

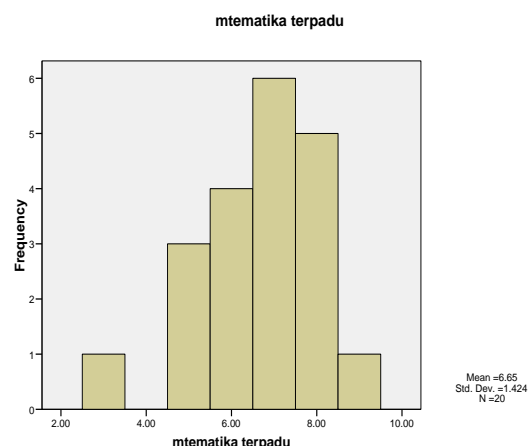


Picture 1. Histogram Result Of Physical Education Group Of Integrated Study Approach

Ten distribution of frequency 3, 35% ( 7 people) obtains score result of physical education learning below under mean, 1 man of means at average and 45% at to mean. Score histogram result of ability of motorik through this conventional study approach showed at picture 2 following:

Picture 2. Histogram Result Of Physical Education of Group Conventional Study Approach

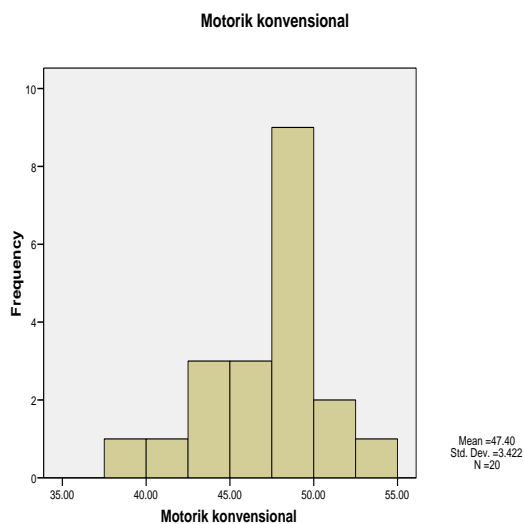
Distribution Improvement Score Frequency Result Of Ability Learning of Elementary Mathematics with integrated learning approach shows 4, 40% ( 8orang) obtains score of result of improvement learning of base ability of mathematics with integrated learning approach below under mean, 0 man of means at average and 60% at to mean. Improvement Score Histogram Result Of Ability Learning of Base Mathematics Group Of This integrated Study Approach showed at picture 3 following





Picture 3. Improvement Histogram Result Of Ability Learning of Base Mathematics Group Of Integrated Study Approach

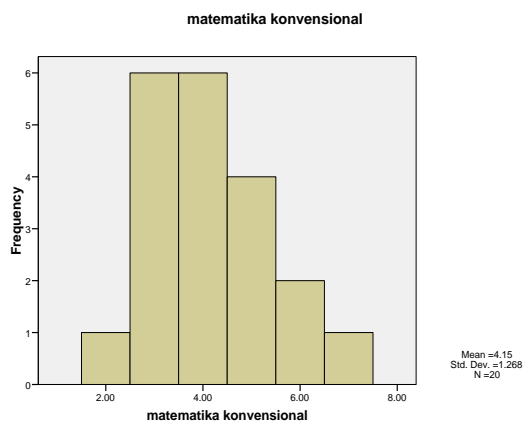
Distribution Improvement Score Frequency Result Of Ability Learning of Base



Mathematics Group Of Conventional Study Approach shows 5 65% ( 13) obtains Skor Improvement basic of group which using konvensional learning approach under mean, 0 man of means at average and 35% at to mean. Improvement Score Histogram Result Of Ability Learning of Base Mathematics Group Of This integrated Study Approach showed at picture 4 following :

Picture 4 Improvement Histogram Result Of Ability Learning of Base Mathematics Group Of Conventional Study Approach

Before done by examination of hypothesis with test t to see integrated study approach effectivity compared to with conventional study approach beforehand need to be done examination: ( 1) normality and ( 2) homogeneity variansi.







Tables 2. Normality Test Result Ambit every group of sample

NO	Group	Ratio Skewness	Curtosis Ratio	Conclusion
1	PPT ( motorik)	0,71875 0,52822		Normal
2	PPK ( motorik)	- 0,9902 0,6935		Normal
3	PPT ( Integrated)	- 1,4883 0,8125		Normal
4	PPK ( Conventional)	1,0742 0,0927		Normal

Based on the tables dipeoleh ratio skewness and curtosis ratio at fourth of the group stays at spread - 2 and + 2 so that data at fourth group of the sample is normal distribution.

Hereinafter is done homogeneity test with F test and examination of hypothesis that there is difference between integrated study approachs with conventional study approach of elementary school student at physical education ( ability motorik) and ability of elementary mathematics as nurturant effect. Pass SPSS 15 obtained result of examination as follows :

Based statistical tool, F test assuming both same variants at ability motorik ( physical education) be 0,001 with probability ( sig) 0,981. Because of probability number > 0,05 hence there is no difference of variant between group of integrated study approachs

with group of conventional study ( Homogen) . While at score result of improvement of base mathematics F test is obtained [by] 0,245 with probability 0,623 > 0,05. This also indicates that both group of homogen sample.

After assumption of normality of distribution and homogenitass variansi fulfilled for examination of hypothesis in parametrik then is done test t causing is obtained result as follows :





			t-test for Equality of Means						
			t	f	ig. (2-tailed)	ean Difference	Std. Error Diff	95% Confidence Interval of the Difference	
								Upper	Lower
Motor ability	Equal variances assumed		<b>6.293</b>	8	000	.61900	1.05189	.48957	.74843
	Equal variances not assumed		6.293	7.871	000	.61900	1.05189	4.48933	74867
Ability of base mathematics	Equal variances assumed		<b>5.863</b>	8	000	.50000	.42643	1.63674	36326
	Equal variances not assumed		5.863	7.497	000	.50000	.42643	1.63636	36364

Based on tables to between integrated study approaches with conventional study approach for ability of motorik is obtained by t calculate 6,293 and ability of elementary mathematics is obtained [by] 5,863. at trust level of 95% is obtained by probability ( sig)  $0,000 < 0,05$  . The thing indicates that there is difference between integrated study approaches with conventional study approach either about ability of motorik and also about ability of elementary mathematics at SDN Pasir Kaliki school student in signifikan.

**Solution**

From result of research simply that as a whole between integrated study approaches and conventional study approach shows meaning difference. With level of trust of 95% there is difference signifikan about result of improvement of ability of motorik between integrated study approaches with conventional study approach. And so do there is difference

meaning between integrated study approaches with conventional study approach in the case of result of improvement of ability of mathematics as purpose of expansion attendant impact of physical of motorik planned.

Result of examination of hypothesis indicates that result of learning through better integrated approach from conventional approach good to ability of motorik and also for ability of base mathematics. Thereby as according to framework of thinking and theory that is is supporting is inferential that, for very integrated study approach Pasir Kaliki Elementary school student precise, as according to characteristic owned by student at this level. Learning principle playing, and learning brightening up, can grow business to master matter fully seriousness but is done by brightening up. Pass integrated study approach of willingness and serious of child seen more uppermost, if compared to giving of lesson matter which only be done in room is closed ( class room). Based on observation in field, seen gladness, joy and serious in following all instructions given by teacher can





make situation of learning to become more enthusiastic.

In this research has been done various efforts that result of really research matching with the one which is expected. However still there are some weakness which is difficult is controlled, especially when execution of treatment in field. The weakness is inter alia : Existence of difficulty to control student does activity, especially controls way of student learning to relate to knowledge of extramural mathematics. Side that is possibility that ability difference from the instructors in field. Though dibekali/ has been performed training samely partaken influences result of research.

## Conclusion

Based on above result and solution hence inferential as follows :

1. Result of improvement of learning motorik base ( instruktusional effect) through applying of integrated study approach model in expansion of physical of motorik in Pasir Kaliki elementary school shows improvement result signifikan. Average of result of improvement ability of motorik through bigger integrated study approach compared to average of result of improvement of motorik through conventional learning approach.

2. Result of improvement of base mathematics learning ( nurturant effect) through applying of integrated study approach model in cognate ability expansion in Pasir Kaliki school elementary shows result

signifikan. Average of result of improvement of ability of elementary mathematics passed bigger integrated study approach compared to average of result of improvement of ability of elementary mathematics passed conventional study approach.

3. There is improvement difference of result of elementary motorik learning and also elementary mathematics between students taught with integrated study approach with student taught with conventional study approach. Equally inferential that integrated study approach gives better result compared to conventional study approach.

## Suggestion

Based on conclusion obtained from result of research, hence submitted suggestion as follows :

1. For learning special Pasir Kaliki elementary school in giving of expansion matter of physical of motorik so it will can design form of givings of enabling matter reached by it some purpose of attendant impacts, beside purpose of main of which will be reached. Giving of matter presented fully variation, besides will be able to motivate student also will train other element of which is not possibly will got at other subject.

2. Because integrated study approach is innovating has just, especially for Indonesia, hence presumably important to the teachers to be more comprehends this approach model, for example by following upgradings and or with reading book about this approach model.





3. For FPOK as one of institute which closely related to success or failure of execution of physical education, result of this research is input, about the importance of spreading of information about integrated study approach, so that every its(the graduate having enough stock execution to in field.

4. Presumably important to to be more extends research to relate to integrated study approach, not only limited to integrity between physical educations in this case expansion of physical of motorik with mathematics as of eye, but possible with broader other matter.

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## EFFECT OF TRAINING FLEXIBILITY METHODS AND SPEED RESPONSE TO RECEIVE A SERVICE IN TAKRAW GAME

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### Abstract

*This research aims to determine different effect and interaction flexibility methods and speed reaction to receive a service in takraw game. This is an experimental research using factorial experimental 2 x 2. Samples of this research is 40 takraw athletes, 13-18 years old using purposive sampling. Instruments used are 1) speed reaction test using reaction speed tool TKK 5408 in seconds, 2) skills test to receive a service at takraw game. The data are analyzed with analysis of variance technique (ANOVA) at significance level  $\alpha = 0.005$  and degrees of freedom,  $df = 1$  and 32. Based on results of research, the conclusions are: (1) PNF flexibility training is more effective than flexibility training of static-passive; (2) High speed reaction is more effective than low reaction speed, (3) There is no interaction between flexibility exercise and speed reaction to receive a service.*

**Keyword:** Training methods flexibility, speed reaction, service, takraw game.

### Introduction

Sepak takraw is a game using a rattan ball ( takraw ). It is played on a rectangle field with length of 13.40 m and width of 6.10 m . In the middle of field is separated by the net, like badminton game. It is a team game played by two teams, males or females. Each team consists of 3 players. The players use mainly legs and all the members of the body except the hands . Each team have to return the ball to the opponent field or cause the opponents players make a mistake( Rattinus Dervish , 1992:1-2 ) . To be able to play well takraw, The players have to master the all components of takraw. Some experts explain the components mastered by players are as follows : (1) Rattinus Dervish , et al ( 1992.15 ) says that the takraw game consists of mastery of

technique , physical , tactical and mental, (2) M. Suhud ( 1990:7 ) says that the takraw game consists of basic playing skills , physical and mental abilities , (3) Danny ( 1994.5 ) says that a team can win the game if the players master the basic techniques: playing well , have an excellent physic , a good strategy or tactics and mental.

In the takraw sport, skills to receive the service from the opponent server (Tekong) must well mastered by a player, because without these skills, then receiving the service will often fail and give a score for the opponent team. In that way the opponent team will eventually win the game quickly. To have the ability to receive the service from server or Tekong, the player must be trained with the proper training methods. In addition





to the basic techniques training, training to receive the service have to be practiced.

A service from the opponent server or Tekong cannot be guessed, sometimes it's sharp, hard, sometimes it falls near the net or in the corners of the field. The player receiving a service should have flexibility because he has to move the limbs and the whole body. David C. Nieman (1990:32) says that the flexibility and elasticity can be interpreted as the functional capacity of the body joints to move in a wide range. Flexibility is a physical condition which is very important in the exercise or takraw game. Marta Dinata (2005:25) says that the flexibility is the movement of the body joints. Increase the flexibility in a fundamental element of young athletes in training program. A good flexibility allows an athlete to display easily a variety of movements and skills. It prevents the injuries.

Flexibility determines the range of movement. Athletes having high flexibility, will be able to make a reach movement and bend maximally, and can reduce the risk of injuries on muscle and ligament. Meanwhile, Jackson and Ross (1986:32) say that flexibility is the range of movement around the joints; flexibility is the intensity of muscle stretch. Flexibility upgrading can increase the athlete performance, also allows an athlete to produce greater force. ☑

Method of stretching exercises by Grosser, et al. translated by Pasurney (2006:8) there are four training methods: 1) static - active method, which is an athlete doing stretching exercises themselves statically

(hold movement), 2) method of static - passive, athletes do stretching statically, helped by others (coaches or athletes), athletes just follow the movements; 3) dynamic method, athletes do dynamic stretching: activate or move their bodies rhythmically (dynamic), such as ballistic, and 4) PNF method (Proprioceptive Neuromuscular Facilitation) or contraction - relaxation, the athletes do stretching exercises, helped by another person during the contraction and relaxation. Method of stretching for flexibility often done by athletes of Central Java is static - active and static - passive method. But it is important to know or find the most effective flexibility methods to increase the flexibility.

Some form of stretching exercises using in takraw motion are as follows: 1) stretching movement of pelvis joints, back and legs (stretching the back muscles and hind limb muscle), 2) stretching movements at pelvis joints and limbs (stretching occurs in the back muscles and leg muscles).

Takraw game is a fast game, meaning that players must have a high velocity, because server or Tekong kick the ball using high speed. Velocity in takraw game is higher than volleyball and badminton, even the three games have a similarity (players have to hit ball before it touches the floor or ground). In takraw game, speed is absolutely needed, especially in serving, receiving service and smashing, as proposed by Frank W. Dick (1989:91) that speed of reaction in coaching theory means the ability to move the limbs,





legs or arms or even static body parts or whole body with the greatest speed that can be done . Reaction speed in this study is attribute variable, which can be divided into high and low reaction speed , which will be compared to the difference influence on skills to receive service in takraw game.

The above description describes a variety of issues in coaching takraw, performance problems to receive a service. The scientific research is needed to find the most appropriate solution to resolve the problem.

This article aims to describe:

1. differences in the effects of flexibility exercise PNF and static-passive in accepting service
2. Differences in athletes who have high reaction speed and reaction speed low
3. The interaction between training method and speed of reaction to receiving service

## METHODOLOGY OF RESEARCH

This study is an experiment with factorial design: 2 x 2. The population was takraw athletes in Kendal and Demak, which was prepared following the Student Sports Week Junior-Senior High School in Central Java in 2012. It was 45 athletes. The sampling technique used was purposive sampling, meaning that samples taken intentionally: 45 athletes from Kendal and Demak, but the sample used is 40 athletes, by eliminating the 5 athletes who have the high and low reaction speed.

Variables of the study are: 1) independent variables and attribute variable, it consist of: a) Method of flexibility with two levels: (1) PNF exercise (Proprioceptive Neuromuscular Facilitation) and (2) static-passive exercise, b) reaction speed, with two levels: (1) high reaction speed, and (2) a low reaction speed. Dependent variable is skills to receive a service in takraw game.

The instrument of research consists of: (1) standardized tests of reaction speed, using Speed Reaction / Body Reaction visual TTK 5408, (2) test to receive a service in takraw game, this test is used to obtain the information as results of exercises.

The data analysis technique used is the analysis of variant (factorial): 2 x 2 , and their interactions. This analysis is used to test the research hypothesis. First it tested for normality and homogeneity between groups studied. Normality test used Liliefors (Sudjana, 1994:466-469), and homogeneity test used Barlett test (Sudjana,1994:261-264).

The normal and homogeneous data are analysed by analysis of variantce (ANOVA) with a significance level of two-way  $\alpha = 0:50$ . Tukey test was used to find group having a better treatment, (Hopkins,1989: 371-374). This test is done if there was an interaction between training method







flexibility and reaction speed.

Table 1. factorial design of 2 x 2

method	Exercise	Exercise Flexibility PNF (A <sub>1</sub> )	Exercise Flexibility Static-passive (A <sub>2</sub> )
	Reaction speed		
High reaction speed (B <sub>1</sub> )		A <sub>1</sub> B <sub>1</sub> (10)	A <sub>2</sub> B <sub>1</sub> (10)
Low reaction speed (B <sub>2</sub> )		A <sub>1</sub> B <sub>2</sub> (10)	A <sub>2</sub> B <sub>2</sub> (10)
Total		20	20

Note:

A<sub>1</sub>B<sub>1</sub> = Group using PNF flexibility exercise having high reaction speed

A<sub>2</sub>B<sub>1</sub> = Group using static-passive flexibility exercises having a high reaction rate

A<sub>1</sub>B<sub>2</sub> = Group using PNF flexibility exercises having a low reaction rate

A<sub>2</sub>b<sub>2</sub> = Group using static-passive flexibility exercises having a low reaction rate

## RESULTS AND DISCUSSION

### RESULTS

Research data are: the effect of flexibility, the effect of reaction speed and skill to receive a service analyzed by ANOVA, as presented in the table.

Table 2. Data of Treatment Group.

No.	Group	N	ΣX	$\bar{X}$	SD	Variant
1	A <sub>1</sub>	20	422	21,10	3,31	10,94
2	A <sub>2</sub>	20	376	18,80	3,29	10,80
3	B <sub>1</sub>	20	436	21,80	2,98	8,91
4	B <sub>2</sub>	20	362	18,10	2,90	8,41
5	A <sub>1</sub> B <sub>1</sub>	10	237	23,70	2,50	6,23
6	A <sub>1</sub> B <sub>2</sub>	10	190	19,00	3,37	11,33
7	A <sub>2</sub> B <sub>1</sub>	10	199	19,90	2,13	4,54
8	A <sub>2</sub> B <sub>2</sub>	10	172	17,20	2,15	4,62

Note :

N = number of sampel

ΣX = Total of X





$A_1$  = Flexibility PNF  
 $A_2$  = Flexibility Static-passive  
 $B_1$  = High reaction speed  
 $B_2$  = Low reaction speed  
 $\bar{X}$  = mean  
 SD = Standard Deviation

Table 3. Normality test of each treatment group to receive a service

No.	Kelompok	N	$L_o$	$L_t$	Kesimpulan
1	$A_1$	20	,130	0,190	Normal
2	$A_2$	20	,153	0,190	Normal
3	$B_1$	20	,106	0,190	Normal
4	$B_2$	20	,116	0,190	Normal
5	$A_1B_1$	10	,152	0,258	Normal
6	$A_1B_2$	10	,117	0,258	Normal
7	$A_2B_1$	10	,119	0,258	Normal
8	$A_2B_2$	10	,147	0,258	Normal

Table 4. Variant Factorial Analysis

Variant	Dk	JK	RJK	$F_{hitung}$	$F_{tabel}$	Simpulan
Effect of Flexibility (A)	1	52.900	52.900	12.276	4.149	Significant
Effect of Reaction speed (B)	1	136.900	136.900	31.768	4.149	Significant
Interaction (AxB)	1	0.100	0.100	0.023	4.149	Non Significant
Error	32	137.900	4.309			
Total	39	465.900				

Note:

A = Flexibility

B = reaction speed

Value  $F_{table}$  at significance level  $\alpha = 0.05$ .

1. Different effect of PNF flexibility exercise and static-passive to receive a service in takraw game ( $\mu A_1: A_2 \mu$ )

Variant factorial analysis used to test the hypothesis: different effect of PNF flexibility exercises and static-passive to receive a service in takraw game with





significance level  $\alpha = 0.05$ , critical value of  $F_{table}$  with freedom degrees (dk) 1 and 32 = 4,149 . Calculation results in Table 4, the value of  $F_{count}$  is 12.276.  $F_{count}$  is higher than  $F_{table}$  ( $F_{count} = 12.276 > F = 4.149$ ), it means that  $H_0$  is rejected and  $H_1$  is accepted. Otherwise the second hypothesis that there is a difference between the effect of PNF flexibility exercises and static -passive to receive a service in takraw game is accepted .

Based on the results of variant analysis, the conclusion says that there are significant differences between PNF flexibility exercises and static-passive to receive a service in takraw game. Furthermore  $q_{count} = 4.955$  compared with critical value of  $q_{table}$  at significance level  $\alpha = 0.05$  with degrees of freedom (df) = (2.32), it's obtained  $q_{table} = 2.884$ . It shows that  $q_{count} = 4.955 > q_{table} = 2.884$ . It means  $H_0$  is rejected and  $H_1$  is accepted. The conclusion is PNF flexibility exercises are more effective than static-passive exercises

2. Different effect of high-speed reaction and low speed reaction to receive a service in takraw game ( $\mu B_1: \mu B_2$ )

Variant factorial analysis used to examine the hypothesis of different effect of high speed reaction and low speed rection to receive a service in takraw game with the significance level  $\alpha = 0.05$ , critical value  $F_{table}$  with degrees of freedom (df) 1 and 32 is 4.149.  $F_{count}$  is 31.768.  $F_{count}$  is higher than  $F_{table}$  ( $F_{count} = 31.678 > F_{table} = 4.149$ ). It means

that  $H_0$  is rejected and  $H_1$  is accepted. Otherwise it says that the third hypothesis, there is a difference between the effect of high speed reaction and low speed reaction to receive a service in takraw game.

Based on the results of variant analysis, there are significant difference between athletes having high speed reaction and low speed reaction to receive a service in takraw game.  $q_{count} = 7.971$  and critical value  $q_{table}$  with significant level  $\alpha = 0.05$  with degrees of freedom (df) = (2.32) is 2,884. The result shows  $q_{count} = 7.971 > q_{table} = 2.884$ . It means that  $H_0$  is rejected and  $H_1$  is accepted. Athlete having high speed reaction receive well a service than athlete having low speed reaction.

**3. Interactions of flexibility exercise and speed reaction to receive a service in takraw game**

**(int. A x B)**

The results of variant factorial analysis in table 4 show that the significance level  $\alpha = 0.05$  with degrees of freedom (df) 1 and 32,  $F_{table}$  is 4,149.  $F_{count}$  is 0,023.  $F_{count}$  is higher than  $F_{table}$  ( $F_{count} = 0.023 < F_{table} = 4,149$ ). It means that  $H_0$  is accepted and  $H_1$  is rejected. Hypothesis that there is an interaction effect between exercise flexibility and speed of response to receive a service in takraw game is rejected.

Based on the results of variant analysis, there is no interaction effect between flexibility exercise and speed of





response to receive a service in takraw game.

## DISCUSSION

The results of data analysis using ANOVA (Analysis of Variants) as statistical analysis needs to be explained: the acceptance or rejection of a hypothesis. The results can be interpreted as follows:

- 1. There is a different effect of PNF flexibility and static-passive to receive a service in takraw game. PNF flexibility exercises are more effective than static-passive flexibility exercises.**

Stretching exercises of Proprioceptive Neuromuscular Facilitation (PNF) and static- passive, booth are static stretching, they are also an effective method of flexibility training to improve the skills to receive a service in takraw game. According to Santosa Giriwijoyo and Muchtamadji (2005:170), say that method static is stretching to expand the joint space, continuously as far as possible in accordance with ability, and then be hold for some time and is repeated several times.

Training methods PNF (Proprioceptive Neuromuscular Facilitation), who performed with isometric contraction and then be relaxed , would give a better effect of flexibility in the joints and muscles . It gives a good effect to extensibility " (the ability of the muscles to elongate when receiving a stimuli) and resistance to stretching process . Joints and muscles will have better a sensitivity

(irritability) to stimuli of motion, have a good ability to receive and respond to stimuli neuromuscular proprioceptive.

PNF training method is more effective in improving flexibility of leg and body of takraw athletes compared to static - passive exercise. It is appropriate to results of research: PNF stretching utilizing a full relaxation . This relaxation is a protective mechanism to prevent tearing of muscle or detachment of tendon from the bone. It is possible to do further strain . Sudden relaxation induced by inhibitory effects can lead to muscle elongation more flexible than the method of static - passive exercises, which without any relaxation.

- 2. There is a difference between the effect of high spees reaction and low speed reaction to receive a service in takraw game. High speed reaction is more effective than a low speed reaction.**

Takraw game is a fast game , meaning that players must have a high velocity , because the ball is kicked by Tekong will moving at high speed. The ball from the opponent Tekong is unpredictable , sometimes violent or drop sharply near the net or into the corners of the field, The players must have speed reactionto anticipate a service . Athletes who have high speed reaction will move more quickly, so they can receive quickly a service from the opponent team. Conversely athlete having low speed reaction will move slowly , it will be





too late and he won't be able to receive a service.

### **3. There is no interaction between flexibility exercise and reaction speed to receive a service in takraw game.**

The results of study show that there was no interaction between flexibility exercise and reaction speed to receive a service. Flexibility is not the only one factor to improve the velocity. According Suharno (1987:26) factors that influence reaction speed is determinants of speed reaction and determinants of motion speed. Speed reaction depends on the irritability nervous system, orientation power owned by athlete, acuity sensorial to receive stimuli, speed of motion, and muscle mobility. Velocity depends on muscle, power, coordination of movements, agility, balance, and a good mastery of technique. It means to increase the velocity of the athlete should do strength training, speed of response or reaction speed, flexibility and not only practicing flexibility.

The reasoning of absence interaction between flexibility and speed reaction are as follow :

- 1) Muscles power are weaks or bad will inhibit the athlete to have speed reaction and speed movement. He will move slowly and fail to receive a service.
- 2) Coordination, to receive a service, the athlete should have a good coordination of eyes and legs (limbs

). Without good coordination, the athlete will fail to receive a service.

- 3) Agility, without agility, athlete will often fail to receive a service.
- 4) Perfect techniques are movement techniques and playing techniques. Athletes having a high flexibility and speed, but haven't a good techniques couldn't receive well a service. Athletes concentrated only with the arrival of the first ball, and how to receive the ball with the correct technique.

## **CONCLUSION**

This study relate two independent variables each consisting of 2 levels in improving the skills to receive a service in takraw game. It shows a conceptual relation and causality correlation.

Based on the results of research and discussion, the conclusions are as follow:

- 1) There is a significant difference between PNF flexibility and static - passive to receive a service in takraw game. PNF flexibility is more effective than static - passive flexibility.
- 2) There is a significant difference between high speed reaction and low speed reaction. Athletes having high speed reaction have a good skill to receive a service than athletes having low speed reaction.
- 3) There is no interaction between flexibility and reaction speed to receive a service in takraw game.





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## CURRICULUM IMPLEMENTATION 2013 Penjasorkes TO SMA / MA

**Sungkowo**

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### Abstract

*Structure of the curriculum in 2013 for SMA / MA additional hours of study per week for 4-6 hours, for class X from 38 hours to 42 hours, class XI and XII from 38 hours to 44 hours. While his long stay learning every hour is 45 minutes. In 2 hour lesson per week Penjasorkes to 3 hours per week. Penjasorkes subjects consisted of big ball games (soccer, volleyball, basketball), play small ball (softball, badminton, table tennis), Athletics (running, long jump, high jump, shot put, javelin), Martial (martial arts), Exercise increased fitness (60 m sprint, baring sit 60 seconds, vertical jump, ran away 1000 m pi and 1200 m pa), Gymnastics (dexterity, agility jump table), rhythmic movement activities, swimming (style chest, style crawl, backstroke, butterfly), concept of healthy lifestyle, eat and drink healthy, disease prevention through physical activity, and psychotropic drug prevention, healthy living culture*

**Keywords :** Load study, subjects SMA / MA

### A. Introduction

Point press 2013 is a completion of curriculum development mindset, strengthening governance curriculum, deepening and expansion of the material, adaptation reinforcement learning process and the learning process, and adaptation study load in order to guarantee the suitability of what is desired with what is obtained. Curriculum development is crucial in line with the continuity of the progress of science, technology and art and culture as well as changes in the level of local communities, nationally, regionally and globally in the future. Multiple progress and change the internal order and eksternal expressed in

education. Therefore, implementation of the 2013 curriculum is a strategic step in the face of globalization and future claims indonesia community.

Curriculum development undertaken in 2013 on the basis of a few key principles. First, competency standards derived from the needs. Second, the content standards at lower of competency standards through the core competencies that are free subjects. Third, all subjects should contribute to the formation of attitudes, skills, and knowledge of learners. Fourth, subjects derived from competencies to be achieved. Fifth, all subjects bound by core competencies. Sixth, competency alignment guidance, content,





learning process and assessment. The consistent application of principles - principles to be essential in creating a successful implementation of curriculum was radically 2013.

## B. Definition of Curriculum 2013

Curriculum 2013 is a competency-based curriculum. competency-based curriculum is outcomes based curriculum and therefore the curriculum development aimed at achieving competence formulated from SKL. Similarly, learning outcomes assessment and curriculum results in measuring the achievement of competence. Success is defined as achieving competence curriculum is designed to document the curriculum by all students.

## C. Curriculum Structure SMA / MA

Curriculum Structure SMA / MA consists of :

1. Compulsory subject groups namely group A and group B. A group of subjects who are giving more competence orientation to cognitive and affective aspects , while group B is the lesson which place more emphasis on affective and psychomotor.
2. Specialisation Subject Group consists of three (3 ) groups: Specialisation in Mathematics and Science , Social Specialisation and Specialisation in English.

3. Optional Courses Cross Interests ie subjects that can be taken by students outside the Subject Group Specialisation chosen but still in other Specialisation Group . For example, for students who choose Group Language Specialisation can choose subjects from Social Specialisation Group and / or the Group Specialisation in Mathematics and Science.
4. Lesson Study is intended to study one subject in the group Specialisation in preparation for college.
5. Optional Courses Cross Interests and Lesson Study is optional , can be selected both or one .

## D. Compulsory Subject Group

Compulsory Subject Group is part of the secondary education curriculum that aims to provide knowledge about the people, language, attitude as a nation, and the critical ability to develop logic and personal lives of the students, the community and the nation, the introduction of the physical and natural environment, physical fitness, and regional and national arts and culture

Group structure compulsory subject in the curriculum of SMA / MA are as follows:







Group A (Compulsory)		ALLOCATION OF TIME PER WEEK		
No	SUBJECT	X	XI	XII
1.	Religious Education and Character	3	3	3
2.	Pancasila and Citizenship Education	2	2	2
3.	Indonesian	4	4	4
4.	Mathematics	4	4	4
5.	History of Indonesia	2	2	2
6.	English	2	2	2
Group B (Compulsory)				
7.	Arts and Culture (including local charge) *	2	2	2
8.	Physical Education, Sport and Health (including local content)	3	3	3
9.	Craft and Entrepreneurship (including local content)	2	2	2
Group Lessons Hours A and B per week		24	24	24
<b>Kelompok C (Peminatan) Group C (Specialisation)</b>				
Specialisation in Academic Subjects (SMA / MA)		18	20	20
Lessons Hours per week should Taken		<b>42</b>	<b>44</b>	<b>44</b>

Description:

\* Load to load the local District Language

#### E. Subjects cluster Peminatan

Peminatan subjects cluster aims (1) to provide opportunities to develop students' interest in a group of subjects according to their knowledge of college interest, and (2) to develop interest in a particular discipline or skill.

The structure of the curriculum subjects peminatan SMA / MA are as follows:

SUBJECT			Class		
			X	XI	XII
Groups A and B (Compulsory)			24	24	24
C. Specialisation group					
Specialisation in Mathematics and Science					
I	1	Mathematics	3	4	4
	2	Biology	3	4	4
	3	Physics	3	4	4
	4	Chemistry	3	4	4
Social specialization					
II	1	Geography	3	4	4
	2	History	3	4	4
	3	Sosialogi & Anthropology	3	4	4
	4	Economy	3	4	4
Language specialization					
III	1	Indonesian Language and Literature	3	4	4
	2	English Language and Literature	3	4	4





	3	Foreign Language and Literature Others	3	4	4
	4	Anthropology	3	4	4
<b>Subjects and Study Options</b>					
Cross Interests choice and / or deepening Interests			6	4	4
Number of hours per week Lessons Available			66	76	76
Lessons Hours per week should Taken			<b>42</b>	<b>44</b>	<b>44</b>

F. Load Study

Load learn to SMA / MA have additional hours of study perminggu big 4-6 hours, for class X from 38 hours to 42 hours, class XI and XII from 38 hours to 44 hours. While the long hours of studying his every regular is 45 minutes.

The availability of this additional study hours and reducing the number of Basic Competencies, teachers have the flexibility to expand learning time-oriented active student learning. Active student learning process

takes longer than the process of learning as information delivery learners need training to perform observations, asking, association, and communication. Teachers developed learning process requires patience in waiting for the response of the students because they are not familiar. In addition to the increase in hours of study allows teachers to do an assessment process and the result.

HIGH SCHOOL ( SMA ) / Madrasah Aliyah ( MA )

CLASS: X. CORE COMPETENCE	BASIC COMPETENCE
1 . Appreciate and practice the teachings of their religion	1.1 Appreciate the body with all the movement and his ability as an invaluable gift of God 1.2 The growing awareness that the body must be maintained and nurtured , as an act of gratitude to the Creator
2 . Develop behavior ( honest , discipline , responsibility , caring , polite , friendly environment , mutual assistance , cooperation , peace-loving , responsive and proactive ) and showed an attitude as part of the solutions to the nation's problems in interacting effectively with the social and natural environment as well as in placing itself as a reflection of the nation in the association world	2.1 Behave in a sportsmanlike play 2.2 Responsible for the safety and progress of oneself and others, the environment , and the use of facilities and infrastructure of learning 2.3 Respect differences in individual characteristics perform various physical activities 2.4 Demonstrate a willingness to cooperate in doing a variety of physical activity in the form of game 2.5 Tolerance and want to share with other friends in the use of equipment and opportunities 2.6 Discipline for doing various physical activities 2.7 Learning to accept defeat and victory in the game 2.8 Having a healthy behavior





<p>3 . Understand and apply knowledge of factual, conceptual, procedural dalamilmu knowledge, technology, art, culture, and humanities with a vision of humanity, nationality, citizenship, and civilization -related phenomena and events, as well as applying procedural knowledge in the specific field of study suited to their talents and passion for solve the problem</p>	<p>3.1 Analyze and choose healthy foods and beverages                  3.2 Understand and analyze the types and classification DRUGS                  3.3 Identify the structure, functions, varieties, disease and its prevention in men's and women's reproductive tool                  3.4 Analyzing the behavior of healthy living and leisure utilization of health                  3.5 Analyzing the variations and combinations of skills one big ball game to increase skill                  3.6 Analyzing the variations and combinations of one of the small ball game skills to increase skills                  3.7 Analyzing the variations and combinations of the numbers of athletic skills ( street and run ) to increase skills                  3.8 Analyzing the variations and combinations of athletic skill martial for better appearance                  3.9 Analyzing the two types of policy response gymnastics agility ( with tools ) to produce better skills                  3:10 Analyzing the variations and combinations of rhythmic motion network activity to produce better skills                  3.11 Analyze and test the quality of degree 6 ( six ) components of physical fitness related skills based on the instruments used</p>
	<p>3:12 Analyzing motion style pool one policy to create better skills and analyze the action in water rescue</p>
<p><b>CORE COMPETENCE</b></p>	<p><b>BASIC COMPETENCE</b></p>
<p>4 . Processing, reasoning, and presenting in the realm of the concrete and the abstract domains associated with the development of a self-learned in school, and is able to use the method according to the rules of science</p>	<p>4.1 Practicing variations and combinations of skills in playing one of the big ball game with fine motor coordination                  4.2 Practicing variations and combinations of skills in playing one of the small ball game with a good motor coordination                  4.3 Presenting variations and combinations show increasing skill in performing athletic numbers ( street and run ) with the tools, and a simplified field                  4.4 Presenting variations and combinations show increasing skill in martial arts demonstration with smooth and fine motor coordination                  4.5 Presenting the show are two basic types of motion exercises dexterity ( with tools ) in coordination                  4.6 Presenting variations and combinations show increased circuit activity and coordinated rhythmic motion intensity increases                  4.7 Demonstrate exercises 6 ( six ) components using the tool 's simple physical fitness related skills based on the instruments used                  4.8 Practicing the skills of one of the four swimming styles with good coordination and a certain distance Practicing crash in water rescue techniques using existing equipment ( ropes, buoys, poles, skoci etc )</p>





CLASS : XI

CORE COMPETENCE	BASIC COMPETENCE
1 . Appreciate and practice the teachings of their religion	1.1 Appreciate the body with all the movement and his ability as an invaluable gift of God 1.2 The growing awareness that the body must be maintained and nurtured , as an act of gratitude to the Creator
2 . Develop behavior ( honest , discipline , responsibility , caring , polite , friendly environment , mutual assistance, cooperation , peace-loving , responsive and proactive ) and displayed as part of the solutions to the nation's problems in interacting effectively with the social and natural environment as well as in placing itself as a reflection of the nation in the association world	2.1 Behave in a sportsmanlike play 2.2 Responsible for the safety and progress of oneself and others, the environment , and the use of facilities and infrastructure of learning 2.3 Respect differences in individual characteristics perform various physical activities 2.4 Demonstrate a willingness to cooperate in doing a variety of physical activity in the form of game 2.5 Tolerance and want to share with other friends in the use of equipment and opportunities 2.6 Discipline for doing various physical activities 2.7 Learning to accept defeat and victory in the game 2.8 Having a healthy behavior
3 . Understand , apply , and explain the factual knowledge , conceptual , procedural , and metacognitive knowledge dalamilmu , technology , arts , culture , and humanities with human insight , national , state , and civilization related causes of phenomena and events , as well as applying procedural knowledge in the field of study accordance with the specific talents and interests to solve problems	3.1 Analyze the impact caused by smoking and alcohol consumption associated with physical activity 3.2 Understanding the impact caused by free sex on him , the family and the wider community based on moral and responsible in implementing ethics 3.3 Understand the hazards , transmission , and how to prevent HIV and AIDS 3.4 Analyze personal health program planning 3.5 Categorize and organize patterns of movement skills and their rules one big ball game 3.6 Categorize and organize patterns of movement skills and their rules a little ball game 3.7 Categorize and organize patterns of movement skills numbers athletics ( long jump and high jump ) 3.8 Categorize and organize patterns of motion martial arts skills 3.9 Categorize and organize gymnastic dexterity skills movement patterns ( with tools ) 3:10 Categorize and organize a series of motion patterns of rhythmic movement skills 3.11 Categorize and organize fitness component to health and skills 3:12 Categorize and organize the motion patterns of the four basic skills of swimming styles for the purpose of rescue and relief measures in water accidents





<p>4 . Processing, reasoning , and presenting in the realm of the concrete and the abstract domains associated with the development of a self- learned in school , act effectively and creatively , and be able to use the method according to the rules of science</p>	<p>4.1 Measuring the four skills of the ball game , skill improvement plan , and practice it in a real game                  4.2 Measuring the four skills sports numbers athletics ( long jump and high jump ) , skills improvement plan , and practice it in a real game                  4.3 The practice of strategy in the fight shadow ( shadow fighting ) martial arts with the smooth and fine motor coordination                  4.4 Measuring basic skills of two types of motion exercises dexterity ( with two devices ) , skills improvement plan , and practice it in a real game                  4.5 Measuring the skill range of motion ( choreography ) rhythmic motor activity ) , skills improvement plan , and practice it in a real game                  4.6 Mengukuran degree of quality health -related components of physical fitness and skill using selected instruments                  4.7 Presenting the basics of swimming demonstration for water rescue in emergencies kegawat and simulate basic skills in an effort to provide relief at the time of the incident in the water system including Cardiac and Pulmonary Resuscitation ( CPR )</p>

CLASS : XII

CORE COMPETENCE	BASIC COMPETENCE
<p>1 . Appreciate and practice the teachings of their religion</p>	<p>1.1 Appreciate the body with all the movement and his ability as an invaluable gift of God                  1.2 The growing awareness that the body must be maintained and nurtured , as an act of gratitude to the Creator</p>
<p>2 . Develop behavior ( honest , discipline , responsibility , caring , polite , friendly environment , mutual assistance, cooperation , peace-loving , responsive and proactive ) , shows the attitude as part of the solution to the various problems of the nation , as well as position itself as an agent of transformation of society in building nation and world civilization</p>	<p>2.1 Behave in a sportsmanlike play                  2.2 Responsible for the safety and progress of oneself and others, the environment , and the use of facilities and infrastructure of learning                  2.3 Respect differences in individual characteristics perform various physical activities                  2.4 Demonstrate a willingness to cooperate in doing a variety of physical activity in the form of game                  2.5 Tolerance and want to share with other friends in the use of equipment and opportunities                  2.6 Discipline for doing various physical activities                  2.7 Learning to accept defeat and victory in the game                  2.8 Having a healthy behavior</p>





<p>3 . Understand , apply , and explain the factual knowledge , conceptual , procedural , and metacognitive knowledge dalamilmu , technology , arts , culture , and humanities with human insight , national , state , and civilization related causes of phenomena and events , as well as applying procedural knowledge in the field of study accordance with the specific talents and interests untukmemecahkan problem</p>	<p>3.1 Understand the various laws and legal consequences for users and dealers DRUGS                  3.2 Demonstrate an understanding of several factors ( such as attitudes , gender , and beliefs about gender roles and sexuality ) that can prevent associated behaviors that lead to STDs , AIDS and pregnancy )                  3.3 Analyze the impact and mitigation caused by sexually transmitted diseases ( STDs ) to self , family and community                  3.4 Evaluate the effectiveness of the strategy game ( offense and defense ) one big ball game according to the rules drawn up games                  3.5 Evaluate the effectiveness of the strategy game ( offense and defense ) one small ball game according to the rules drawn up games                  3.6 Evaluate the effectiveness of strategies in a simulated race athletic numbers are arranged according to the rules                  3.7 Evaluate the effectiveness of the strategy game ( offense and defense ) are prepared in accordance martial arts game rules                  3.8 Applying the principles of movement stringing floor exercises and evaluate the quality of movement ( execution ) dexterity exercises ( using tools ) are assembled                  3.9 Applying knowledge of rhythmic choreography of motion activity , and to evaluate the quality of movement ( execution ) , and the aesthetic value of the whole series                  3:10 Applying the principles of the development of the quality improvement program of physical</p>
	<p>fitness , physical fitness and evaluate the quality of health-related and skill                  Analyzing 3:11 3 skills movement style swimming pool and analyze knowledge of rescue and emergency relief in the water , as well as follow-up on the ground</p>
<p>4 . Processing, reasoning , menyaji , and create in the realm of the concrete and the abstract domains associated with the development of the learned at school independently and act effectively and creatively , and able to use the method according to the rules of science</p>	<p>4.1 Develop plans , modeling , and analyzing strategy game ( offense and defense ) one big ball game with time , number of players , standardized                  4.2 Develop plans , modeling , and analyzing strategy game ( offense and defense ) one of the small ball game with time , the number of players standardized                  4.3 Develop plans , modeling , simulating and analyzing strategies in athletic race numbers ( brisk walking , running, jumping , and throwing ) with the tools , standardized                  4.4 Develop plans , modeling , and analyzing strategy game ( offense and defense ) in simulated combat martial arts                  4.5 Develop plans , modeling , and analyzing the two sets of gymnastic dexterity to use a tool (each three to five basic motion ) in coordination                  4.6 Develop plans , demonstrate , and analyze five series of rhythmic motor activity (each three to five motion ) and coordinated various intensities                  4.7 Develop program to improve and evaluate the degree of health -related physical fitness and personal skills based on instruments used                  4.8 Demonstrate and practice the skills of 3 - style swimming pools and demonstrate rescue and relief kegawat emergencies in the water , as well as follow-up on the ground</p>





G. The core competence of competence and Basic

Core competence is a translation or SKL operationalization in the form of quality to be possessed those who have completed specific training in the educational unit or level of education , an overview of the key competencies that are grouped into aspects of attitudes , knowledge , and skills ( affective , cognitive , and psychomotor ) students who have studied for a school level , grade and subject . Core competencies should describe the quality of the balance between the achievement of hard skills and soft skills .

Core competencies serve as organizing elements ( organizing element) basic competence . As an organizer element , a fastener Core Competencies for vertical organization and horizontal organization of basic competency. Basic competence is vertical organizational linkages between the content of the basic competencies or education class to class / level on it so it

meets the principles of learning that there is a continuous accumulation between the content students are learning. Horizontal organization is the relationship between the content of the subjects Basic Competency Basic Competency with the content of different subjects in the weekly meetings and the same class so that a process of mutually reinforcing .

Core competencies are designed in four inter-related group that is related to religious attitudes (competency 1 ) , social attitudes ( competency 2 ) , knowledge (competency 3 ) , and application of knowledge ( competency 4 ) . The fourth group was the reference of basic competencies and should be developed in any event integrative learning . Competence with regard to religious and social attitudes developed indirectly (indirect teaching ) is when students learn about the knowledge ( competence group 3 ) and application of knowledge ( group 4 core competencies ) .

HIGH SCHOOL ( SMA ) / Madrasah Aliyah ( MA )

CLASS : XI

CORE COMPETENCE	BASIC COMPETENCE
1 . Appreciate and practice the teachings of their religion	1.1 Appreciate the body with all the movement and his ability as an invaluable gift of God 1.2 The growing awareness that the body must be maintained and nurtured , as an act of gratitude to the Creator
2 . Develop behavior ( honest , discipline , responsibility , caring , polite , friendly	2.1 Behave in a sportsmanlike play 2.2 Responsible for the safety and progress of





<p>environment , mutual assistance , cooperation , peace-loving , responsive and proactive ) and displayed as part of the solutions to the nation's problems in interacting effectively with the social and natural environment as well as in placing itself as a reflection of the nation in the association world</p>	<p>oneself and others, the environment , and the use of facilities and infrastructure of learning</p> <p>2.3 Respect differences in individual characteristics perform various physical activities</p> <p>2.4 Demonstrate a willingness to cooperate in doing a variety of physical activity in the form of game</p> <p>2.5 Tolerance and want to share with other friends in the use of equipment and opportunities</p> <p>2.6 Discipline for doing various physical activities</p> <p>2.7 Learning to accept defeat and victory in the game</p> <p>2.8 Having a healthy behavior</p>
<p>3 . Understand , apply , and explain the factual knowledge , conceptual , procedural , and metacognitive knowledge dalam ilmu , technology , arts , culture , and humanities with human insight , national , state , and civilization -related causes of phenomena and events , as well as applying procedural knowledge in the field of study accordance with the specific talents and interests to solve problems</p>	<p>3.1 Analyze the impact caused by smoking and alcohol consumption associated with physical activity</p> <p>3.2 Understanding the impact caused by free sex on him , the family and the wider community based on moral and responsible in implementing ethics</p> <p>3.3 Understand the hazards , transmission , and how to prevent HIV and AIDS</p> <p>3.4 Analyze personal health program planning</p> <p>3.5 Categorize and organize patterns of movement skills and their rules one big ball game</p> <p>3.6 Categorize and organize patterns of movement skills and their rules a little ball game</p> <p>3.7 Categorize and organize patterns of movement skills numbers athletics ( long jump and high jump )</p> <p>3.8 Categorize and organize patterns of motion martial arts skills</p> <p>3.9 Categorize and organize gymnastic dexterity skills movement patterns ( with tools )</p>







	<p>3:10 Categorize and organize a series of motion patterns of rhythmic movement skills</p> <p>3.11 Categorize and organize fitness component to health and skills</p> <p>3:12 Categorize and organize the motion patterns of the four basic skills of swimming styles for the purpose of rescue and relief measures in water accidents</p>
<p>4 . Processing, reasoning , and presenting in the realm of the concrete and the abstract domains associated with the development of a self- learned in school , act effectively and creatively , and be able to use the method according to the rules of science</p>	<p>4.1 Measuring the four skills of the ball game , skill improvement plan , and practice it in a real game</p> <p>4.2 Measuring the four skills sports numbers athletics ( long jump and high jump ) , skills improvement plan , and practice it in a real game</p> <p>4.3 The practice of strategy in the fight shadow ( shadow fighting ) martial arts with the smooth and fine motor coordination</p> <p>4.4 Measuring basic skills of two types of motion exercises dexterity ( with two devices ) , skills improvement plan , and practice it in a real game</p> <p>4.5 Measuring the skill range of motion ( choreography ) rhythmic motor activity ) , skills improvement plan , and practice it in a real game</p> <p>4.6 Mengukur degree of quality health -related components of physical fitness and skill using selected instruments</p> <p>4.7 Presenting the basics of swimming demonstration for water rescue in emergencies kegawat and simulate basic skills in an effort to provide relief at the time of the incident in the water system including Cardiac and Pulmonary Resuscitation ( CPR )</p>

CLASS : XII

CORE COMPETENCE	BASIC COMPETENCE
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<p>1 . Appreciate and practice the teachings of their religion</p>	<p>1 Appreciate the body with all the movement and his ability as an invaluable gift of God 1.2 The growing awareness that the body must be maintained and nurtured , as an act of gratitude to the Creator</p>
<p>2 . Develop behavior ( honest , discipline , responsibility , caring , polite , friendly environment , mutual assistance , cooperation , peace-loving , responsive and proactive ) , shows the attitude as part of the solution to the various problems of the nation , as well as position itself as an agent of transformation of society in building nation and world civilization</p>	<p>2.1 Behave in a sportsmanlike play 2.2 Responsible for the safety and progress of oneself and others, the environment , and the use of facilities and infrastructure of learning 2.3 Respect differences in individual characteristics perform various physical activities 2.4 Demonstrate a willingness to cooperate in doing a variety of physical activity in the form of game 2.5 Tolerance and want to share with other friends in the use of equipment and opportunities 2.6 Discipline for doing various physical activities 2.7 Learning to accept defeat and victory in the game 2.8 Having a healthy behavior</p>
<p>3 . Understand , apply , and explain the factual knowledge , conceptual , procedural , and metacognitive knowledge dalamilmu , technology , arts , culture , and humanities with human insight , national , state , and civilization -related causes of phenomena and events , as well as applying procedural knowledge in the field of study accordance with the specific talents and interests untukmemecahkan problem</p>	<p>3.1 Understand the various laws and legal consequences for users and dealers DRUGS 3.2 Demonstrate an understanding of several factors ( such as attitudes , gender , and beliefs about gender roles and sexuality ) that can prevent associated behaviors that lead to STDs , AIDS and pregnancy ) 3.3 Analyze the impact and mitigation caused by sexually transmitted diseases ( STDs ) to self , family and community 3.4 Evaluate the effectiveness of the strategy game ( offense and defense ) one big ball game according to the rules drawn up games 3.5 Evaluate the effectiveness of the strategy game ( offense and defense ) one small ball</p>





	<p>game according to the rules drawn up games</p> <p>3.6 Evaluate the effectiveness of strategies in a simulated race athletic numbers are arranged according to the rules</p> <p>3.7 Evaluate the effectiveness of the strategy game ( offense and defense ) are prepared in accordance martial arts game rules</p> <p>3.8 Applying the principles of movement stringing floor exercises and evaluate the quality of movement ( execution ) dexterity exercises ( using tools ) are assembled</p> <p>3.9 Applying knowledge of rhythmic choreography of motion activity , and to evaluate the quality of movement ( execution ) , and the aesthetic value of the whole series</p> <p>3:10 Applying the principles of the development of the quality improvement program of physical fitness , physical fitness and evaluate the quality of health-related and skill</p> <p>Analyzing 3:11 3 skills movement style swimming pool and analyze knowledge of rescue and emergency relief in the water , as well as follow-up on the ground</p>
<p>4 . Processing, reasoning , menyaji , and create in the realm of the concrete and the abstract domains associated with the development of the learned at school independently and act effectively and creatively , and able to use the method according to the rules of science</p>	<p>4.1 Develop plans , modeling , and analyzing strategy game ( offense and defense ) one big ball game with time , number of players , standardized</p> <p>4.2 Develop plans , modeling , and analyzing strategy game ( offense and defense ) one of the small ball game with time , the number of players standardized</p> <p>4.3 Develop plans , modeling , simulating and analyzing strategies in athletic race numbers ( brisk walking , running, jumping , and throwing ) with the tools , standardized</p>





	<p>4.4 Develop plans , modeling , and analyzing strategy game ( offense and defense ) in simulated combat martial arts</p> <p>4.5 Develop plans , modeling , and analyzing the two sets of gymnastic dexterity to use a tool (each three to five basic motion ) in coordination</p> <p>4.6 Develop plans , demonstrate , and analyze five series of rhythmic motor activity (each three to five motion ) and coordinated various intensities</p> <p>4.7 Develop program to improve and evaluate the degree of health -related physical fitness and personal skills based on instruments used</p> <p>4.8 Demonstrate and practice the skills of 3 - style swimming pools and demonstrate rescue and relief kegawat emergencies in the water , as well as follow-up on the ground</p>
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I. conclusion

1. Curriculum structure in 2013 for SMA / MA have additional hours of study perminggu big as 4-6 hours, for class X from 38 hours to 42 hours, class XI and XII from 38 hours to 44 hours. While the long hours of studying his every regular is 45 minutes.
2. At the 2-hour lesson perminggu PENJASORKES be 3 hours perminggu.
3. PENJASORKES subjects ranging from big ball games (soccer, volleyball, basketball), play small ball (softball, badminton, table tennis), Athletics (run, long jump, high jump, push the bullet, spear throwing), Martial (silat), the fitness improvement training (sprint 60 meters, lie down sit 60 seconds, the vertical skip, run away 1000 m and 1200 m pi pa), Gymnastics floor (agility, agility jump table), motion activity, rhythmic

alteration, Swimming (breaststroke , crawl style, style bottoms, butterfly), concept of healthy lifestyle, eat and drink healthy, disease prevention through physical activity, and Psychotropic drug prevention, healthy living culture

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## GAME MODELS WITHOUT TOOLS TO DEVELOP LOCOMOTOR BASIC MOVEMENT ABILITY FOR LOWER GRADE ELEMENTARY SCHOOL STUDENTS

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### Abstract

*This research aims at producing a game model without tools to develop locomotor basic movement ability for lower grade elementary school students. This research is a development research. The procedures in this research used five main procedures, namely: 1) analyzing the products to be developed, 2) developing the initial product, 3) expert validity test and reliability test of the products 4) small and large scale trials, and 5) product revision. The validation test used a content validity and reliability test using crude index agreement. The reliability test results were obtained a coefficient of 0.714. The small and large scale trials were conducted in Muhammadiyah Tonggalan Klaten elementary school. The small scale trials used grade 1 students with 29 students and large scale trials employing the 232 students of grade 1, 2, and 3. The final results in this research are the five (5) game models without the tools to develop locomotor basic movement ability for lower grade elementary school students. The model names of game models without tools to develop locomotor basic movement ability for lower grade elementary school students, as follows: *Awas Teman*, *Mencari Sarang*, *Ikuti Perintah*, *Kuda Mengejar Kijang*, and *Bergerak Cepat* (Watch Friends, Looking for Nest, Follow the Commands, Horse Chasing Deer, and Move Fast).*

**Key Words:** *Games without Tools, Locomotor Basic Movement, Lower Grade Elementary School Students*

### INTRODUCTION

The Physical Education, Sport and Health teaching held in the elementary school refers to the existing curriculum. The material scope of Physical Education, Sport and Health in elementary schools includes: games and sports, development activity, gymnastics activities, rhythmic activities, water activities, outdoor education and health classes. The achievement of learning the objectives of Physical Education, Sport and Health in elementary schools should consider

the purpose of learning, the students' abilities, the methods, the materials, the facilities and the infrastructure, as well as the pleasure of learning activities of the students. The elements mentioned above must be considered, so that the learning process can be run well and successful, so that the expected destination will be achieved.

Considering from the various learning objectives of Physical Education, Sport and Health in elementary school, there is one of the goals related to children motor skills,





while the goal is to increase the ability and basic motor skill. In addition, the purposes of which is related to the above are also described in the standard of competence especially in the lower classes or grades 1-3 . Practicing basic motion into a simple game/physical activity and the values contained in it, is one of the competency contents standards in the curriculum of Physical Education, Sport and Health elementary school.

The efforts in developing basic motor skills for elementary school students, especially lower- grade students should get the attention of the physical education teacher. The basic motor skills are basically divided into three parts, namely basic locomotor movements, non-locomotor basic movements, and basic manipulative motions. The basic locomotor movement is performed by motion accompanied by the displacement of the place. The non-locomotor basic movement is a movement without any displacement while the basic manipulative motion is motion in the presence of an object being manipulated, and more in the need of coordination between the eyes and toes.

Developing basic motor skills outlined above must be performed by a physical education teacher to adjust the stages of growth and development. To develop basic motor skills in students can be done through a variety of physical activities. The activities provided to children should be given in an attractive and fun form. The forms of activities that appeal to elementary school students,

especially lower grade students can be given in the form of play. This is consistent with the period of elementary school students, including elementary school students and in the times of play.

The forms of the game that will be given to the students in an effort to develop fundamental movement skills, especially basic locomotor movements, can basically be given in the form of game play without tools and games with tools. Game without tools is all game activity that does not require any tools as a requirement of the game course. That is, in the absence of any special equipment, the game can still happen, there must be required that the room is large enough so that children can play freely, (Agus Mahendra, 2005: 4). While the game play activity with a device that requires tools so that the game can occur. However, the actual tools needed do not require expensive equipments, without reducing the essence of the learning process. As an educational tool in physical education, a simple game with a simple tool also can be selected by a teacher. Even with simple games, the benefits to their physical, mental, emotional, and social development remains to be maximized (Agus Mahendra, 2005: 3).

The material distribution provided by the teacher of physical education, of course, also has to be considered the tools and facilities availability owned by the school. The constraints faced by primary schools in organizing Physical Education learning, Sport and Health are usually associated with the





availability of equipment and facilities owned. Regarding to the above, of course, in an effort to develop locomotor basic motor skills also have to adjust to the availability of equipment and facilities. In an effort to develop the student's basic movement skills, especially basic locomotor movements, a teacher can use one of the above forms of the game, using the game without tools. This can be done in an effort to anticipate the limited equipments and facilities owned by the school. With regard to the above, the form or model of the game without tools in an effort to develop basic locomotor movement skills are needed for teachers. Therefore, it is necessary that a real effort to develop a model of the game without tools is in an effort to develop basic locomotor movement skills.

## LITERATURE REVIEW

### The Nature and the Use of Games without Tools

Games are part that can not be separated in physical education learning in elementary school. Games made by students, basically have a specific purpose in accordance with the form of the game is done. Game without special tools has its own characteristics. As the name implies, the game is basically no tools which is all game activity that does not require any tools as a condition of the course of the game. That is, in the absence of any special equipment, the game can still happen. What is required should be just wide enough room so that

children can play freely, (Agus Mahendra, 2005: 4).

A game that is done basically have the purpose and benefits to students. According to Agus Mahendra (2005: 5) the benefits that can be taken in conducting a game without tools include:

1. Help children master the basic motions that are necessary through a learning game that is rich in fundamental basic movements such as running, dodging, chasing and jumping and catching.
2. Help children remember the memorizing control and apply simple rules of the game, which in turn guides the children to obey the rules of the code of conduct as the basis of social life and citizenship.
3. Help children master the skills to analyze the environment as a basis for decision making as a form of critical thinking.
4. Help children master a variety of social skills such as cooperation, behave politely, empathize with others, and have the willingness to help and help others.
5. Help children understand the function of his organs when work and activities, as well as the relationship between physical activity and sport with physical fitness and health.
6. Help children to develop their physical and motor capacity.

The game delivery when it is in the learning process is required in particular the phasing. As in any teaching physical education, health, and sport subject phasing. Basically, in the learning stages of the game





to be supplied to students, there should pay attention to several key points, including: describes the type of game, and explains how play test first, before students do indeed.

Each setting the game shape without tools must pay attention to several things, including:

1. The selected game is a game that should be fairly simple in its execution, it does not contain rules and regulations that are difficult to understand by children.
2. The game should be interesting, so without knowing all the kids want to do. Regarded to be interesting, a game must be capable of encouraging all the children involved and the view, so the atmosphere is really festive games, and that may be atrocious.
3. Games should be used also able to involve more children in a certain time. The point is, when the game is going on, not just one or two children are active, while the rest just watch or yelling at the edge.
4. Finally, of course, and even then the game should contain elements that are useful for the development of children in terms of physical quality development, movement quality improvement, the development of thinking and reasoning, as well as fostering moral and nature of sport that emphasizes honesty, equality, adherence to rules, and be able to develop teamwork ability and other social skills (Agus Mahendra , 2005: 4).

## The Nature of Basic Movement Ability

Basic motion is the basis of all kinds of skills that really need guidance, training, and development so that children can perform quickly and smoothly. For most normal children, the skills and maturity are always associated with the motion base. The basic motor skills in elementary school children are divided into three; locomotor, non-locomotor, and manipulative. locomotor ability is used to move the body from one place to another or to lift the body up. Non-locomotor ability is performed in place, without adequate space. Meanwhile, manipulative skills are developed when children are mastering a variety of objects. More manipulative abilities involve limbs and toes, but other body parts are also used. The object manipulation is more superior than coordination of ankles and hands. The coordination is important enough for the running process in space and motion. Various basic locomotor movement skills are such as: walking, running, jumping, skipping, slidding, galloping, leaping, and hops. Various basic non-locomotor movement skills include: bending and stretching, pushing and pulling, lifting and lowering, as well as folding and twisting. Various basic manipulative movement skills include: receiving, catching, stopping, throwing, bouncing, and kicking.

## The Characteristics of Elementary School Students

Elementary school children period is considered as the big child period. The big







child is a child between the ages of 6 to 10 or 12 years, (Sugiyanto, 1991: 101). The physical development that occurs during this period shows a different trend compared to the previous period and also in its aftermath. The tendency of these differences occurs in terms of rapidity and growth patterns related to the proportion of the size of body parts.

According to Harsono (2000: 60: 70), the characteristics of elementary school children are as follows:

## 1. Age period of 11-13 years:

- a. The slow bones development.
- b. Posture abnormalities are easy to occur.
- c. The coordination of the motions still looks bad and not good.
- d. Very active, play until tired, narrow span of attention or concentration.
- e. Dramatic, imaginative, imitative, sensitive to sounds and rhythmic moves.
- f. Creative and curious, happy to investigate and learn through activity.
- g. Like to form small groups, boys and girls have similar interests.
- h. Seek the approval of adults (parents, teachers, brothers and others).
- i. Easily excited as a compliment, but it is easy saddened by criticism.

## 2. Age period of 9-11 years

- a. In a period of steady growth, the muscles grow faster and require exercises, poor posture tends to be bad, therefore it takes body building exercises.

- b. Full of energy, but easily tired.
- c. Interest to arise proficient in a particular physical skills and games are organized, but not yet ready to understand the complex rules, a longer attention span.
- d. Happy and dare to challenge the rather violent activity.
- e. More fun to get together with peers and peer opponents.

Enjoys activities that dramatic, creative, imaginative, and rhythmical.

- f. Interest for individual achievement, competitive, and has idol.
- g. Good time to teach moral and social behaviours.
- h. Form groups and seek approval of the group.

## 3. Age period of 11-13 years

- a. The period of transition from child to pre-adult, women are usually more adult (mature) than men but men have the durability and strength more.
- b. Rapid body growth, but less regularly, often causing the body's equilibrium disturbed, because the movements tend to be rigid, and can practice until fatigue.
- c. More concerned with the success of the group/team, rather than individuals, more like a game and a game that uses the official rules and more organized, to be recognized and accepted as a member of the group.





- d. Lack of interest in activities that can enhance the capabilities and skills, from a possible interest in physical exercise.
- e. Pleased to participate in active leisure activities, there needs to be guidance and supervision in the interaction with the opposite sex.
- f. Self-awareness began to grow, so too emotional, although still poorly controlled/uncontrolled, and seek approval of an adult.

Concerned about democratic procedures and the planning team, the less can receive the authority and autocratic attitude of others.

## DEVELOPMENT METHOD

This research is a developing research. The procedures or steps used in this study use five major steps or procedures, namely: 1) to analyze the product to be developed, 2) developing initial products, 3) expert validation testing and product reliability testing, 3) large-scale and small scale trials of the field, and 5) revision of the product. The

validation used in the validation test is based on the expert content validity. Basically, the content validity refers to the coverage of the material or materials in accordance with the scope of the material that teaches or measures specific relevant objectives to the material or the content to be given (Nurhasan, 2001: 34).

The reliability test of game models without tools to develop basic locomotor movement skills for lower grade elementary school students is by reliability observation or by using the reliability coefficient for agreement among observers. The reliability testing observations point to the notion that determines the reliability of the instrument using the agreement among multiple observers or jury. To investigate the reliability is by looking crude index agreement, Suharsimi Arikunto, (1997: 202). The results of reliability testing models of the game without a tool to develop basic locomotor movement skills for elementary school students underclass are obtained of a coefficient of 0.714.

## THE RESULTS AND DISCUSSION

The results of this research are the five games without tools to develop locomotor basic movement, as follows:

- 1. Name : *Awas Teman* (Watch Friends).
- Number of Player : Flexible.
- Place : Fields.
- Purpose : To develop basic movement of walking, running, jumping.





How to Play : Students are out of a rectangular field that has been provided. Movement is done by students, after the cue from the teacher.

- When the teacher said, "go", all the students go into the field. Students were told to walk to the directions in the field. Students must not collide with other students.
- Teachers can provide another variation on the student movement such as: run, jump, and jump.
- The movements getting fast.
- The movements stopped after the instructions.
- Explanation for doing other variations of movement need to be considered and confirmed before making movements all students already understand / clear.

2. Name : *Mencari Sarang* (Look for a Nest).

Number of Player : Flexible.

Place : Fields.

Purpose : To develop basic movements of walking, running, jumping.

How to Play : Students are out of a rectangular field that has been provided. Movement is done by students, after the cue from the teacher.

- When the teacher gives the cue to run, the students tried to escape as quickly as possible occupy a point that has been provided in the field.
- When the teacher gives the cue run two, the students tried to run move from one point to another point. Each point must be occupied by a maximum of 2 students. If students do not get a place, then the punishment is given, eg: jump the fence five times.
- When the teacher gives the cue jump two, the students tried jumping move from one point to another point. Each point must be occupied by a maximum of 2 students. If students do not get a place, then the punishment is given, eg: jump the fence five times.
- When the teacher gives the cue jump two, students trying to jump and move from one point to another point.





Each point must be occupied by a maximum of 2 students. If students do not get a place, then the punishment is given, eg: jump the fence five times.

- The number of students who occupy a point, can be varied in accordance with the wishes of the teacher. Explanation for doing other variations of movement need to be considered and confirmed before making movements all students already understand / clear.

3. Name : Follow the Commands.  
 Number of Player : Adjusted/flexible.  
 Place : Fields.  
 Purpose : Developing slidding basic motor skills that are jumping sideways movement with one foot always in front, on the second leg wide open. When hovering, legs behind soon landed the lead leg on the former.  
 How to Play : Students are divided into several groups. Students were told to make a slidding move to the right side or left side. Slidding movements carried out in accordance with orders given by the teacher, and the teacher mentioned how many times students have to move. The slidding done in the opposite direction, from teacher cue. Movement provisions are as follows:
- If the teacher says right and put the number three, meaning students must slide to the left three times, shouting left.
  - When the teacher told the left and put the number three, meaning students must slide to the right side three times while yelling right.

Note: The number of slidding depends on the teachers.

4. Name : *Kuda Mengejar Kijang* (Horse Chases a Deer).  
 Number of Player : Adjusted/ flexible.  
 Place : Should be in a wide field.  
 Purpose : Developing basic skills galloping motion (motion resembles





the motion running horse) and leaping (jumps performed with repulsion landed with one foot and the other foot or run like a deer).

- How to Play :
- Each pair of students. Students are out of a rectangular field that has been provided. Alternately students switch roles be mutually Deer and Horses. Movement is done by students, after the cue from the teacher.
  - When the teacher gives the cue start, the student playing the deer ran like a deer, and the student playing the horses trying to catch him, to run like a horse.
  - During the game, students should not be out of the field specified.
  - Students who are caught, then switch roles.

5. Name : Move Quick.
- Number of Player : Flexible.
- Place : Fields .
- Purpose : Developing hop basic motor skills (hopping on one foot and landing on the same foot).
- How to Play :
- Students are divided into several groups. Students are out of the field lines of a rectangular space provided. Movement is done by students, after the cue from the teacher. When the teacher gives the cue “one”, student must perform hop, clockwise quickly.
- When the teacher gives the cue “two” students should perform hop, counter-clockwise quickly.
  - When the teacher gives the cue “three” students should perform hop, towards the middle of the circle touching the field that have been made (1 meter diameter circle) and right back into place quickly.
  - Teachers can give the variation count; the count does not have to be sequential or random.
  - Hop is done with the feet alternately.
  - If students make a mistake motion be punished.





The results related to the development of models of the game without the tools to develop basic locomotor movement skills for lower grade elementary school students have produced five (5) games without tools. This game is a modified form of the game that has been existed. The game development tools to develop skills without basic locomotor movements is an effort to meet the competency standards in accordance with the practice of basic movements into simple games/ physical activity and the values contained in it.

The form of the game that has been arranged, generally describes or to accommodate a variety of basic locomotor movements that exist, such as: walking, running, jumping, skipping, slidding, galloping, leaping, and hops. The forms of the game without these tools, developed through several stages of development, include: initial product development, expert validation, reliability test, small-scale trials, and wide. The game model names without tools to develop basic locomotor movement skills for lower grade elementary school students, as follows: *Awas Teman, Mencari Sarang, Ikuti Perintah, Kuda Mengejar Kijang, dan Bergerak Cepat* (Watch Friends, Looking for Nest, Follow the Commands, Horse Chasing Deer, and Move Fast). Although this model has been structured, it does not mean the models are perfect. The utilization of game models without the tools that have been developed should be adapted to the condition

of every school. Some repairs and adjustments must be made so that the model that has been arranged is more appropriate and useful for teachers and students of physical education.

## CONCLUSION AND SUGGESTION

Based on the research results that have been described previously, it can be concluded that the models have been set the game without the tools to develop basic locomotor movement skills for lower grade elementary school students. The activity models, consisting of five ( 5 ) games without a tool to develop the basic locomotor movement skills; walking, running , jumping , skipping , slidding , galloping, leaping, and hops . The model names are: *Awas Teman, Mencari Sarang, Ikuti Perintah, Kuda Mengejar Kijang, dan Bergerak Cepat* (Watch Friends, Looking for Nest, Follow the Commands, Horse Chasing Deer, and Move Fast). The models were prepared by adjusting the phases of the lower classes of primary school students growth and development.

The suggestions may be submitted regarding to the purposes of product use, they are: 1) for physical education teachers in elementary school, can use this model in the school , as an effort to develop a basic locomotor movement, 2) the researcher expects that the various inputs to the users can be to improve the model further if still needed improvement , and 3) for other





researchers, it is expected to develop games without tools to develop basic locomotor movement skills for lower grade elementary school students the class more interesting .

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## EVALUATION OF LIVER ENZYME LEVELS IN CHILDBEARING-AGE WOMEN ON PESTICIDES-EXPOSED FARMING AREA (STUDY IN BREBES REGENCY INDONESIA)

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### Abstract

*Health Profiles of Brebes Regency recorded increasing rate of liver dysfunction. Women in Kersana were mostly involved in farming activities using pesticides. Long term of pesticides exposure can cause liver dysfunction. This study evaluated some liver enzyme levels based on the involvement in farming activities, the main farm commodity and the habit of pesticides use. Sample of this study were 86 childbearing-age women from four villages which were selected purposively. Data were collected by interviewing and laboratory testing to blood samples. Level of liver enzymes were measured by enzymatic method with Vitros 250. Data were analyzed using some statistical tests and descriptive analysis. Childbearing-age women in the village with rice commodity had less number of liver dysfunction. There were no significant liver enzyme level differences based on the involvement in farming activities, the main farm commodity and the habit of pesticides use. Indicated that all respondents were exposed to pesticides.*

**Keywords:** childbearing-age women, pesticides exposure, liver enzymes.

### Background

Kersana Sub District has a high level of pesticides use as a result of its extent of agricultural area and its high agriculture productivity, especially onions.<sup>[1]</sup> The use of pesticides in this area was generally applied by mixing 3-5 kinds pesticides organophosphate and carbamate, with the frequency of spraying almost every day, especially during the rainy season.

Farming activities using pesticides in Kersana Sub District were done not only by men. Women in Kersana Sub District also get involved in such activities, generally as farm labors or only for helping their husband. It allowed them to be exposed to pesticides.

Mostly pesticides used in Kersana Sub District were organophosphate and

carbamate which would lead to inactivity of the cholinesterase enzyme, a needed enzyme in the neurotransmitter systems in humans, vertebrates and insects.<sup>[2]</sup> Pesticides could be absorbed into the body through the digestive tract, respiratory tract, and skin. Pesticides exposure in long period would cause damage to body organs such as liver, kidneys, lungs, etc.<sup>[3]</sup>

Liver is one of the target organs of pesticides. Some liver function were the central of metabolism, producing bile, producing heparin, producing plasma proteins, clearing bilirubin from the blood, detoxification centers, forming erythrocytes during fetal period, and others. Liver disorders could disrupt vital functions of the liver in metabolism and detoxification. Liver







dysfunction on women in childbearing-age would make bad impacts not only to themselves but also to their fetus when they were pregnant. Liver dysfunction would lead to disruption of food metabolism and detoxification in the mother's body that would influence the amount of food substances that enter the fetal circulatory system.<sup>[4]</sup>

Aspartate aminotransferase (AST) or serum glutamic oxaloacetic transaminase (SGOT), Alanine aminotransferase (ALT) or serum glutamic pyruvic transaminase (SGPT), and alkaline phosphatase (alkaline phosphatase / ALP) are several of liver enzymes. Their levels in the blood were used as liver dysfunction markers. These enzymes are normally located in the liver cells. Liver damage would cause the liver enzymes released into the bloodstream so that the level in the blood increased and indicated liver dysfunction.<sup>[5]</sup> The study of pesticide exposure conducted in Pakistan showed levels of AST (SGOT), ALT (SGPT), and ALP were higher in the group of exposed workers to pesticides than the non-exposed group.<sup>[6]</sup>

Based on The Health Profile of Brebes Regency, at the hospital level, recorded 218 cases of liver dysfunction in Brebes Regency in 2007, and increased to 358 cases in 2008.<sup>[7,8]</sup> Exposure to toxic materials such as pesticides in long period or chronic liver dysfunction may increase the risk of liver cirrhosis.<sup>[9,10]</sup> Exposure to toxic materials such as pesticides in long period also can increase the risk of cancer, including liver cancer.<sup>[10,11]</sup>

Considering disorders and advanced diseases that could occur, the incidence of liver dysfunction could be used as an indication to start controlling before becoming the other more fatal biological effects, either acute or chronic. This study aimed to evaluate some liver enzyme levels (AST, ALT and ALP) as liver dysfunction indicators based on the involvement in farming activities, the main farm commodity and the habit of pesticides use.

## Methods

This was a cross sectional analytic research. The population in this study was all childbearing-age women aged 17-35 years old residing in Kersana Sub District. 86 childbearing-age women from 4 villages were taken as the sample in this study. The villages were chosen based on their level of farm productivity. The villages were Kupangpari Village, Sutamaja Village, Limbangan Village and Kemukten Village. The inclusion criterias for sample selection in this study was the childbearing-age women had signed the informed consent. The exclusion criterias for sample selection in this study were: the childbearing-age women were in pregnant condition, childbearing-age women were fasting at the time of blood specimen collection, childbearing-age women were suffering from viral hepatitis during blood specimen collection, childbearing-age women were suffering from liver abscess at the time of blood specimen collection, childbearing-age women were suffering from illness or serious health problems at the time





of blood specimen collection, childbearing-age women had a congenital liver abnormality, and childbearing-age women had a habit of consuming alcohol.

Level of AST, ALT and ALP were measured using enzymatic method with Vitros 250. Childbearing-age women were categorized as having liver dysfunction when they were categorized as “abnormal” for at least one of the three liver enzymes levels (AST, ALT, and ALP). Data were collected by interviewing respondents and laboratory testing to blood samples. Data were analyzed using both t-test and descriptive analysis based on the involvement in farming activities, the main farm commodity and the habit of pesticides use.

**Results**

Involvement in farming activities was 75.6% (65 from 86 respondents). Their involvement in farming activity were as farm labors or helping their husbands (farmers) in

doing some farming activities. Mostly villagers in Kubangpari Village had rice as their main farm commodity, whereas the villagers in the other three villages (Sutamaja, Kemukten and Limbangan) had onion as their main farm commodity (Table 1). The studied group wore uncomplete personal protective equipment unregularly. For example, in 7 times doing farming activities, a respondent only 2 times wore unstandard mask. The studied group informed that farmers in their surrounding usually mix 3-7 types of pesticides before spraying it to the plants.

Liver enzyme level tests were performed and 20 respondents (23.26%) were positive in suffering from liver dysfunction, but the mean of the liver enzyme levels for the studied group were in normal range (Table 2). 5 respondents who suffered from liver dysfunction had more than one type of abnormalities for liver enzyme levels (Figure 1).

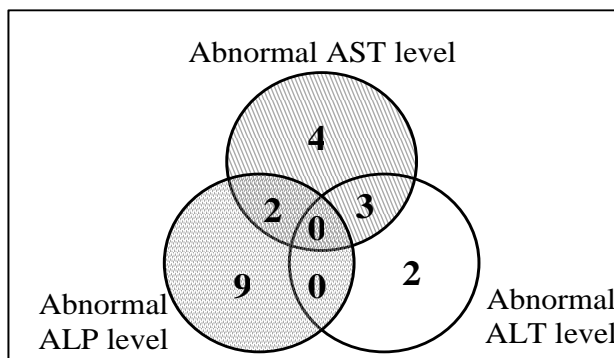
**Table 1. Main farm commodity and the involvement of childbearing-age women in Kersana Subdistrict**

Main Farm Comodity	Village	Involvement in farming activities			
		Involved	Uninvolved	Total	
Onion	Kemukten	Count	27	6	33
		%	81.8	18.2	100
	Limbangan	Count	13	2	15
		%	86.7	13.3	100
Sutamaja	Count	19	10	29	
	%	65.5	34.5	100	
Rice	Kubangpari	Count	6	3	9
		%	66.7	33.3	100
Total		Count	65	21	86
		%	75.6	24.4	100



**Table 2. Liver enzyme levels of studied group**

Liver enzyme level (n=86)	Std.			
	Min	Max	Mean	Dev.
AST level	5	8	6.14	6.95
ALT level	7	69	19.73	10.53
ALP level	43	154	90.63	25.68



**Figure 1. Diagram of liver dysfunction distributio**

Mean comparison of enzyme levels using t-test between involved group and uninvolved group are shown in Table 3. All liver enzyme level means in uninvolved group surprizingly

were higher than the involved group's but the difference were statistically not significant. All liver enzyme levels means were in normal range.

**Table 3. Liver enzyme level mean comparison between involved group and uninvolved group**

Liver enzyme level	Involvement in farming activity	N	Mean	Std. Deviation	P
AST level	Involved group	65	5.95	6.8975	> 0.05
	Uninvolved group	21	6.71	7.2329	
ALT level	Involved group	65	9.62	11.09	> 0.05
	Uninvolved group	21	20.1	8.8029	
ALP level	Involved group	65	87.83	25.323	> 0.05
	Uninvolved group	21	99.29	25.438	





Liver enzyme levels means were analyzed based on the main farming commodity, the number of respondents suffered from liver dysfunction, the involvement in farming activity and the habit of pesticides use (Table 4). Kubangpari villagers with rice as the main farm commodity usually spray pesticides 1-3 times a week, whereas the other villagers with onion as the main farm commodity usually sprayed pesticides 1-7 times a week. Kubangpari Village had the least number of respondents suffered from liver dysfunction (2 respondents or 22.2% from its total respondents). In contrary, Kemukten Village with onion as the main farm commodity and

with 1-21 times a week of pesticides spraying, also had the least number of respondents suffered from liver dysfunction (2 respondents).

The studied group had been asked about the number of pesticides types which were usually mixed for spraying by the surrounding farmers (it could be their husband or father). The surrounding farmers usually mixed at least 3 types of pesticides for spraying. The surrounding farmers from Kubangpari Village had the lowest mean of mixed pesticides number for spraying. There were no significant differences among the means using one way anova test (Table 5).

**Table 4. Liver enzyme levels means analysis based on some characteristics**

Village	Main farm commodity	Liver dysfunction occurrence			Frequency of pesticides spraying (per week)			
		Total	Type of abnormality			Mean	Min	Max
			AST	ALT	ALP			
Kemukten	Onion	2 6.1%	1	0	2	4.1	1	1
Limbangan	Onion	6 40%	4	3	1	3.33	1	7
Sutamaja	Onion	10 34.5%	3	1	7	2.9	1	7
Kubangpari	Rice	2 22.2%	1	1	1	1.8	1	3

**Table 5. The number of mixed pesticides for spraying**

Village	Min	Max	Mean	P Value
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Kemukten	3	6	4.55	
Limbangan	4	7	4.92	<
Sutamaja	3	6	4.10	0.05
Kubangpari	3	4	3.33	

Spraying pesticides was the most risky activity for the studied group to be exposed to pesticides. The data of studied group who suffered from liver dysfunction were analyzed descriptively based on their involvement in spraying pesticides (Table 6). The least number of liver dysfunction occurrence were from Kemukten Village and

Kubangpari Village, each of them only had 2 respondents who suffered from liver dysfunction. Based on the analysis, the 2 respondents from Kemukten Village were not involved in pesticides spraying, while from the 2 respondents from Kubangpari Village only a respondents were not involved in pesticides spraying

**Table 6. The involvement of studied group suffering liver dysfunction in spraying pesticides**

Village	Involvement in spraying pesticides		Total
	Yes	No	
Kemukten	0 0%	2 100%	2 100%
Limbangan	6 100%	0 0%	6 100%
Sutamaja	4 40%	6 60%	10 100%
Kubangpari	1 50%	1 50%	2 100%

**Discussion**

Pesticides widely used in Kersana Sub District were from the types of organophosphate (e.g. Dursban, Radiant, Callicron, Curacron, Selledol, Cedric, Mercy, Falian, and Exocet) and carbamates (e.g. Antracol, Bazoka, Polaram, Victory, Dithane).

Mostly chidbearing-age women in Kersana Sub District involved in farming activity, in addition for helping their husband or father as well as farm labor, generally since they were children. Only limited number of the studied group who involved in pesticides spraying as male farmers. The studied group mostly did some kinds of farming activities like





"mbrodoli" (removing onion from its stalk), "nguleri" (eradicating caterpillar), harvesting, and "nyerabut" (pulling out the grass). These activities, although had less pesticides exposure intensity than the male farmers, still allowed them to be exposed to pesticides. The childbearing-age women who were married to pesticides-exposed farmers were also possible to be exposed to pesticides when washing spray equipments and clothes worn when spraying.

The childbearing-age women could absorb the pesticides through the respiratory tract when they did their activity as a farm labor in the middle of pesticides spraying process. Pesticides would spread through the air in aerosol form. Its high lipid solubility and light molecular weight allowed the pesticides aerosol to enter the respiratory tract directly or through the dust.<sup>[12]</sup> This condition was getting worse because of the habit of not wearing respiratory personal protective equipment (PPE).

Yullius (1995), quoted by Slamet (2003) stated that pesticides could leave residues on plants, either on the surface and the meat sticks, leaves, fruits and roots.<sup>[13]</sup> It allowed the absorption of pesticides by the childbearing-age women through the skin. This could occur through contact with crops that coated by a layer of pesticide spraying.<sup>[12]</sup> The contact might occur in the activity of "mbrodoli", "nguleri", "nyerabut", and harvesting. Contacting with environmental components containing pesticide residues might also lead to

absorption of pesticides through the skin. Pesticides aerosol in the air could come down and soak into the soil and contaminate water on the farm field, well water and river water. Rosliana research results (2001), quoted by Slamet (2003), indicated that the soil in agricultural areas in Lembang-Bandung Indonesia were containing chlorpyrifos residues from 0.136 to 0.699 ppm.<sup>[13]</sup> Pesticides absorption through the skin could also occurred in helping to prepare pesticides, assisting to mix pesticides, spraying pesticides, washing clothes worn when spraying and washing equipment used in spraying.

Absorption of pesticides could be also occurred through the digestive tract. Hands could be pesticides contaminated by doing a variety of farming activities without using PPE (e.g. gloves and boots) and washing both hands and feet with the pesticides contaminated water on farm field. Pesticide contaminated hands allowed the occurrence of pesticide contamination in foods and beverages through eating, drinking, and cooking.

AST and ALT served to transfer the amine group of one amino acid chain to another chain amino acids.<sup>[14]</sup> AST and ALT indicate damage to liver parenchyma. Acute liver parenchymal damage would be indicated by a higher ALT level than AST level. The process of chronic liver parenchymal damage would be indicated by the opposite.<sup>[5]</sup> Serum alkaline phosphatase (ALP) was produced by liver and bones. ALP





produced from the liver could indicate bile disorder. Isoenzymes test could be performed to distinguish whether an elevated ALP derived from bone or liver because the liver isoenzyme is different from the bone isoenzyme. Increased ALP level in adults is generally derived from the liver, whereas in children generally come from the bone. ALP is secreted through the bile ducts. Increased ALP level indicate inhibition of the bile duct.<sup>[15]</sup> There were 20 respondents categorized to have liver dysfunction. The most common variation was abnormal ALP level (9 respondents or 23,3%). It could be possible that the disorders occurred in Kersana Sub District were not only liver function dysfunction alone but could be also inhibition of the bile ducts.

All chemicals, both nutrients and xenobiotics (e.g. pesticides), would be metabolized/biotransformed by the liver. Biotransformation process of xenobiotics (e.g. pesticides) by the liver will reduce or even eliminate its level in the blood and prevent it from reaching other organs. Xenobiotics biotransformation process will change into another form in order to (1) become biologically inactive so that no adverse effect on the body, (2) become more polar and more soluble in water that it will be easier to excrete out the body. Exceptions can occur in several types of xenobiotics, pesticides was one of them, in contrary biotransformation produce more toxic metabolites.<sup>[15]</sup>

Biotransformation process occurred in the liver; therefore when the more toxic metabolites were formed, the liver would be the first affected organ.<sup>[15]</sup> More toxic metabolites can have an impact as direct and as indirect hepatotoxin. Indirect hepatotoxins are metabolites and similar compounds which cause liver damage by disrupting the metabolism. Indirect hepatotoxins might result in cytotoxic damage (degeneration or necrosis of hepatocytes) by disrupting the structural integrity of hepatocytes (morphologically looks like stasis or necrosis) or it can also cause cholestasis (bile flow retaining) by interfering with bile secretion process. Direct hepatotoxins or the results of its metabolism cause damage to the hepatocytes and cell organelles by direct physicochemical effects such as membrane lipid peroxidation, protein denaturation, or other chemical changes. It lead to damage or distortion of the cell membrane then cause hepatocyte cell leaking. Leaked hepatocyte cells released liver enzymes then they presented in bloodstream (the levels of these enzymes will increase in blood).<sup>[12]</sup>

Inspite of 20 respondents (23.26%) were positive in suffering from liver dysfunction, the mean of the liver enzyme levels for the studied group were in normal range (Table 2). Mean comparison of enzyme levels using t-test between involved group and uninvolved group were statistically not significant (Table 3). But all liver enzyme level means in uninvolved group surprisingly were higher than the involved group's. We





submitted 3 (three) assumptions to explain this.

The first assumption is that all respondents, both involved in farming activity and not, were exposed to pesticides. Respondents who were not involved in farming activities could be indirectly exposed to pesticides due to living in agricultural areas for many years through contaminated water, soil, and air. Indirect exposure could also occur when their husbands or fathers were pesticides users. Many factors could influence the intensity of pesticides exposure. Respondents who were not involved in agricultural activities certainly never equipped their selves with personal protective equipment and were less aware of the pesticides exposure. It could be one factor that caused the mean of AST, ALT and ALP in uninvolved group was higher than the involved group's.

The second assumption, abnormalities were already present in liver tissue but not detected by measuring AST, ALT and ALP levels. This assumption was based on research results of Sakr (2007) and Eissa (2009) which no increasing of liver enzymes levels in the blood but histological examination showing the occurrence of damage / abnormality on the liver tissue.<sup>[16,17]</sup> Sulaiman (2007) stated that in mild liver damage would be found elevating liver enzymes levels, but in necrosis level which the synthesis of the liver enzyme had been disturbed, would not be found elevating liver enzymes levels.<sup>[18]</sup> While Ojezele (2009)

stated that no increasing of liver enzymes levels in blood could be due to suppression of their production in the liver which marked the initial phase of the damage before proceeding with the occurrence of cell death and leakage.<sup>[19]</sup>

The third assumption is that pesticides exposure experienced by respondents had not reached the dose resulting in liver dysfunction. While the liver had a remarkable ability to regenerate then other organs.<sup>[20]</sup> The exact dose of pesticides exposure in humans which might result in liver dysfunction was difficult to determine. The former experimental studies about the dose of pesticides exposure were only done to animals and usually with a sub lethal dose.<sup>[16,17,19]</sup>

Kemukten Village and Kubangpari Village had the least number of respondent suffered from liver dysfunction, each of them were 2 respondents. Kemukten Village had onion as its main farm commodity, whereas Kubangpari Village had rice as its main farm commodity. There was an interesting phenomena that the two villages had the least number of respondent suffered from liver dysfunction, each of them were 2 respondents eventhough they had opposing characteristics. As onion producer, farmers in Kemukten Village needed to spray pesticides higher in frequency than farmers in Kubangpari Village as rice producer.

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## CHILD HEALTH ANALYSIS IN KEBONDALEM VILLAGE AS A PILOT PROJECT OF VILLAGE FIT FOR THE CHILDREN

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### Abstract

*The research was conducted in the Kebondalem Village of Kendal by descriptive qualitative design and scope of the research is the 9 main indicators of basic health and welfare cluster. Results of this study indicate that in Kebondalem Village still have major problems related with main child health indicators, such as: infant mortality rate which are caused by IUFD and eclampsia, the percentage of exclusive breastfeeding (36 %), there is no room for breastfeeding, there is no sufficient system to give information about how many children from poor families gain access on health insurance and welfare guarantee, does not have a set policy in the village level related to the provision of no-smoking areas. While a fairly good indicator of performance represented on: prevalence of malnutrition on the children under five, the percentage complete primary immunization (92 %), there is available organizations that provide reproductive health services and mental health, as well as the percentage of households who access the clean water. Suggestions in this study are: implementing a program to reduce infant mortality rate in particular to prevent and deal with IUFD and eclampsia, implement program activities that support exclusive breastfeeding, establishing data systems and information in village level related to children from poor families who have access on health insurance and welfare guarantee, make a policy that governs Kebondalem villages without cigarettes and provide non-smoking areas, in order to reach the village fit for the children particularly related to child health.*

**Keywords:** Village Fit for The Children, Health, Children.

### 1. INTRODUCTION

#### A. Background

District policy/Child Friendly Cities or Cities Fit For The Children (KLA) is the development of guidelines for the implementation of the District/City by integrating government commitment and resources, communities, and businesses are planned thoroughly and continuing to fulfill children's rights. Overall indicator of the criteria for KLA include the fulfillment of the rights of children which consists of 5 clusters, namely Cluster 1. civil rights and freedom, 2. Getting the right family

environment and alternative care, 3. Rights related to basic health and welfare, 4. Right to an education, using of leisure and cultural activities, and 5. The right to special protection. The range of indicators on the research scope of this study only focused on the cluster of basic health and welfare at the village that will be projected as villages fit for the children in Kendal in year 2012 especially in the Kebondalem Village. In this study will be to analyze the health situation of children, particularly at the primary health and wellbeing cluster that





has 9 main indicators, namely: Infant Mortality Rate (IMR), the prevalence of malnutrition in children under five, the percentage of exclusive breastfeeding, the number of breastfeeding rooms, the percentage of complete primary immunization, the number of agencies that provide reproductive health services and mental health the number of children from poor families gain access to health insurance and welfare guarantee, the percentage of households who access to clean water, and number of non-smoking areas.

## B. Research questions

From the description above, the issues identified is "How the child health analysis result in the Kebondalem Village as a pilot project of village fit for the children in Kendal?"

## C. Objective

The objective of this study is: make child health analysis result in the Kebondalem Village as a pilot project of village fit for the children in Kendal.

## D. Output

The output of this research is a picture of the health situation of children in the Kebondalem Village as a pilot project of village fit for the children in Kendal which are covering 9 main indicators, namely: Infant Mortality Rate (IMR), the malnutrition prevalence of children under five, the percentage of

exclusive breastfeeding, the number of breastfeeding rooms, the percentage complete primary immunization, the number of agencies that provide reproductive health services and mental health, the number of children from poor families gain access to health insurance and welfare guarantee, the percentage of households who access to clean water, and number of non-smoking areas. While the benefits of the research is the child health analysis in Kebondalem village as a pilot project of village fit for the children in Kendal that can be used as a guide in the improvement of the child health situation in support of the preparation program in pilot project of village fit for the children in Kendal.

## E. Teoritical Review

Based on the Regulation of the Minister of Women Empowerment Republic of Indonesia Number 02 Year 2009 on Policy Regency/City Proper Child , Article 6, then what is meant by the World Fit For The Children (KLA) policy is the implementation of norms, standards, procedures and criteria (NSPK) child protection is one of the obligatory parts district/city to implement into the planning, budgeting, monitoring, evaluation and reporting. . KLA policy objectives are to: 1). increase the commitment of the government, communities and businesses in the county/city in an effort to realize the development of the child's care , the needs and best interests of the child; 2).





integrating the potential of human resources, finance, facilities, infrastructure, methods and technologies that the government, society and the business world in the district/town in realizing the rights of children; 3). implementing child protection policies through strategy formulation and development planning district/city as a whole and sustainable in accordance with the KLA indicators, and 4). strengthening the role and capacity of district/city governments in achieving development in the field of child protection. In the framework of the effective implementation of KLA policies in the district/city formed a task force appointed and dismissed by the Regent. KLA task force is coordinating body consisting of representatives of the elements of the executive, legislative, and judicial branches in charge of children, higher education, non-governmental organizations, businesses, parents and children. There were 13 in Kendal Regional Office, 15 Regional Technical Institute, regional companies 5, 10 NGOs, 31 Future Organization, and 5 Foundation, and all of them are represented in the KLA Task Force which are appointed by the regent of Kendal.

## 2. METHOD

The design for this study was descriptive qualitative. Collecting data in this study were obtained through: interviews, Focus Group Discussion

(FGD), and the study of documents. The scope of this study only focused on 9 key indicators in the health cluster KLA base and well-being are: Infant Mortality Rate (IMR), the prevalence of malnutrition in children under five, the percentage of exclusive breastfeeding, the number of breastfeeding rooms, the percentage complete primary immunization, the number of agencies that provide health care reproductive and mental health, the number of children from poor families gain access to health insurance and welfare guarantee, the percentage of households who access to clean water, and number of non-smoking areas.

## 3. RESULTS AND ANALYSIS

Kebondalem Village has 5300 inhabitants, consisting of 2611 (49%) men and 2689 (51%) women, with the number of children aged 0-18 years in this district is 2006 as a child, mostly in the age group 6-12 years, which 510 (25%) men and 549 (27%) women.

### a. Infant Mortality Rate.

Infant Mortality Rate is the number of the calculation of the number of deaths of infants less than one year for every one thousand live births in an area contained by one year running. The infant mortality rate, the KLA has targeted the achievement indicators below the national average and declining every year. Number of infant deaths in the Kebondalem Village in 2010-2011 as much as 3 babies. The main causes of infant mortality are IUFD and eclampsia.





- b. The prevalence of malnutrition in children under five.

Handling mechanism malnutrition through prevention and control efforts, including through: nutritional counseling, networking cases, optimizing the potential of local food and supplementary feeding. The prevalence of malnutrition in children under five, the KLA has targeted the achievement indicators below the national average and declining every year. There is no number of malnutrition in children under five in years 2010-2011 in the Kebondalem Village.

- c. The percentage of exclusive breastfeeding.

The definition of exclusive breastfeeding are giving only breast milk for infants, with no other food, until the baby reaches 6 months of age. Assertion ban of formula milk advertisement and restrictions on giving advice for formula feeding. Percentage of exclusive breastfeeding, the KLA has targeted the achievement indicators above the national average and is increasing every year. Percentage of exclusive breastfeeding in the Kebondalem Village in year 2010-2011 reached 36%, this is mainly due to no activities that support exclusive breastfeeding program in this village.

- d. The number of breastfeeding rooms.

Rooms of breastfeeding and breastfeeding facilities in question must meet the following requirements: there is an enclosed space, a sink (the sink),

fridge, baby table and chairs for seating mothers who breastfeed/express the milk. Rooms of breastfeeding and breastfeeding facilities are mainly provided in the workplace (government and private), in public places (shopping centers, stations, airports, etc.) and other public services. Government Regulation No.33 of 2012 on the granting exclusive breastfeeding. In accordance with the indicator there should be breastfed at the rooms or corner of the village and is increasing every year, but in the Kebondalem Village has not had breastfeeding rooms yet.

- e. the percentage complete primary immunization.

The so-called Complete Primary Immunization is the first time BCG, DPT 3 times, HB 3 times, 4 times Polio, and Measles 1 times. The percentage of primary immunized, in the achievement of a minimum target indicator KLA had 80% and increasing every year. Percentage complete primary immunization in the Kebondalem Village has been able to meet the target cause already has reached 92%.

- f. Number of agencies that provide reproductive health services and mental health.

Examples of agencies that provide reproductive health services and mental health is Information Center Counseling Adolescent Reproductive Health (PIKKRR), Psychological Consultation Center, Drug Addiction and Rehabilitation Center. In the Kebondalem





Village only has PIKKRR at the local health center.

- g. The number of children from poor families gain access to health insurance and welfare guarantee.

Examples of anti-poverty program is a Community Health Insurance (Jamkesmas), Delivery Guarantee (Jampersal), the National Program for Community Empowerment (PNPM) Mandiri, Family Hope Program (PKH), Health Card, and others. While in the Kebondalem Village have not had a system of data and information sufficient to indicate how many children from poor families gain access to health insurance and welfare guarantee improvement.

- h. Percentage of households who access to clean water.

Households who access to clean water in question is that through pipelines and/or non pipes were reported by health centers. Clean water is water suitable to be processed into drinking water. Percentage of households who access to clean water, the KLA has targeted the achievement indicators above the national average and is increasing every year. Percentage of households who access to clean water in the Kebondalem Village in 2010-2011 has reached 98%.

- i. Number of non-smoking areas.

Non-smoking area, is a room or area for activities otherwise prohibited smoking, sell, advertise and/or promote tobacco products. Established in the region without cigarettes government

buildings, health care facilities, where teaching and learning (education), where children play, places of worship, public transport, workplaces, public places and other places specified (by the Government). Region or area without a cigarette (non-smoking area) was developed in the area that contained children, PP 109 of 2012 on Protection of Materials containing addictive substances such as tobacco products for health. Availability of non-smoking area, the KLA has targeted the achievement of indicators there and is increasing every year. Kebondalem Village does not have a policy governing non-smoking area and do not have a non-smoking area.

## 4. CONCLUSIONS AND RECOMENDATIONS

### A. Conclusions

Results of child health analysis in the Kebondalem Village as that of the main indicators of 9 basic health and well-being cluster are as follows: the number of infant deaths in the Kebondalem Village in 2010-2011 as many as 3 babies, which is a major cause of infant mortality is IUFD and eclampsia, for the indicator of the prevalence of malnutrition in children under five in years 2010-2011 show that there is no malnutrition of children under five in the Kebondalem Village. For the percentage of exclusive breastfeeding in the Kebondalem Village in year 2010-2011 was only





36%, this is because there is no program activities that support exclusive breastfeeding in the village and in this village also has not had a breastfeeding rooms. On the percentage of complete primary immunization indicator in the Kebondalem Village has reached the target of 92% while the target on KLA indicator only reaches at least 80% and rising every year. For the other information, in the Kebondalem Village only has PIKKRR in local health centers as institutions that provide reproductive health services and mental health, and for the indicators which related number of children from poor families gain access to health insurance and welfare guarantee system does not have sufficient data and information which can indicate how many children from poor families gain access to health insurance and welfare guarantee in the Kebondalem Village. For the percentage of households who access to clean water in the Kebondalem Village in year 2010-2011 has reached 98%, and for the number of non-smoking areas indicators in the Kebondalem Village does not have a policy governing non-smoking area and do not have a non-smoking area.

## B. Recommendations

Recommendations given in this study related to cluster 3 or basic health and well-being cluster, namely:

implementing a program to reduce the number of infant deaths in the Kebondalem Village particularly to prevent and deal with IUFD and eclampsia, implement program activities that support exclusive breastfeeding in the village for example: reactivate the role of breastfeeding counselor in village level, improving the implementation of Early Initiation of Breastfeeding (IMD), Communication-Information-Education (KIE) of exclusive breastfeeding and lactation management, provision lactation room with adequate facilities in place in strategic locations, and increasing activities to support exclusive breastfeeding. It is also build a system of adequate data and information at the village level so as to show how many children from poor families who have gained access to health insurance and welfare guarantee so as to increase the coverage or the number of children who can gain access to health insurance and welfare guarantee. And related indicators of the areas without cigarettes is to make a policies that govern rural region without a cigarette in the village .

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## NORMS OF PHYSICAL ABILITY PUSLATDA FIGHTER

### In DAERAH ISTIMEWA YOGYAKARTA

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#### Abstract

*The purpose of this study is to make the norms of physical abilities athlete Puslatda martial arts sparring category in Yogyakarta Special Region .*

*This study is a descriptive research . The population used in this study were all fighters Puslatda in Yogyakarta Special Region is prepared to participate in the qualifying round PON XVIII in 2011 . The study sample was Puslatda fighters sparring category Special Region . Sampling technique using purposive sampling . Data analysis techniques for determining the physical capabilities norm using norm reference assessment methods with statistical mean and standard deviation of Anas Sudijono .*

*The results showed that the norm has been composed athlete physical ability Puslatda martial arts sparring category in five categories: excellent, good , moderate , less and less so . The physical abilities measured in this study include : speed , agility , flexibility , power arm , leg power , abdominal muscle strength , anaerobic endurance , reaction speed , and VO2 max*

**Keywords :** *norm , physical ability , Puslatda , martial arts*

#### INTRODUCTION

Exercise training is a process which is done by systematically and repeatedly with a given loading progressively . In addition, the exercise was an attempt by someone to prepare themselves in order to achieve certain goals . In physiological terms , training is one effort in improving the system of the organism and its function improvements to optimize performance and sports performance ( Bompa , 1994) . Exercise is also a process improvement exercise through a scientific approach , in particular the principles of regular education and planned to enhance the ability and readiness of athletes ( Harre in Bristol Vienna , 1982) . It can be concluded that the practice is a systematic

process to improve the quality and appearance of physical exercise performed repeatedly with progressive loading .

The general purpose of the exercise is to help coaches and trainers in order to implement and has the ability to help uncover potential conceptual athletes in achieving optimal performance . According Sukadiyanto (2002 ) outline for training purposes , among others : ( 1 ) Improve the physical quality of general and complete foundation to form a basic foundation in the development of specific physical elements , the energy level of fitness and muscular fitness , (2 ) Develop and increase the potential for physical specifically tailored to support the athletes in olahragasehingga branches show the





potential capabilities , ( 3 ) Adding and refining techniques for mastering the basic technique is good and right is the basic capital toward higher achievement , ( 4 ) Developing and refining the strategy , tactics , and patterns of play ; ( 5 ) To be able to develop strategies necessary acumen and foresight in analyzing the advantages and disadvantages of practicing child and foe alike , and ( 6 ) Improve the quality and ability of psychic aspect .

Implementation of a training program in the category of martial arts sparring , physical ability should be considered as a major factor and the most important in the training required to achieve optimal performance . Physical exercise is done regularly , programmed , and the well will produce measurable physiological changes that lead to changes in the body's ability to function in a better energy yield . According to Davis et al (1989 ) changes that occur as a result of physical exercise include: ( 1 ) Changes in biochemistry , namely : increasing reserves of glucose and triglycerides , increased oxygen extraction due to an increase in the concentration of myoglobin , increased vascularity due to the transport of oxygen through the capillary number in muscle , increased ATP production through aerobic system because the amount of oxidative enzymes increased very much , an increase in ATP - PC system with increasing ATP - PC reserves , reserves increased activity of glucose and glycolytic enzymes , increasing the speed of muscle

contraction , muscle hypertrophy , increased density of capillaries per muscle fiber , increasing the strength of tendons and ligaments , increasing the power of the motor unit recruitment , and increased lean body weight , ( 2 ) changes in kardiorespiratori system , namely : cardiac hypertrophy , increased heart stroke volume , heart rate decreased during breaks , increased blood volume and hemoglobin , blood pressure , and respiratory systems , and ( 3 ) other changes , namely : changes in body composition , changes in blood cholesterol and triglyceride levels , changes in blood pressure , changes in acclimatization , and changes in connective tissue .

Victory in the martial arts in general is determined by the sum of the values obtained during the game . Value in martial arts sparring category obtained when fighters do techniques with hard punches and kicks on target specified and perform dropping technique on an opponent who passed by the referee and judges . Target scores in martial arts sparring category is on the chest , abdomen ( center to top ) , ribs , and spine or the back of the body . Parts of the limbs can be targeted in an attempt to bring down the opponent , but it does not have value as a target perkenaan ( Persilat , 2001) . Therefore , in order to obtain the required value for the game motion control capabilities technique properly .

The success of the possession in the martial arts technique of motion is determined by the physical capabilities ( component





biomotor ) held by fighters . Therefore , before the techniques taught fighters motion must be based on the ability biomotor good . So that every fighter can have a good ability biomotor , the main objective of the exercise should lead to improved functional potential athletes and develop them to the highest standards . Therefore, physical ability is the main means of support for the realization of motion techniques ( Sukadiyanto , 2011) .

To be able to determine the success of the process of physical exercise , the coach must have a target that will be achieved from each athlete . Thus will facilitate in determining the desired target practice . Therefore , the accuracy in determining the target has a considerable influence on the results of physical exercise . In martial arts , precision targeting of physical exercise is largely determined by the ability of the early fighters . To that end , the coach must have the ability biomotor preliminary data of each fighter in order to monitor the extent of the change biomotor upgrades as a result of the exercise performed .

Each sport has a different appearance standards at every game . Performance standards normally used by coaches as a basis for determining the target of exercise , especially in physical exercise . Therefore, the results of physical exercise can be observed directly during the exercise process . To that end , each branch must have a norm olahraga physical capabilities that facilitate coaches and athletes in monitoring the

achievement of training programs conducted , including the martial arts sport .

Special Region of Yogyakarta has led to many fighters who have qualified sparring categories both nationally and internationally . But in fact , the Special Region of Yogyakarta IPSI has not been the norm for fighters physical abilities . That is, the eligibility standards of quality fighters physical abilities Yogyakarta Special Region and has not been taken as a measure of the feasibility of every fighters physical abilities . As a result , martial arts achievements in Special Region of Yogyakarta tends to fluctuate .

Based on the fact that there should be research on the creation of norms of physical abilities Puslatda martial arts athletes in the Special Region of Yogyakarta , especially in the sparring category . Thus martial arts coaching in DIY can be done more effectively and efficiently . In addition , the results of the study are expected to be used as a reference for trainers and coaches to determine the qualifications of martial arts athletes . Based on the background and the identification of the problem , the problem can be formulated as follows : How norms of physical abilities athlete Puslatda martial arts sparring category in DIY ?

## **Pencak Silat match CATEGORIES**

Basic principles of martial arts sparring category is an attack technique using punches , kicks and fast and hard on specific targets so that your opponent can not perform as well as children and make evasion techniques both fall- fall- fall- down above or





endorsed by the referee and judges . According Persilat (2001 ) is a martial arts sparring category match featuring two fighters from different camps facing each other and using elements of defense and attack , the parry , dodge , and attack on specific targets and knockdown .

In general, the techniques of martial arts can be divided into three , namely engineering punches , kicks , and techniques fallout . In order to punch , kick , and the fall-out can be done with hard , fast , and precise control necessary skills and motor skills basic techniques properly . Motor skills are used to direct every muscle activity to a specific destination . While motion prowess is the completeness that can facilitate the appearance of the various skills ( Rahantoknam , 1988) . In the category of martial arts sparring , skills and abilities needed to facilitate the movement of fighters to master and develop a variety of techniques .

Skills in martial arts sparring categories included in the open- type skills ( open skills) . That is, environmental factors greatly influence the success of a fighter in order to perform optimally . Several environmental factors can affect during the match in which martial arts is a race , the equipment used ( body protector ) , the temperature , the audience , and opponents compete . One of the most difficult environmental factors addressed by the fighter is a contender to compete . This is caused by the motion pattern and the type of

opponent play relatively different and tends to fluctuate . It required the ability of fighters to anticipate every move made by the opponent played .

Precision motion anticipate opponents competed in martial arts sparring category is determined by eye and motor coordination skills . That is, the eye as opposed to the recipient in the form of a moving stimulus , and arm and leg movements are responding in the form of hitting or kicking . Coordination capabilities supported by the sharpness of view of an object , in determining the retrieval accuracy in distance between the position of the opponent's fighters to compete . It required a good coordination ability of the fighters to make it easier to anticipate the opponent's attack and at the time of the attack .

Techniques in order to attack the target , movements in martial arts sparring category must be done quickly and suddenly making it difficult for the opponent to do the avoidance and catch . Thus , the necessary abilities and skills of a good speed so using foot fall-out technique can be done perfectly .

Highest score in the category of martial arts sparring can be obtained when the fighters were able to knock the opponent played . By Agung Nugroho (2001 ) it falls within the martial arts techniques can be divided into two , namely ( 1 ) techniques by using a fall- foot ( vertical sweep , rake fallen , mengkait , and cutting , and ( 2 ) Engineering dropping through the catch ( with one hand and two hands ) . success doing it falls





through the catchment techniques to get a value of 1 +3 , so it is a technique that is relatively feared by opponents . Besides producing high value , the likelihood of injury inflicted upon relatively large . techniques dropping through the tough catches a kick technique applied to the done quickly and suddenly . means , fighters will have difficulty in applying the technique when it falls through the catch can kick your opponent with quick, powerful , and purposeful . kick for it to be done with an explosive movement in order to make your opponent do the catch . means , in addition to the power and speed capability , the success of the attack in martial arts sparring category also determined the ability of the power leg of fighters .

Highest score in the category of martial arts sparring can be obtained when the fighters were able to knock the opponent played . By Agung Nugroho (2001 ) it falls within the martial arts techniques can be divided into two , namely ( 1 ) techniques by using a fall- foot ( vertical sweep , rake fallen , mengkait , and cutting , and ( 2 ) Engineering dropping through the catch ( with one hand and two hands ) . success doing it falls through the catchment techniques to get a value of 1 +3 , so it is a technique that is relatively feared by opponents . Besides producing high value , the likelihood of injury inflicted upon relatively large . techniques dropping through the tough catches a kick technique applied to the done quickly and suddenly . means , fighters will have difficulty in applying the technique when it falls through

the catch can kick your opponent with quick, powerful , and purposeful . conducted opponent this is due to the tendency of the reaction to avoid or evade the opponent attacks . Furthermore dropping through the catchment dominant technique can be applied to the second attack carried out opponents in a row . For that kicks should be done with an explosive movement in order to make your opponent do the catch .

Martial arts matches held in three rounds , and in between innings given 1 minute rest . In each round takes two minutes clean . Thus the possibility of a decline in physical conditions ( fatigue ) during the game relatively large , especially in the third round . For that fighters should have good endurance capability in order to perform optimally until the game ended . According Hariono Cloud ( 2006), the predominant energy system in martial arts sparring category is the ATP - PC 73.75 % , 16.25 % LA - O<sub>2</sub> and 10 % O<sub>2</sub> . Thus endurance capabilities required in martial arts sparring category is anaerobic endurance . Therefore fighter who has good anaerobic endurance will be able to compete with optimal for three rounds without experiencing significant fatigue .

To be able to win the game , the technique should be done in a difficult opponent and counter attack . If the opponent can counter technique ( counter attack ) in ways that do not get value ( reply of the opponent is not authorized by the referee and judges ) . Conversely, if your opponent





attacks, fighters must be able to undergo a rebuttal or counter attack, and evasion is done quickly. The successful conduct counter attack in martial arts sparring category will get the value +1 so of each technique performed. Therefore, in order to do the counter attack during match agility and the ability to support a good reaction speed. Fighter who has the agility and speed abilities right reaction would be easier to carry out an attack and respond to any attacks made by the opponent.

Attacks and bela-an in martial arts sparring category can be optimized when a fighter has the ability to control motion and correct technique well supported by good physical ability. Therefore, in order to implement any fighter in the game motion techniques necessary skills biomotor good. The biomotor components required in martial arts, among which are endurance, strength, speed, coordination, and flexibility (Awan Hariono, 2006).

## PHYSICAL ABILITY TO CATEGORY Pencak Silat match

Pencak silat is a body-contact sport so the possibility of injury on the pitch is relatively large. To that end, in a game fighter who has the skills necessary qualified. Quality fighters influenced by the physical quality and psychological quality. Physical qualities, among others, is determined by the energy and fitness muscle fitness. Biomotor muscle fitness components that include strength, endurance, speed, flexibility, and coordination. While energy fitness include

aerobic energy systems and anaerobic energy systems. Furthermore psychic quality is influenced by motivational factors, tension, anxiety, concentration, and attention fighters. Thus the ability biomotor indispensable component in the martial arts. By having the ability biomotor good, fighters are expected to perform optimally.

Biomotor is the ability of human motion is influenced by the condition of the organ systems, including: neuromuscular system, respiratory, digestive, circulatory, energy, bones, and joints (Sukadiyanto, 2002). According to Bompa (1994) basic components of biomotor sportsmen include strength, endurance, speed, coordination, and flexibility. The other component is a blend of several components that form the terminology itself, such as: power and agility. An example is a combination of power or the product of strength and speed, while a combination of speed agility and coordination.

Broadly speaking biomotor influenced by the fitness components of energy (energy fitness) and muscle fitness (muscular fitness). Fitness components of energy are energy sources that result in movement, consisting of aerobic and anaerobic capacity. While the whole of Muscle fitness is biomotor components that include strength, endurance, speed, power, flexibility, balance, and agility (Sharkey, 1986). According to Martens (1990) muscular fitness includes strength, speed, muscular endurance, power, and flexibility. Thus the level of





muscular fitness is very influential on increasing mastery of abilities, skills, and physical fitness.

Biomotor components required in martial arts sparring categories, among which are endurance, strength, speed, coordination, and flexibility. However, it does not mean that the other components are not required biomotor in martial arts. Biomotor components such as power, stamina, balance and agility is a combination of several components biomotor. That is, if practiced biomotor components it will automatically generate power, stamina, balance, and agility. Examples are: (1) In the train speed, automatically power components also terlatihkan biomotor, (2) speed training form with short distances and constantly changing direction will form a component of agility; (3) In the exercise of power, the component automatically biomotor power also terlatihkan; (4) The components of agility is a fusion of elements of speed, flexibility, and coordination. Thus, any exercise that involves components of speed, coordination, flexibility and agility will automatically form.

## HOW TO RESEARCH

This research is a descriptive study, which describes the object under study through the sample data as is without doing analysis and making conclusions are applicable to the public. The study was conducted at the Faculty of Sport UNY on 22-23 October 2011. The population used in this study were all Puslatda martial arts athletes

in the Special Region of Yogyakarta is prepared to participate in the qualifying round PON XVIII in 2011 as many as 54 people. The study sample was all martial arts athletes Puslatda sparring category as many as 26 sons and 14 daughters. Sampling technique using purposive sampling.

The instrument used in this study using a modified prime test. Based on the results of the Focus Group Discussion (FGD) martial arts coaches Se - Java on 11 November 2011 there are 9 proper test instrument used to measure the athlete's physical abilities of martial arts sparring category. The test instrument used in this study are as follows: (a) Agility (agility) by using a shuttle run test, (b) flexibility by using the sit and reach test; (c) Power limb by using a standing broad jump test; (d) Speed test run using a 30 meter; (e) The speed of the reaction by using WBR Measuring equipment II (visual), (f) using anaerobic endurance test run 300 meters; (g) Power of the abdominal muscles with sit ups using a 30-second test (h) Power arm push-up test using 30 seconds, and (i) VO2 Max by using multy - stage test.

Data collection techniques in this study with a survey carried out by means of the test and measurement category athletes Puslatda martial arts sparring in Yogyakarta Special Region is prepared to participate in the qualifying round PON XVIII in 2011. Each subject was given the opportunity to test twice. The determination of the norms of physical abilities use the norm reference







assessment with statistical mean and standard deviation of Anas Sudijono .

**RESULTS AND DISCUSSION**

**Results**

Based on the results of tests and measurements with moldifikasi of prime tests obtained following calculation :

**1 . agility**

Calculation results obtained for male athlete mean value of 7.106 and a standard deviation of 0305 , while for women athletes obtained a mean value of 8,084 and a standard deviation of 0423 . The results of the determination of norms agility skills can be seen in Table 1 below :

Tabel 1. Norms of pencaksilat agility in DIY

Norms	Man (sec)	Woman (sec)
Excellent	< 6.65	< 7.45
Good	6.65 - 6.95	7.45 – 7.87
Average	6.96 - 7.23	7.88 – 8.30
Poor	7.24 - 7.56	8.31 – 8.72
Very Poor	>7.56	>8.72

**2 . flexibility**

Calculation results obtained for male athlete of the mean standard deviation of 49.77 and 10:55, while for women athletes

obtained a mean value of 41.57 and a standard deviation of 6:11 . The results of the determination of norms flexibility abilities can be seen in Table 2 below :

Table 2 . Norma flexibility Puslatda Pencak Silat athletes DIY

Norma	Man (cm)	Woman (cm)
Excellent	>66	> 51
Good	55 – 66	45 – 51
Average	44 – 54	38 – 44
Poor	34 – 43	32 – 38
Very Poor	<34	<32

**3 . Leg Power**

Calculation results obtained for male athlete of 2:51 and the mean standard deviation of 0.31 , whereas for women

athletes obtained a mean value of 1.67 and a standard deviation of 0:14 . The results of the determination of norms flexibility capabilities can be seen in Table 3 below:

Table 3 . Norma Leg Power Athletes Puslatda Pencak Silat DIY

Norma	Man (meter)	Woman (meter)
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Excellent	>2.97	> 1.88
Good	2.67 – 2.97	1.74 – 1.88
Average	2.36 – 2.66	1.60 – 1.73
Poor	2.06 – 2.35	1.45 – 1.59
Very Poor	< 2.06	< 1.45

**4 . speed**

Based on calculations for male athlete obtained a mean value of the standard deviation of 3:03 and 0:14 , while for women

athletes obtained by the mean standard deviation of 3:21 and 0:13 . The results of the determination of the speed capabilities of the norm seen in Table 4 below :

Table 4 . Norma Speed Pencak Silat athletes Puslatda DIY

Norma	Man (sec)	Woman (sec)
Excellent	<3.49	<3.84
Good	3.50 – 3.93	3.84 -4.29
Average	3.94 – 4.37	4.30 – 4.74
Poor	4.38 – 4.81	4.75 – 5.19
Very Poor	> 4.81	>5.19

**5 . Abdominal Muscle Strength**

Calculation results obtained for male athlete mean value of 29.50 and a standard deviation of 2.63 , whereas for women

athletes obtained a mean value of 26.86 and a standard deviation of 2:44 . The results of the determination of norms ability abdominal muscle strength seen in Table 5 below :

Table 5 . Norma abdominal muscle strength Puslatda martial arts athletes DIY

Norma	Man (rep)	Woman (rep)
Excellent	> 33	> 30
Good	31 – 33	28 – 30
Average	28 – 30	25 – 27
Poor	25 – 27	22 – 24
Very Poor	< 25	< 22

**6 . Arm Power**

Calculation results obtained for male athlete mean value of 34.15 and a standard

deviation of 3.95 , whereas for women athletes

obtained a mean value of 24.71 and a standard deviation of 3:47 . The results of the





determination of the ability of a power arm norm can be seen in Table 6 below:

Table 6 . Norma Arm Power Athletes Pencak Silat Puslatda DIY

Norma	Man (Rep)	Woman (Rep)
Excellent	> 40	>30
Good	36 – 40	27 – 30
Average	32 – 35	23 – 26
Poor	28 – 31	19 – 22
Very Poor	< 28	< 19

### 7 . VO2max

Calculation results obtained for male athlete mean value of 47.60 and a standard deviation of 2.70 , whereas for women :

athletes obtained a mean value of 42.47 and a standard deviation of 2:51 . The results of the determination of VO2 max norm capabilities can be seen in Table 7 below

Table 7 . VO2 max norm Puslatda Pencak Silat athletes DIY

Norma	Man	Woman
Excellent	> 51.6	> 47.7
Good	48.9 – 51.6	44.2 – 47.6
Average	46.2 – 48.8	40.7 – 44.1
Poor	43.5 – 46.1	37.2 – 40.6
Very Poor	< 43.5	<37,2

### 8 . Anaerobic Endurance

Calculation results obtained for male athlete mean value of 42.11 and a standard deviation of 6:34 , while for women athletes obtained a mean value of 45.81 and a standard

deviation of 4.25. The results of the determination of anaerobic endurance capability norm can be seen in Table 8 below:

Table 8 . Norma Anaerobic Endurance Athletes Puslatda Pencak Silat DIY





Norma	Man	Woman
Excellent	<32.60	< 39.44
Good	32.60 – 38.94	39.45 – 43.67
Average	38.95 – 45.28	43.68 – 47.94
Poor	45.29 – 51.62	47.95 – 52.19
Very Poor	> 51.62	>52.19

**9 . reaction speed**

Calculation results obtained for male athlete mean value of 0.272 and a standard deviation of 0.018 , while for women athletes

obtained a mean value of 0289 and a standard deviation of 0.018 . The results of the determination of the rate of reaction norms of ability can be seen in Table 9 below:

Table 9 . Norma Reaction Speed Pencak Silat athletes Puslatda DIY

Norma	Putra (detik)	Putri (detik)
Excellent	<0.245	< 0.262
Good	0.245 – 0.263	0.262 – 0.280
Average	0.264 – 0.281	0.281 – 0.298
Poor	0.282 – 0.298	0.299 – 0.316
Very Poor	> 0.298	> 0.316

**Discussion**

Agility is the ability to run fast by varying the direction . In the category of martial arts sparring , with having good agility will allow fighters to carry out attacks or bela an the correct position . Thus agility in martial arts fighter is the ability to move quickly with the right position ( right ) and provides a solid foundation during the attack and bela an . Therefore opponent motion techniques are difficult to predict in advance , which might attack with punches , kicks , or even wipe down . For that , a fighter must have a good standard of agility capabilities in

order to achieve optimal performance . Based on the results of the calculation of velocity norm , fighters should be able to take a maximum of 6.95 seconds for men and 7.87 for women in order to get in the good category . That is, if the test results by using a shuttle run takes more than 6.95 seconds for men and 7.87 for women , then the fighter was declared unfit to be a martial arts athlete Puslatda Yogyakarta.

Flexibility is an important element in sports coaching accomplishments , because biomotor very influential on other components . In the category of martial arts sparring ,





flexibility is a basic element that should be improved, especially on the young fighter and maintained in order to remain good through stretching exercises. The fighter gains flexibility when it has a good ability, among which are: ease of fighters in a wide range of mobility and skill, to avoid the possibility of injury to fighters of the time doing physical activity, allowing fighters to be able to do an extreme motion, and increase blood flow to the muscle fibers. Thus, fighters sparring category must have good

flexibility capabilities. Based on the results of the calculation of the norm flexibility, it can be said fighters enter in good category if it can achieve distances between 55cm - 66 cm for men and between 45cm - 51cm for women. That is, if it can reach a distance of less than 55 cm for men and 45 cm for women, the fighter was declared unfit to enter Puslatda martial arts of Yogyakarta.

Power leg is biomotor indispensable component in martial arts sparring category. Benefits of leg power for fighters sparring categories include: can kick quickly and suddenly making it difficult opponent in doing evasion, dodgery and catches. In addition, fighters will be easier to do the counter attack in the form of a kick to the opponent's attacks. Untulk it, fighters sparring category must have a good leg power capability in order to achieve optimal performance. Based on calculations norm leg power capability, fighter should be able to jump as far 2.67M - 2.97m for men and 1.74m - 1.88M for the princess to get in the good category. That is,

when to make the leap less 2.67M for men and 1.74 m for women, the fighter was declared unfit to enter Puslatda martial arts of Yogyakarta.

Value in martial arts sparring category obtained when fighters do techniques with hard punches and kicks on target specified and not obstructed. To that end, every kick and punch is performed by the fighters should have good speed. Speed is the ability of a person to perform a series of motion or the motion as quickly as possible in response to stimuli. Speed is inborn (genetic), so the velocity components have limitations that depend on the structure of muscle and nerve mobility processes. As a result, the speed is also relatively limited increase of between 20-30%. Thus, fighters sparring category must have good speed capabilities in order to perform kicks and punches technique that produces value in the game. Results norm calculation speed Puslatda martial arts athlete of Yogyakarta, said fighters can enter in good category if able to cover a distance of 30 meters with a maximum of 3.93 seconds for men and 4:29 for women. That is, if a fighter in a distance of 30 meters takes more than 3.93 seconds to 4:29 seconds for the men and women it was declared unfit to enter Puslatda martial arts of Yogyakarta.

Body parts can be targeted and obtained values in the category of martial arts, including: chest, abdomen (center to top), left and right ribs, and spine (back of the body). While parts of the limbs can be targeted in an attempt to attack the drop but do not have value as a target perkenaan.





From the upper part of the body , the stomach is the most dominant part used as a target . For that , a fighter must have good abdominal muscle strength that are not easily injured when hit by an attack . Besides a good abdominal muscle strength to give effect to the efficiency of motion kicks performed by fighters . Norm calculation results indicate that the strength of the abdominal muscles can be said fighters enter in good category within 30 seconds when able to do sit ups at least 31 times to 28 times for the son and daughter . That is, when the fighters within 30 seconds of doing sit ups less than 31 times to 28 times for the son and daughter , it was declared unfit to enter Puslatda martial arts of Yogyakarta .

Arm movements in martial arts sparring category is necessary , including : to perform punches , blocks , and catch . Punches in martial arts sparring category may get hard and if done right on target specified . The movement to deflect and catch can then do a proper reply on specific targets ( counter attack) will get the value +1 . For that , the fighters did punch , parry , and catches should be done firmly and quickly so that the opponent can not make a move selanjtnya . Thus , it takes a good arm power capability of fighter that every movement can be done with a powerful and fast . Norm calculation results show that power arm can be said fighters enter in good category within 30 seconds when able to do push- ups at least a total of 36 times to 27 times for the son and daughter . That is, if a fighter in 30 seconds fighter doing push-ups in less than

36 times to 27 times for a son and daughter , it was declared unfit to enter Puslatda martial arts of Yogyakarta .

Fighters who have sufficient aerobic capacity would be able to accept the burden of high intensity exercise . Aerobic fitness is needed in martial arts fighter in order to able to recover quickly and be able to accept a longer training load without significant fatigue . Besides aerobic exercise will help strengthen the ligaments , tendons , and muscle fibers so as to reduce the possibility of injury during training and matches . To that end , the martial arts sparring category , aerobic energy system is still needed though relatively small compared to the anaerobic energy system therefore aerobic energy system more easily upgraded . Based on calculations from the norm can be said to show that fighters entered the medium category when at least have a VO2 max of 46.2 for men and 40.7 for women . That is, if a fighter has a VO2 max of at least approximately 46.2 for men and 40.7 for women , it was declared unfit to enter Puslatda martial arts of Yogyakarta .

Based on the observations , the average working time during the fight in a martial arts match required for about 3-5 seconds . When the final assault (each 4 types of attacks fighters do ) can be captured by the opponent's legs and dropping is not the case , then the accumulation Watu needed during the process a maximum of approximately 10 seconds . For the system is the energy needed alaktik anaerobic energy systems ( ATP - PC ) , because when it





works it only takes a maximum of 10 seconds . Martial arts match made in three acts , with a time of 2 minutes for each round clean . During the game , fight the accumulation of an average of 14 times in one round . Thus the use of anaerobic energy system alaktik ongoing basis . This led to a trend toward non- combustion energy diresintesis be back . For that reason, anaerobic lactic energy system in order to work well muscles can last much longer . With the help of anaerobic glycolysis system , will be able to extend the working muscles for approximately 120 seconds . Norm calculation results indicate that anaerobic endurance fighter can be said to enter in good category if it is able to cover a distance of 300 meters to a maximum of 38.94 seconds and 43.67 seconds for the men's daughters . That is, if a fighter in a distance of 300 meters , requires more than 38.94 seconds to 43.67 seconds for the men and women , it was declared unfit to enter Puslatda martial arts of Yogyakarta .

In the category of martial arts sparring no term value +1 . The values obtained when the fighter can do dodgery , evasion , catch , and rebuttal to then be able to perform proper reply on specific targets ( counter attack ) . So that movement can be made with a counter attack perfectly fighters required speed in delivering a reaction against the opponent's attack . In principle , the reaction rate can be divided into single reaction speed and reaction compound . Single reaction is the ability to respond to stimuli that a person has been known to the direction and the goal in the shortest time possible , while the

reaction of compound is the ability to respond to stimuli of unknown direction and goals in the shortest time possible . In the category of martial arts sparring , speed of reaction is the reaction of most of the compound , therefore it is often difficult opponent motion predicted by the fighters . It required a good reaction speed capabilities of the fighters to be able to anticipate every move made by the opponent played . Norm calculation results showed that the reaction rate can be said to be fighters enter in good category if it is able to respond stimulus in 0245-0263 seconds for men and 0262-0280 for the second daughter . That is, if the fighters in response to the stimulus requires more time than 0263 for men and 0280 for women , it was declared unfit to enter Puslatda martial arts of Yogyakarta .

## **CONCLUSIONS AND RECOMMENDATIONS**

The conclusion of the study is structured norm has the physical ability of martial arts athletes Puslatda Yogyakarta Special Region is divided into five categories: excellent, good , moderate , less and less so . Physical abilities measured in this study include : speed , agility , flexibility , power arm , leg power , abdominal muscle strength , anaerobic endurance , reaction speed , and VO2 max . The advice given to manufacturing capabilities norm fisk Puslatda martial arts athlete of Yogyakarta , including : ( 1 ) a need for further research is carried out gradually in the following years to perfecting the manufacture of norms of physical abilities match the category of martial arts athletes in





the Special Yogyakarta, and ( 2 ) should be considered the norm in the making kasifikasi class athletes physical capabilities martial arts sparring category so that research results can be more objective .

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## THE IMPORTANCE OF BASIC SPORTS INJURY MANAGEMENT UNDERSTANDING FOR COACHES AND ATHLETES

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### Abstract

*National sports achievement is the culmination of region's sports coaching achievement. One of the weakness of the national sports development program currently is less inequality in sports development in the area, there is a striking difference between the center and regions, both in terms of technical ability and availability of sports facilities. One important factor in sports coaching is the coach. Beside the ability in the sport, coach should has an ability in handling of a basic sport injury management.*

*Sports injury is caused by an imbalance of three factors; hosts (athletes themselves), agent (sports-related activities) and the environment. Based on data from the Ministry of Youth and Sports, a study on the sports injuries management in athletes of 2010, found that 92% incidence of sports injuries occur during exercise. The coach's involvement in dealing injury only 11%.*

*Therefore an understanding of the fundamentals of prevention and handling of sports injury for coaches and athletes is needed.*

**Key words:** *achievement, sports injury, coach, athletes*

### INTRODUCTION

National sports achievement is the culmination of region's sports coaching achievement. Therefore, the success of sports coaching is a key of national sports successes. One of the weakness of the national sports development program currently is less inequality in sports development in the area, there is a striking difference between the center and regions, both in terms of technical ability and availability of sports equipments and facilities. One important factor in sports coaching is the coach. Beside the ability in the sport, coach should has an ability in handling of a basic sport injury management.

Sports injury is a pathological condition and it's caused by an imbalance of three factors; hosts (athletes themselves), agent (sports-related activities) and the environment. Based on data from the Ministry of Youth and Sports, a study on the sports injuries management in athletes of 2010 in 113 respondents, found that the majority (92%) incidence of sports injuries occur during exercise. The data further showed that athletes who get injured as much as 87% had never been involved in handling injury. The coach's involvement in dealing injury only 11%. Access to the health care is also said to be rather difficult. If coaches and athletes have an understanding of the basics of





prevention and treatment of sports injuries then continuing and recurring injury that can stop an athlete's career will be avoided . Understanding of the basics of sports injuries is very simple and can be done by athletes in protecting themselves, and also can be done by any coach to help athletes .

## LITERATURE REVIEW

There are many aspects which athletes and coaches should have to achieve a good athlete's performance. Sport injury management is one of the important aspect. The basic of sport injury management which athletes and coaches should know are:

### 1 . Definition of Sports Injury

Sports injury is all sorts of injuries that arise, either at the time of exercise and along event and after event. Commonly affected are the bones, muscles, tendons and ligaments. Thus knowledge of sports injuries is useful to study how the occurrence of sports injuries, treatment of injuries and and prevention. Trough knowing the science of sports injury, sports coaches or teachers in addition to deal with their students that injury can also prevent it. Based on the data can be made conclusions about the possibilities of injury that occurred

Based on the kinds of injury, the sports injuries can be divided over the causes:

### 1 ) External violence

Injury which occur by the influence from outside, for example:

- a. Body contact sports: football, boxing, martial arts, and others.
- b. Sports equipment: hockey sticks, balls, rackets and others.
- c. Surrounding circumstances that caused the injury, for example: the state of the field that do not meet the requirements: racing cars, motorcycles, tennis ball with holes and so on.

Wound or injury that may arise include: abrasions , lacerations , torn muscles , tendons or bruise, fracture.

### 2 ) Internal violence

This injury occurs due to coordination of the muscles and joints are less than perfect , leading to incorrect movements, causing injury . Size legs / feet are not the same length ; strength of the muscles that are antagonistic, not balanced, and etc . It can also occur due to lack of warming up , lack of concentration or weak of physical and mental. It can be a tearing of muscle injuries , tendon or ligament.

### 3 ) Over Use

Injury was caused by excessive muscle coordination or too tired . Injury due to over use occupies one third of the sports injuries that occur . Usually due to over- use injury occurrence gradually ( chronic ) . Symptoms can be mild like muscle stiffness ,





strains, sprains and the most severe is the stress fracture.

2. Body Response To Injury

Local inflammatory reactions or inflammation can occur on the injured

body. Local inflammation must be accompanied by signs: calor, rubor, dolor, tumor, fungisolesia

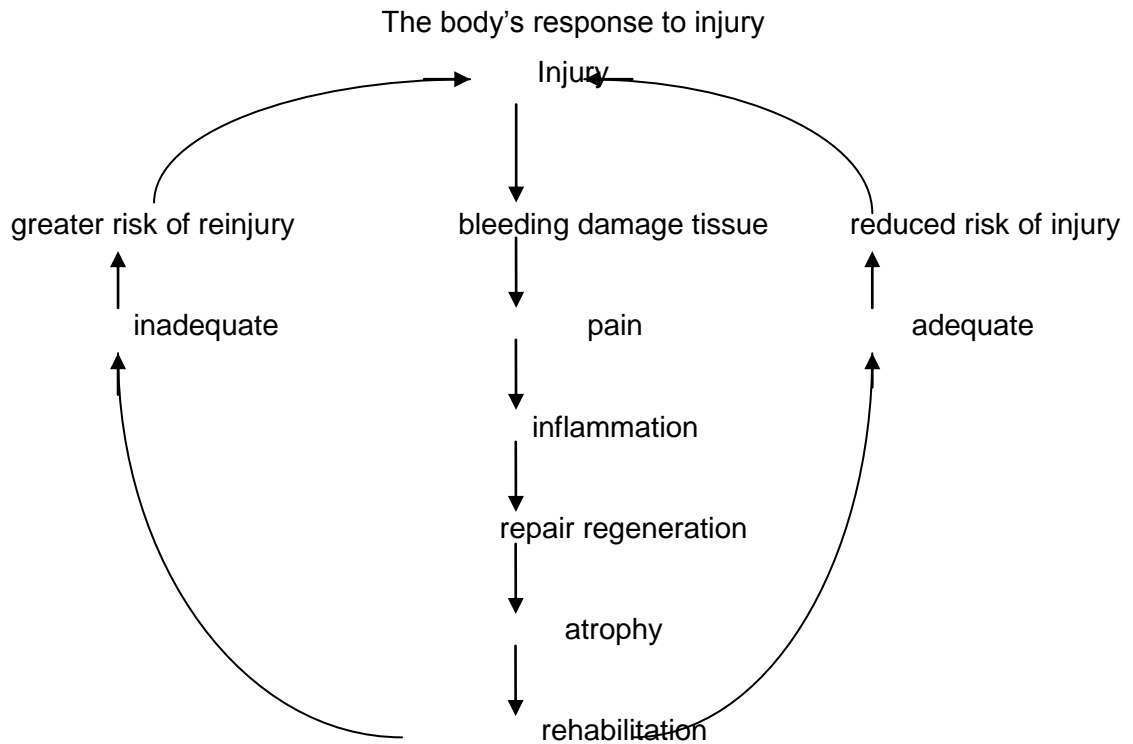


Figure 1 Body Response To Injury  
(Source: Sport Injury Workshop, Youth and Sport Ministry, 2011)

3. Stages of Sports Injury Management

Treatment of sports injuries is divided into 4 stages:

- a. Immediately after the injury ( 0 hours - 24 hours up to 36 hours )

- R: rest
- I: Ice
- C: Compression

E: Elevation  
Description :  
1 ) Rest

Rested injured part as soon as possible because if not rested, the injury will be will aggravate, increased pain, stimulate bleeding thereby inhibiting healing. If there is an injury in the leg using crutches to avoid



toehold on the injured limb. Injury in the arm rested by using a splint.

## 2 ) Ice : cold compress

The goal is to stop the bleeding (vasoconstriction thereby slowing blood flow ). There are some purposes in using ice:

- 1 . reduce bleeding , stop the bleeding
- 2 . reduce swelling
- 3 . reduce pain.

It was less benefit of using ice for deep tissue, because the ligaments and skin become an insulator. Blood vessels in the skin also will absorb the cold. Thus the treatment of deep tissue injury, is usually treated with a combination of press and cooling bandage.

Cold compresses ways :

- a. Direct injury soaked in cold water
- b. With ice in a plastic bag put pads or cold towel .
- c. Put an ice cube into a rubber bag .
- d. Evaporating lotion / substance, like chlor ethyl spray

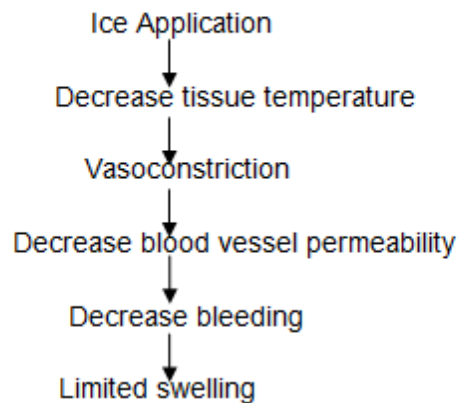
This cold compress granted between 20-30 minute. The goal is that our body tissues do not become damaged or die. In addition to the cold compress , pain can be reduced or lost altogether by administering drugs such as:

- a) The drugs classified as anti - inflammatory for example : anti-rheumatic , anti- inflammatory corticosteroids and others
- b) drugs that are categorized as analgesics , which relieve pain (containing anti -inflammatory ) eg : antalgin , neuralgin , panadol , aspirin and others.

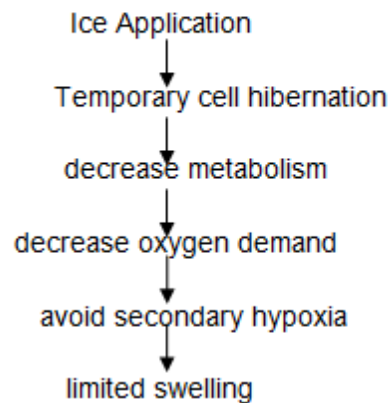
The theory of cold applications decrease swelling (Source: Sports Injury Workshop, Youth and Sport Ministry, 2011)



The Circulation Theory



The Metabolism Theory



3 ) Compression

The goal :

- 1 . Reduce the swelling as a result of bleeding was stopped by earlier bond .
- 2 . Reduce movement .
- 3 . Limiting blood and plasma accumulation and minimize swelling around the injury.

Compression is a bond made of elastic material . Material is called elastic bandage or tension crepe bandage or other objects similar. The danger of compression is if the bond is too tight , then the arterial blood cannot flow to the distal bond . This will cause the death of the tissues adjacent to the distal bond . We know that the bond was too tight trough :

- 1 . No distal pulse.
- 2 . Increase swelling
- 3 . Increase pain
- 4 . Skin color is pale.

4 ) Elevation

Elevate the injured part higher than the location of the heart . The aim is to stop the bleeding and swelling can be reduced immediately . Arterial blood flow becomes slow ( against gravity ) so it is easy to stop bleeding . Whereas venous flow to be smooth , so that the swelling is reduced . The results is the damaged tissue will be smoothly removed by venous return and lymph vessels . Elevation can also reduce hydro static pressure so it can reduce fluid accumulation. In upper leg injury , put your hands crossed on your chest by using a sling . Elevate the injured leg with a pillow . Make sure the legs above the level of the pelvis . Avoid doing HARM factors :

- 1 . Heat: increase bleeding
- 2 . Alcohol: swelling becomes more severe
- 3 . Running: can cause more severe injuries





4 . Massage: within 72 hours, because it can increase swelling and bleeding

b . 24-36 hours after injury.

After being briefed about the RICE method in the first phase, now we come to the second stage of treatment is the provision of a hot compress or Heat Treatment . Giving a hot compress made within 24 to 36 hours after the injury occurred or the injured part is almost healed and moveable. The purpose of Heat treatment is spare the traumatic effusion or blood plasma fluid in and out around the place of injury. It can be easily transported by veins and lymph. This mechanism can increase healing process and reduce pain due to muscle seizures or muscle stiffness . One thing to note is that the hot compresses should never be given at the time of the new injury . This will increase the bleeding and swelling . Giving a hot compress 20-30 minute intervals. In this stage we can apply

physiotherapy method like massage and illumination.

c . If the Injured body almost heal

The injured body can be moved without using tools , for example, without decker or bandage press . At this stage the massage can still be done to help the healing process . The muscles around the injury site should start training , as well as movements in the joints , of course starting exercise movements are passive at first , then become active movement .

d. The injured body has been healed and the athlete ready to workout

We prepare the injured part to be strong against the pressures and stretch. It is sometimes still needed braces such as dressing press for some time. The main training can be started.

Table 1 *Allowed for proper healing (Depends on the athlete's age, health, and nutritional status*

<i>Healing Rates for various tissue types</i>	
<i>Time to return (approximately)</i>	
<i>Tissue</i>	<i>Normal strength</i>
<i>Bone</i>	<i>12 weeks</i>
<i>Ligament</i>	<i>40-50 weeks</i>
<i>Muscle</i>	<i>6 weeks up to 6 months</i>
<i>Tendon</i>	<i>40-50 weeks</i>

(Source: Sport Injury Workshop, Youth and Sports Ministry, 2011)

## CONCLUSION





Athlete is special one. It is not easy to challenge athlete. That's why, we have to keep athlete's fitness. Incorrect athlete's management can make they are losing the future in their golden age. Sports achievement is determined by good and effective sports management include sports injuries. Professional athletes need to be handled by a team consisting of an active team (doctors, coaches, athletes, family doctors, athletes and administrators). Basic sport injury management is a simple things which can be understood by every athlete and coaches.

It is recommended for coaches and athletes in order to have an understanding of the fundamentals of sports injury prevention and basic treatment so they can anticipate the necessary steps to prevent the occurrence of sports injuries that continue to undermine the athlete's future.

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## A Study on Sport Tracking Management in Sambangan

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### ABSTRACT

*This study aimed at describing tracking management and the way how to improve tracking in Sambangan. The study used a descriptive approach which took place in the village of Sambangan of the district of Sukasada of the Regency of Buleleng, Bali, with tracking management as its object.*

*The results showed that Tourism Awareness Group of Tunjung Mekar in managing tracking did 51.91% planning, 46.79% organizing, 49.57% actuating and 52.92% evaluating activities. The total amount of all of the implementation of the managerial functions was about 50.21%, which shows that the implementation of tracking was not yet maximum, thus there is a need to improve tracking by re-managing it by following activities of 1) planning, 2) organizing, 3) actuating and 4) controlling through Tourism Awareness Group of Tunjung Mekar. In the light of the results it is suggested that the management of tracking in Sambangan should be restructured through Tourism Awareness Group of Tunjung Mekar with a goal-appropriate organization management oriented to the predetermined goal and by building the capacity of the organizers and group members, providing supporting facilities and preparing human resources in developing tracking in Sambangan.*

*Keywords: management, sport tracking, sambangan village*

### INTRODUCTION

The natural attraction and the variety of culture in Bali have their own appeal to tourists. This seems to make the economy of Bali inseparable from the growth in tourist visit. The hard work done by actors in tourism to make the tourism industry revive like the time prior to Bali bomb-blast by keeping the consistency of Bali (that Bali should be safe and the Balinese should be fair, alert and highly motivated) has shown its positive result. In addition, a special study is needed in the areas of development, management and marketing of tourism sports, both through hotel management and travel bureau

management who develop tourism sport packages which show recreational sport in the open air nuances. The higher the growth and improvement in tourist interest in tourism sports, the more the opportunities to develop the forms and types of sport that will be developed into tourism sports.

Tacking is an sport of adventure in the open air which is fun and full of challenges to those who join it. Tracking will be more useful to a person and his or her friends if it produces something useful to the public. Many people do this sport just for fun without a clear goal. Every person, of course, has the right to do an activity as he or she







wishes, but it would be better if the adventure in the open air can be used as a means to develop tracking in tourism sector and to familiarize oneself with the nature, the condition of nature is very supportive in tracking development in Bali.

The facilities that the tourists like very much are generally natural. Human-made facilities are not numerous; we just make use of the existing facilities or develop some in accordance with the market requirements in the tourism industry. The forms of facilities include mountain ranges, beaches, lakes, rivers, waterfalls, forests, and historical remains. These facilities can usually be used by those who want to seek adventure and meet challenges in tracking. All of them are oriented toward the finding of satisfaction and enjoyment.

The fact at present shows that less attention is paid to tracking than other tourism sports which have developed earlier. In the light of this lack of attention no wonder that its development is less than desirable.

The village of Sambangan has some waterfalls and tracks that are interesting and prospective to be developed. Geographically, it is situated at 500 meters from the sea level and part of the district of Sukasada, the regency of Buleleng, Bali. Sambangan is an upland with valleys and hills with the area of 7.67 square kilometers. It has three *adat* villages: Dusun Anyar, Dusun Sambangan, and Dusun Babakan. It has a natural condition and wonderful views. The tracks

are paths with a variety of conditions and challenging. The tracks mostly stretch along river-flows and natural waterfalls, valleys with cool weather, terraces of rice-fields, bamboo plantations, tropical rainforest, steep banks, fallen trees blocking the tracks, trees above the ravine and water-springs.

The natural condition of the village is a natural resource and a valuable asset for creating jobs and improving the prosperity of the community and this was the reason behind the establishment of Tourism Awareness Group of Tujung Mekar. So far the tracks have not been managed or exploited maximally. This is because the management of the tracking has not been organized well, hence there is a need to study in depth the tracking management in Sambangan.

## REVIEW OF LITERATURE

### Tracking

Tracking is a traveling activity in the open air from one post to the next to enjoy the beauty of the nature. Tracking is an adventure sport in the open air which is full of fun and challenges. A person who does tracking in the open air has a variety of reasons: for sport, hobby, research, education, or just for fun by enjoying the beauty of the nature (Sulaeman Indik, 1985: 116). There are many benefits that can be gained from travel by tracking. On the other hand, the comfort and safety of the travel will support the activity being done. The





introduction and the understanding of the technique of tracking in the open air are very important. The thing that one needs to consider is the readiness to do the activity, the guarantee of the safety and the comfort in doing it. Wherever one goes, whatever the track, or however uncomfortable the weather are not the significant problems for doing tracking if one is well-equipped.

## Tracking Management

Management is the process of planning and organizing, leading and controlling the effort of the members of the organization and using all of the resources of the organization to achieve the predetermined goal. On the other hand, an activity can be defined as an effort made by a person or a group in an endeavor to attain a predetermined goal. In managing tracking one needs a high level of skill and creativity.

### A. Elements of Tracking

1. Personnel, comprise planning, executing, and controlling. In managing an activity, one needs to consider the existing authorities in order that confusion of responsibilities and authorities can be avoided. Each of the elements of the personnel have to understand its own position and standing.
2. System has got to do with the managerial system being adopted, comprising job description or the description of tasks of each area, patterns of handling a problem and

types of teamwork or individual work. A good system is one that is applied by and is recognized by all the personnel in the team.

3. Process has got to do with the accumulation of personnel in doing the activities. Process can run well when an individual in the activity has the same vision as the others in the effort to reach the goal.

## B. A Way to Improve Tracking in Sambangan

### 1. Planning

- a. Identification of problems in developing tracking

- 1) Selection of area for developing tracking

Based on the data that have been collected through observation in the process of selecting the area for developing tracking in Sambangan, there are three areas or tracks as follows:

- a) Tibuan Kroya Track (Short Tracking)

Tibuan Kroya Track is the shortest track through 6 posts. Post-1 Ceburan is an area where there is a waterfall situated between two steep banks. Post-2 Campuan is the meeting of two rivers: Tukad Kapi and Tukad Gancan which unite into one which is called Tukad Banyu





Mala. Post-3 Munduk Saab is a hill that looks like *saab* (a cap for the container that is used for offerings). Post- 4 is a twin waterfall in a river flow. Post-6 is Tibuan Kroya is the last post.

b) Secret Garden (Medium Tracking)

Secret Garden is a track under development and has 7 posts. Post-1 Cengana is an area of rice-fields which integrates the close to each other. Secret Garden track can be traveled through two tracks, the upper and the lower ones. The upper track starts from Cengana and finishes in Tibuan Pucuk and the lower track finishes in Cangana.

c) Tirta Kuning (Long Tracking)

Tirta Kuning is the longest track and goes through 8 posts. Post-1 Cengana is in the area of rice-fields with the view of hills. Post-2 Tibuan Sarangan is a waterfall. Post-3 Bendungan Tiing Tali is a dam that is used for irrigation. Post- 4 Muara is an upland with rice-fields and a natural panorama of hills and from this post one can see the north sea of the island of Bali and the town of Singaraja. Post- 5 Tibuan Dedari is a waterfall. Post-7

natural beauty of the hills and the terraces of rice-fields. Post-2 Tibuan Lesung is a river flow that resembles a mortar for pounding rice. Post- 3 Tibuan Aling-aling is a waterfall that is covered by a steep bank. Post-4 Bantenan is a plantation area and rice-fields. Post-5 Tibuan Kroya. Post-6 Tibuan Kembar. Post-7 Tibuan Pucuk, the three posts are in the area of waterfalls which are Tibuan Cemara is the biggest and highest waterfall. Post-8 Tirta Kuning is a short cave with colored water.



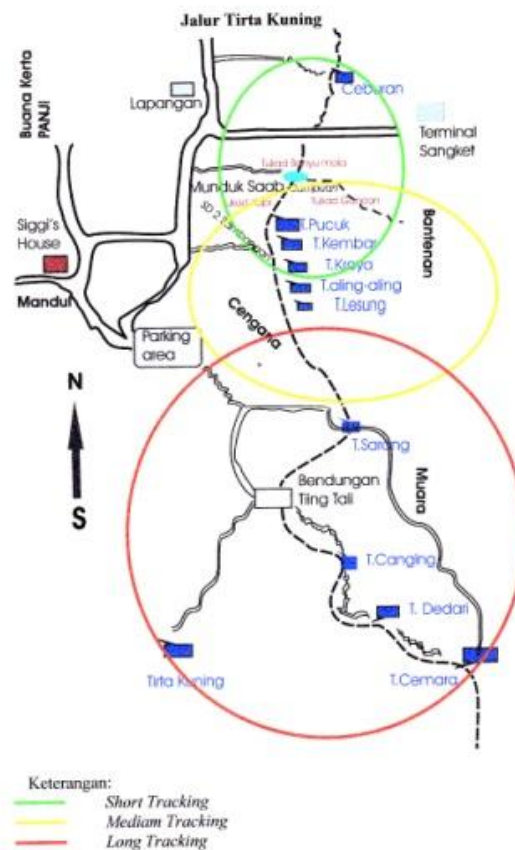


Figure-01. Track

2) Preparing the plan for tracking areas

The selection of the areas of development needs a preparation of the plan for tracks that are divided into 3 tracks. A plan has to be made for 3 areas of tracking. This plan aims at finding the most suitable goals for the participating trackers. The plan of the tracking areas is adjusted to the specifications of the trackers, which include age, sex, and other characteristics.

3) The elements in the development of tracking

A plan of developing the tracks has four essential elements:

- a) Location which is an important element in terms of the accessibility of the tracks and accommodation at the existing attraction. In terms of locations of the development of the tracking areas, there are 17 locations that are





attractive for their beautiful views and special characteristics.

- b) The attraction of the view can add to the existing attraction or becomes the main attraction for the participating trackers. Thus there are 17 beautiful views.
- c) The use of the areas being planned should match the environments. Many natural elements or environments such as mountain ranges, hills, springs, waterfalls, rivers, etc. The development activity that fits with the characteristics of the area becomes an attraction for the participating trackers.
- d) The area should be available to be considered in the development of tracking (Robert Mill Christie, 2000: 235).

b. Analysis of the situation to decide whether planning is needed or not

The planning of the development of tracking needs a situational analysis of the following aspects:

- 1) Marketing
- 2) Human resources

3) Production

4) Operation

- c. Determining the goal to be achieved
- d. Writing the design in an outline
- e. Discussion of the proposed plan with the management, colleagues, and relevant subordinates
- f. Doing a temporary analysis and determining the components
- g. Recruiting staff for each component and arranging tasks and responsibilities.
- h. Determining the outline of the plan together
- i. Communicating with the related units to discuss problems and determining data
- j. Collecting relevant data and then manipulate them for presentation in the form of information
- k. Preparing a design for the writing of a temporary plan as material for discussion with related parties
- l. Drafting the final plan to be tried out in the condition and situation faced.
- m. Approval for the plan and finally the plan can be implemented

## 2. Organizing

Tourism Awareness Group of Tunjung Mekar in its management organizing function has not been able to work maximally that the predetermined goal, the goal that has been decided





together with the organizers and group members, has not been achieved. This is because the organizing process does not fit with the management organizing function. The organizing process covered:

- a) Decision making about the goal
- b) Determination of major tasks
- c) Activity description
- d) Grouping of activities in the functions
- e) Departmentation
- f) Transfer of authorities
- g) Staffing
- h) Facilitating

### 3. Actuating

Actuating comprises actions that cause an organization to run. some guidelines in actuating cover:

- a) Different basic needs
- b) The acceptance of new ideas and the fluency of changes
- c) Custom
- d) People want recognition
- e) The sense of belonging and the sense that one is important become strong motivations to most people

### 4. Controlling

The chairman of Tunjung Mekar controls the organizers and members with the aim of actuating the organization toward its goal in developing tracking that has been determined. The controlling functions of the management cover 3 elements:

- a) Determining the standard of achievement
- b) Assessing the current achievement and considering it in relation to the predetermined standard
- c) Taking an action when achievement does not conform to the standard

## DISCUSSION

The results of the study showed that the management of tracking in Tourism Awareness Group of Tunjung Mekar did about 50.21% of its management functions. This was because the implementation of the tracking management functions

has not been well organized. This, among others, can be seen below:

### A. Planning

In terms of the implementation of the program of Tourism Awareness Group of Tunjung Mekar in Sambangan, the group did 51.92% planning. This condition was partly caused by the following:

1. In preparing the design of the program, after the problems had been identified, the group did not analyze them first.
2. In writing the design of the program, the group had not write down the goal that was to be achieved through the design
3. Before writing the program the group did not write a proposal or a plan proposal
4. In writing the program the group did not write the outlines of the plan





5. In writing the program the group did not collect relevant data that should then be processed to be presented in the form of information

## **B. Organizing**

This condition caused Tourism Awareness Group of Tunjung Mekar less than maximal in the implementation of the management functions, particularly in organizing in which they reached 46.79%. This condition was caused by some problems which include:

1. In implementation of the program they did not start with the background of the problem
2. In writing the proposal they did not see the rationale behind the activity
3. In writing the proposal they did not describe the condition and problems to be solved
4. In writing the proposal they did not mention the steps to be followed in the implementation
5. In writing the proposal they did not start with the guidelines on how to implement it and the technical guide.

This condition caused Tourism Awareness Group of Tunjung Mekar in their implementation of the management functions, particularly in organizing, to be less than maximal that the result being expected was not obtained.

## **C. Actuating**

In terms of the implementation of the program of Tourism Awareness Group of

Tunjung Mekar in Sambangan in the implementation of the management function, particularly in actuating, the group did 49.57% actuating. This condition was caused by some factors which include the following:

1. In the program report the data that have been collected are not classified first
2. In the program report there is no evaluation of implementation and data processing
3. In writing the program report the objectives of the program have not been achieved

This condition caused Tourism Awareness Group of Tunjung Mekar in the implementation of the management functions, particularly actuating less than maximal that the result being expected was not obtained.

## **D. Controlling**

In terms of the implementation of the program of Tourism Awareness Group of Tunjung Mekar in Sambangan in the implementation of the management functions, particularly controlling they did 52.56% controlling. This condition was caused by some factors which include:

1. In doing the evaluation of program implementation the program was not planned in detail
2. Before doing their job, the evaluation committee did not determine the way or method that would be used in the implementation of program evaluation
3. The schedule of evaluation was not clear. It did not include time when the





evaluation started, the deadline of evaluation and the time of report submission

This condition caused Tourism Awareness Group of Tunjung Mekar in the implementation of the management functions, particularly controlling less than maximal that the result being expected was not obtained.

## CONCLUSION

Based on the discussion above it can be concluded that Tourism Awareness Group of Tunjung Mekar in the implementation of the management functions did about 50.21% management functions. This shows that the implementation of tracking management has been less than maximal. Thus improvement of tracking needs to be made by re-managing the tracking in the village of Sambangan through a program starting from: 1) planning, and going through 2) organizing, 3) actuating and ending in controlling.

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## Hanging Balls: A Media to Optimize the Upper Service of Sepak Takraw

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### Abstract

*The sepaktakraw game has grown its popularity both among the general public and students. Nowadays, It is officially learned by students at schools. However, its achievements is still low- it is under Thailand and Malaysia in Southeast Asia. There are some factors influencing its achievement. One of those factors is the mastery of the appropriate basic techniques, particularly in the upper basic service technique. Service is the most important technique needs to be mastered by its players. Through mastering this technique, the players can gain maximum scores easily. Therefore, it is easy for them to be the winner in the competition. In fact, this technique has a high degree of difficulty. It needs a proper training to optimize the training so that the sepak takraw learners can follow the training very well and are able to achieve the training goal effectively. This article describes the training methods and the work done by the sepak takraw coach to optimize the service by using hanging balls media.*

**Key words:** hanging balls, upper service technique

Takraw games are increasingly popular in Indonesia, both in rural as well as urban areas. This can be seen from more the numerous number of takraw clubs grown and the events held either in the district, the National or even International level which is continuously run better than before. This shows that the publics put their interests a lot on this sport. However, its performance is still not giving a satisfactorily result, in which in the SEA GAMES 2011, Indonesia can only won one gold, three silver, and two bronze. Takraw gold also ended a 40-year wait since the Indonesian Sepak Takraw Association was founded. Since the first time

following the SEA Games, ie 1977 in Kuala Lumpur, sepak takraw always took the silver medal as the highest (Nasru Nature Aziz, 2011). One of the many factors involved is still among those who practice without using the theory of training and proper training methods, therefore the results are far from what is expected and training process takes a long time to be able to capture one of the basic technique in the game sepak takraw. The results of the training process also can not satisfying. Besides Sepak takraw' athletes are containing elements of acrobatics, flap, somersaults, and high difficulty level up to be able to master a





courage , patience and also the theory and method of proper training .

In order to be able to master the basic techniques of sepak takraw , one of which is servicing the sepak takraw takes practice , patience , courage , and also persistence .Among those, upper serviceis the most difficult to learn because it has a high degree of difficulty that the sepak takraw service learning is not easy . For it is necessary to apply a method of exercise that can make the service exercise becomes easy , fun and everyone wanted to try it and risk injury acquired during training can be avoided .

One of the exercises that can be applied is a service exercise with a ball that hung above . The purpose of this exercise is for players who want to master servicing atasg be more daring to try to practice , and the players can try the service many times over , even without a life jacket . Because here the ball hanging by a rope . The benefits of this exercise are : a ) Can provide optimal results in mastering the basic techniques above and well servicing could be one good alternative to overcome the problems faced by children , students , and student athletes with regard to the process of servicing the mastery of basic techniques in the game sepak takraw . For example : When exercise alone , exercise at home , exercise in small place, b ) Give insights which can be taken into consideration by teachers , coaches, and trainers about the importance of proper training methods in studying service training

on the football game takraw, c ) provide guidance and also a deeper insight to the teachers and especially football coaches takraw in designing learning strategies and exercises using a ball and a mat hanging in learning and training services on in the sepak takraw game .

## Discussion

### SepakTakraw

Sepak Takraw is a combination of soccer and volleyball , badminton played by two teams composed of three players in each regunya with a gang nets separating the (Engel , 2010: 1) . Takraw Football is also a game that exploit ball of rattan or plastic ( synthetic fiber ) is done on a rectangular field , flat, open or closed well and the field is limited by the net ( Solomon , 2008: 19 ) . Games of sepak takraw maintained as long as the closed field meet . Field measurements is 13.40 mx 6.10 m free from all obstacles up to 8 m in depth from the surface of the floor to high net 1.55 m ( Maseleno and Hasan : 2011) . Game is played by two squads , each squad consists from 3 people and each squadron equipped 1 proposal and a team consisting of 3 doubles and a proposal and the number 1 doubles team can not contemplate more than 12 people. According to Solomon (2008 ) the purpose of playing sepak takraw of each party is to return the ball in such a way that ball can fall on the ground versus opponents





or making infringement or cause an opponent to make errors.

Sepak Takraw is a game of doubles, the execution of the sport such as in the form of games using the net, the ball, and golf as well as other regulations (Semarayasa, 2010: 66). Takraw games using body parts such as head, shoulders, buttocks, breasts, thighs, legs, except the hands.

Moderately then the game can be said athletics takraw mix of football, volleyball, badminton double play in the field, and players can not touch the ball with his hands (Sofyan, 2009: 2). Resembles football because in playing the game of sepak takraw, it uses the same body parts as in the game of football (ie: legs, head or other body parts except arms). Resembling volleyball and badminton together because using field measurement approach the net and badminton games.

In order to be able to play sepak takraw is good and true, a claim to have a good ability or skill. Affordability issue is the ability to play sepak takraw policy, without an ability to not be able to play sepak takraw. Way to play the ball in the game sepak takraw namely; using the feet, head, or body provided in a rebound. To be able to return the ball to the opposite field or to the area every shift allowed to touch, or menyundul kick the ball three times, the good done by all the players gang members or just one of these things does not matter, the most important is that each shift in the game of

sepak takraw takraw right to touch the ball three times, kick or play ball with the parts of the legs, play ball with the head (around the head), the chest, the thighs, the shoulder (shoulder), and the soles of the feet and the ball should have headed to field versus (Solomon, 2008:45). As for the basis of technical Skill in the game sepak takraw, are: 1) service, 2) passing, 3) heading, 4) smash, 5) block (PSTI, 2007: 4).

## Top Soccer Takraw Soccer

First soccer kick or service is performed by Tekong towards the opponent's field as a way to start the first game and football is a way of working which is important in the game of sepak takraw as points or numbers will be obtained first team football or who perform service (Solomon, 2008: 36). Players who perform service called Tekong, standing in the middle of the circle and the two other players called the wedge and the wedge left standing at the right front corner of the net, in a circle. Tekong should be able to make a good service and can search target opponent's weak so difficult to accept and control it.

## Techniques to serve the sepak takraw

The technique to serve under standing with one foot in the circle as the pivot foot and the other foot is in the rear side of the body as a prefix, one arm ball that will show demand buoyed by the wedge as a life jacket, with the approval of the ball when





serving on the foot the inside or on the back foot, where the ball was kicked at the height of the ball in front of the head or on the side of the head.

3. For service training with the ball suspended Sepak Takraw (Engel, 2010:50)

Takraw balls hanging with elastic straps. To start with, hanging with height to accommodate the player's ability to initiate a variety of training services, usually starting with waist and shoulder height. Able to line up a group of players on one side of the ball and the player's message turns punt liking each until the ball towards the desired direction. The ball should be silenced each finished first kicked. Make sure that the players can distinguish advanced motion plus and minus, kicking the ball slightly in front of and next to it, can serve to the right and left side, and a short service techniques, and others. After more smooth and flexible players, raise the height of the suspended ball.

## Conclusion

In the above study and training services can be done takraw ball hanging by a rope in the stretch, because the service is a service that has a high level of difficulty. As one of the basic techniques which have high difficulty level, a proper training should be done to be able to optimize training, so that training can be a simple affair was up to what the purpose of the training can be optimally

achieved. Besides training with the ball is suspended by a piece of elastic string, to be able to control the service takraw service especially on the dorsal foot, athletes must also have a high courage, patience, good physical condition, and also the equally important need to enough exercise flexibility

## Suggestion

In the above study and training services, a player must have patience and perseverance and should always dare to try again and again, which is often done with experiment will be able to refine the technique and soften the movement. Trainer, builder and instructor should always mayest receive guiding, motivating players, and giving time off in service training on takraw is essential to avoid injury and also to evaluate the handling of takraw service training was done in the case of initial attitude, implementation, end, and also in the case of a suspended ball arrangement on the elastic string.

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## DEVELOPMENT INSTRUMENT TO MEASURE SPORT-CONFIDENCE OF INDONESIAN SWIMMER

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### **Abstract**

*Sport-confidence is a psychological aspect that is important for athletes to support their performance. However, until now there is no instrument to measure sport-confidence specifically for certain sports. This study aimed to develop a measure of sport-confidence for Indonesian swimmer.*

*The study was conducted during the month of April 2012 with 44 samples. Sample is the third and up age group swimmer in Jakarta. Instruments such as questionnaires adaptation of SSCI (State Sport-Confidence Inventory) by Vealey (1986) which consists of a 3-dimensional and 13 questions, posted from the lowest (1) to the highest (9).*

*The results showed that the 13 questions that tested can be used to assess sport-confidence of Indonesian swimmer. Validity of the instrument ranged from 0.405 to 0.829. While the reliability of the instrument  $r = 0.921$ .*

### **INTRODUCTION**

The development of the sport in Indonesia is currently quite rapidly, both in terms of infrastructure as well as supporting them level. Age groups that exist in every sport has been coaching the regeneration of the athlete that is expected to continue and push Indonesia's sports achievements, both in levels of student athletes and professional athletes.

However, guidance for this is still much more to the physical aspects (skills) and tend to pay less attention to the psychological aspects. In fact, the performance improvement is not only the physical aspect but also necessary of the psychological aspect. One of which is sufficient to support the psychological

aspects of sports performance is the level of sport-confidence in an athlete. For example swimming, which is a sport that has always held on any multi-sport event. Swimming is also a sport that has the highest number to be contested, so be a sport with huge potential to earn as many medals.

For a swimmer, which often occurs accomplishments or results in the competition that less well than results of the exercise before the competition. At practice, swimmers are able to reach the target time of his coach. Hand and foot movements were performed with the maximum. But when they approach the competition, visible deterioration in appearance and is unable to achieve the maximum results earlier. They tend to feel anxious or lose concentration, thus causing no movement and maximum swimming





speed is reduced . From the foregoing, it appears that the level of sport-confidence is important in an athlete's performance.

Sport-confidence level athletes can be seen through the process of daily observations, statistical analysis at practice or during the competition . But until now, there is no measurement or instrument that specifically measures the sport-confidence swimmer. Through this study, researchers tried to make a psychological measure that specifically measure the level of sport-confidence swimmers. It aims to identify what are the dimensions that play a role in the sport-confidence of a swimmer.

According to Gauvin and Russell in Singer, Murphy, and Tennant (1993) , the first element in the preparation of the measuring instrument in the field of Sport and Exercise Psychology must be specific. Here means the preparation of specific instrument should be specific to one sport only. With a specific instrument , the instrument will be in accordance with the situation that exists in certain sports. Thus, management measures could be taken because it describes the situation of athletes on certain kind of their sport .

## THEORY FRAMEWORK

### Instrument

Hadjar (1996) argues that the instrument is measuring instrument used to obtain quantitative information about the variation of the variable characteristics

objectively.

Quality of the instrument is determined by two main criteria : validity and reliability. The validity of an instrument showed how far it can measure what it intends to measure. While reliability indicates the consistency and accuracy of measurement results.

Data collection instruments by Suryabrata (2008) is a tool can use to record-in-circumstances generally quantitatively and activity attributes psychological. Atibut-psychological attributes that technically are usually classified into attributes cognitive and non-cognitive attributes. Sumadi argued that to attribute cognitive, stimuli is the question. As for the non-cognitive attributes, stimuli is statement. Suryabrata (2008) also argued that the validity of the instrument is defined as the extent to which the instrument is recording or measuring what it was intended to be recorded or measured. While the reliability of the instrument refers to the consistency of the results of recording data (measurement ) if the instrument was used by the same person or group in a different time, or if the instrument was used by a person or group of different people in the same time or in a different time.

Of some expert opinion on the above , it can be concluded that the research instrument is a tool used by researchers to collect quantitative information about the variable are being researched, that meet two criteria: reliability and validity.





## Sport – Confidence

Self-confidence has a close connection with self-efficacy (Bandura, 1997; Horrel, Andrew et al 2003) said that self-efficacy is a judgment of how well one can show the behaviors needed to address a particular situation or task. According to Andrew, Horrel, et al (2003), self-efficacy relates to one's ability to get things done which they are responsible. Self-efficacy is different for each task, but tend generalized in other situations that are similar and related. For example, a student who can run well in athletics lessons tend to think he has a good ability on sports subjects. Levels of high self-efficacy of the individual is essential in dealing with various tasks, especially complex task and full of obstacles.

In the sports world, the term self-efficacy is better known as sport-confidence. Vealey (Vealey, Hayashi, Giacobbi, & Garner - Homan, 1998) defines sport - confidence as an individual degree of certainty about their ability to succeed in the sport.

Based on the model of the development of sport - confidence, Vealey and Knight (in Horn, 2008) identifies three components or dimensions in sport-confidence, namely:

### 1). Training and physical skills

An athlete's level of confidence or belief that he has the ability to perform the physical skills needed to demonstrate a successful appearance. Confidence is closely

related to athlete perceptions regarding physical abilities. Wilson Research (in Feltz, et al, 2008) with modifications SSCQ (Sources of Sport - Confidence Questionere) that produces the highest ranking is the source of confidence the athlete is physically and felt his readiness to master skills or techniques required.

### 2). Cognitive Efficiency

An athlete's level of confidence or belief that he was able to focus, able to maintain concentration and make decisions in order to demonstrate successful performance. The results Ward and Williams (2003) suggests that cognitive skills to support the development of better appearance. While Hanton, Mellalieu, and Hall (2004) says that poor cognitive symptoms associated with low self-esteem. In other words, cognitive work, confident athletes must demonstrate the ability to think positive, not negative thinking.

### 3). Resilience

An athlete's level of confidence or belief that he was able to focus again after his performance, able to get up after a bad performance, able to overcome doubts and issues in order to decrease the appearance of a successful show. Toughness is also associated with the desire to get things that are positive and avoid the things that are negative.

Weinberg and Gould (in Satiadarma, 2000) states that a sense of positive sport-confidence impact on the following matters :







Emotion, with high sport-confidence, the individual will be easier to control himself in a stressful situation, he could overtake him to act calm and be able to determine the appropriate time to perform an action .

Concentration, individuals who have a sport-high confidence it will be easier to focus attention on certain things without feeling too worried about other things that might hinder its action plan.

Target, with high sport-confidence, individuals tend to direct actions on target is quite challenging , therefore it will propel itself to target.

Effort, individuals with a high sport-confidence is not easily frustrated in trying to achieve its goals. He tends to bend over backwards until his efforts were fruitless.

Strategy, individuals with a high sport-confidence tend to continue to develop their effort business strategies in order to succeed . He will try various strategies and risk-taking on the strategy implementation.

Momentum, by having a high sports-confidence, individuals will have the opportunity to gain more momentum when appropriate ) to act . Without high sport-confidence, individual effort is limited and development opportunities are also being restricted, so that the momentum for action to be limited anyway .

## Indonesian Swimmer

Swimming has long been known in Indonesia as a water sport. Swimming style

divided four styles are : 1) Freestyle , 2 ) Breaststroke ; 3) Backstroke , and 4) Butterfly . The fourth style is the basis competed swimming, while the combination of the four fundamental forces is called a medley. The development of swimming so rapidly both in terms of technical mastery and physical abilities.

Indonesian swimmer who has a high level of achievement in the field of swimming normally gather and participate in events or swimming championships held at the national level. Some national swimming championships held so far is : National Swimming Championship (Kejurnas), Indonesian Swimming Club Championships (KRAPSI), National Student Swimming Championship (POPNAS), and the National University Student Swimming Championship (POMNAS). The events are held once a year is usually always in collaboration with the Indonesian Swimming Association (PB PRSI)

Swimming included in the organization of PRSI (Indonesian Swimming Association) who now oversees five aquatic sports, such as : swimming, diving, water polo, dance swimming, and open water swimming. Swimming is a certain kind of sport that must be in the multi-sport festival even, both nationally, regionally, and internationally, such as : POPNAS, POMNAS, PON , SEA Games, Asian Games and Olympic Games. In the sport of swimming competition, either single or multi-event event is always to race four styles :





freestyle, backstroke, breaststroke, and butterfly with the number 40 race number.

At this time, swimming achievements in Indonesia is still actively implemented a development towards maximum performance. Despite the fact that swimming performance in Indonesia still lags behind other countries. In the 1980 until 1990 year age, Indonesia 's domination in the swimming so difficult unrivaled by other countries in Southeast Asia. This sport has always been a mainstay and contribute to the Indonesian contingent to achieve many gold medals.

Indonesian swimming achievement was up and down particularly in Southeast Asia. Indonesian swimming achievements at SEA Games 1995 in Chiang Mai Thailand for example, are able to contribute to the Indonesian contingent by winning 7 gold medals. Better results and so spectacular that never achieved the team is on the aquatic Indonesia SEA Games 1997 in Jakarta, where the branch is able to win 11 swimming gold medals. However, since the SEA Games 2001 Kuala Lumpur Malaysia, Indonesia swimming glory branches began to decline with the only win two gold medals in the 50 and 100 meter freestyle. Later in the Vietnam SEA Games 2003, Indonesia only won 1 gold medal in the 200m butterfly. Then in the 2005 SEA Games in Philipina increased again to 4 gold medals.

At the 2007 SEA Games in Thailand, aquatic team reached its lowest point in particular to the world of Indonesian

swimming where the team did not win the gold medal and only won 5 silver medals and 2 bronze medals. While in the 2009 SEA Games in Laos swimming achievements has increased again by winning 2 Gold, 3 Silver and 2 Bronze. Last at 2011 SEA Games XXVI in Indonesia, Indonesia swimming team managed to donate 6 gold medals as well as the peak or turning point in Indonesian swimming achievements.

Decrease of Indonesian swimming performance in the last decade should be taken serious and require further investigation because of a decrease in swimming performance will have contributed to Indonesia's sports achievements in general. As one sports achievement and is a compulsory sport contested at every party multi-sport event swimming community need to be evenly distributed throughout the country.

Championships are regularly held by PB. PRSI is National Swimming Championships which is held in May and Indonesian Swimming Club Championships which is held on the end of December each year. Existing aquatic associations, one of which is to foster the sport of swimming by age group classification system as follows :

Senior Age 18 years old or older .

Age I aged 15 to 17 years .

Age II, aged 13 to 14 years .

Age III, aged 11 to 12 years

Age IV aged 9 to 10 years

Age groups 8 -year -old V below .





**PROBLEM FORMULATION**

What kind of instrument can be used to measure the level of sport-confidence of Indonesian swimmer?

**RESEARCH METHODOLOGY**

This study is a survey research, using descriptive statistical analysis to obtain valid sport-confidence indicator and suitable for assessing the sport-confidence level of Indonesian swimmer. Data collection was conducted in April 2012. The study population was a swimmer, while the sample of the study is the third and up age group swimmer in Jakarta were taken at random a number of 44 people.

Instruments used in this research is the development from SSCI (State Sport-Confidence Inventory) by Vealey (1986), which consists of three dimensions (training and physical skills, cognitive efficiency, and resilience) and 13 questions.

**RESULTS**

Overall, the results of this study illustrate the four steps that have been made

for the development of self-confidence gauge swimmer , namely :

- 1) Preparation of Concept. In conceptualizing, gained several things : instruments of sport-confidence is necessary to know the level of self-confidence in swimming athletes. Instrument of self-confidence is not there for this, which will use it is the coach, the instrument will be given to athletes, administration of the instrument can be done in the competition, and the format used was a questionnaire.
- 2) Construct Formulation. Based on the definition of some experts, it is determined that there are three dimensions in sport-confidence, namely: training and physical skills, cognitive efficiency, and resilience. While questions for each aspect are as follows :  
:

Dimensional	Question
1). Training and physical skills	I am confident in my ability in mastering the correct swimming technique. I sure can achieve the best results in the competition. I am confident that I can perform with the preparations made during this.
2). Cognitive Efficiency	I am sure that I am able to increase or maintain speed while swimming in a tight race situation. I am confident in my ability to control the speed of swimming. I sure can concentrate to achieve the best time. I am sure that I am able to achieve the targets set time. I am confident in my ability to think and make decisions during the competition.





3). Resilience	I am sure I can compete under pressure. I am confident that I can adapt in different pools. I am confident of being able to compete with another swimmer who has a better record time. I am confident in my ability to consistently improve the best time I believe that I was able to bounce back after a bad record time .
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3) Try out or trial, was conducted to determine the validity and reliability of the instrument being developed. Validity is the extent to which indicators measure developed is suitable or to measure sport-confidence of swimmer. While reliability is the extent of the measuring instrument steady, reliable, trustworth, and consistent to measure sport-confidence of swimmer. Statistical analysis of the results showed the validity of each of the following questions :

Questions	value	Description
I am confident in my ability in mastering the correct swimming technique.	.684	Valid
I sure can achieve the best results in the competition.	.821	Valid
I am confident that I can perform with the preparations made during this.	.829	Valid
I am sure that I am able to increase or maintain speed while swimming in a tight race situation.	.479	Valid
I am confident in my ability to control the speed of swimming.	.662	Valid
I sure can concentrate to achieve the best time.	.762	Valid
I am sure that I am able to achieve the targets set time.	.739	Valid
I am confident in my ability to think and make decisions during the competition.	.684	Valid
I am sure I can compete under pressure.	.405	Valid
I am confident that I can adapt in different pools.	.441	Valid
I am confident of being able to compete with another swimmer who has a better record time.	.717	Valid
I am confident in my ability to consistently improve the best time	.730	Valid
I believe that I was able to bounce back after a bad record time .	.636	Valid

Based on 13 valid question, get a data analysis reliability value is  $r = 0.921$ , meaning that the instrument is reliable and can be used to assess the sport-

confidence level of Indonesian swimmer because it has the constancy over time .  
 4 ) Use of Measurement. Based on the test results of the 44 swimming athlete, then





there is a matter that can be used to assess the sport-confidence level of swimmer. Assessment for each question ranged from 1 to 3 (low), 4 to 6 (moderate), and 7 to 9 (high).

## CONCLUSION

Results of this study concluded that the questionnaire adaptation of SSCI (State Sport-Confidence Inventory) can be used to assess the sport-confidence level of Indonesian swimmer, which consists of three dimensions, namely : training and physical skills, cognitive efficiency and tenacity .

## Advise

In order to the development of sport-confidence instrument for Indonesian swimmer, the instrument can be re-tested by involving more samples. Thus, the expected validity and reliability metrics obtained for the better. Examples of the development of measurement tools in this study, should support other researchers to develop an instrument of sport-confidence for other kind of sports. The more instruments to assess sport-confidence in the specific of sport, the more it will help the coach to understand the sport-confidence level which is owned by athletes

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## Application of Volleyball TID in Identifying Young Talented Players

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### Abstract

*Volleyball Talent Identification is one of the TID methods that can be used to identify and select young talented volleyball players. It was developed from Sport Search belongs to Australian Sports Commission. The purpose of this study was to identify young talented volleyball players using a Volleyball TID. This research was conducted at elementary school students grade VI aged 11-13 years olds in West Surabaya. The subjects were girls and boys students who actives in physical education and have height at least 150 cm with total numbers 202 students. The data was collected from anthropometrical measurement (height, sitting height, body mass, arm spam, standing reach), physiological testing (vertical jump 1 leg, vertical jump 2 legs, shuttle run, and MFT), and biomotorical testing (flexibility and throw and catch tennis ball). All the data were entered and analyzed using Volleyball TID software. The result of this study found that 59 students were identified as young talented volleyball players (37 boys and 22 girls). The conclusion of this study was Volleyball TID can be used to identify young talented volleyball players.*

**Keywords:** *anthropometrical, physiological, biomotorical, test and measurement, volleyball*

### Background

Talent identification programm have been done in many countries which was supported by the government, sports scientists, and sports organizations. China has tried to detect and identify the excellence potential and developed them into sports organizations with supported by the Sports Ministry in order to get excellence teams in the future (The Policy Research Centre of the Sports Ministry, 1982). The programm have been conducted to 120 millions students with aged 10-14 years. In the Olympic Games 2008 in Beijing and 2012 in London, China was on the first rank which collected the most gold medals. China Sport Daily (December 30<sup>th</sup> 2000) reported that China has won 1408

world championships and 1042 world records during 1949-2000.

Australia, has made Sport Search and Talent Search for indentifying young talented athletes. This program was completed with inovative and interractive computer software, therefore it can be used easily to get information about physical fitness profile and sports depend on each subject. This program also gives information regarding talent identification accurately base on children's potentials for approximately 80 sports. The instruments that were used to identify young talented athletes including anthropometrical measurements (height, body mass, sitting height, and arm spam); and physical tests (sprint 40m, vertical jump, shuttle run, throw





and catch tennis ball, basketball throwing, and multistage fitness test). The program have been done to 1,3 millions students with aged 11-15 years old (ASC, 2005).

In addition, Indonesia has been developed talent identification program, but it's still not conducted intensively and specifically. In 2003, Thumm is an expert of sport from Germany, have made a pilot project of talent identification for track and field in Papua. Test and measurement that have been done were height and body mass for anthropometric measurement. Beside that, the physical tests were general flexibility (glide test), macro coordination (floor exercise/gymnastic artistic), speed acceleration (40m sprint), throwing movement accuracy (ball throw), explosive vertical power (jump and reach), horizontal explosive power (triple frog jump), general aerobic endurance (sprint 800m for boys and 600m for girls). This program was conducted on 4388 students with aged range of 11-13 years old (Thumm, 2003).

In 2010, Ballard is an Olympian and strength conditioning expert from Australia also developed talent identification for lawn tennis in Jakarta. It was conducted on tennis players under 12 years. The measurement of anthropometrical was height and body mass; physical test including speed 20m sprint, T-test, 505, sit and reach, medicine ball throw 2kg, sit up, push up, pull up, stability leg stance, vertical jump, standing broad jump, double and single leg, and the ability

technique test was tennis playing abilities (Ballard, 2010).

In 2013, Kusnanik has developed a model of talent identification for volleyball players. This model is to identify young talented volleyball players aged between 11-13 years old. The instruments that are used including anthropometrical measurements (height, body mass, spam arm, sitting height, leg length, and standing reach); physiological testing (shuttle run, vertical jump 1 leg, vertical jump 2 legs, multistage fitness test); and biomotorical testing (flexibility, throw and catch tennis ball). The equation that have been found is  $D = -48,522 + (0,139 \text{ height}) + (0,223 \text{ sitting height}) - (0,075 \text{ body mass}) + (0,058 \text{ spam arm}) - (0,020 \text{ standing reach}) + (0,084 \text{ leg length}) - (0,065 \text{ throw and catch tennis ball}) + (0,093 \text{ flexibility}) - (0,072 \text{ shuttle run}) - (0,181 \text{ multistage fitness test}) + (0,029 \text{ vertical jump 2 legs}) + (0,056 \text{ vertical jump 1 leg})$  (Kusnanik, 2013).

Talent identification program is essential to identify young talented athletes including volleyball players. Some of the literatures reported that talent identification have been done in many countries such as Australia, China, Japan, Scotland, and Germany (Aussie Sports, 1993; Yuan, 2004; JISS, 2005; Abbott and Collins, 2002; Cooke, et al. 2010). Therefore the purpose of this study is to identify young talented volleyball players using the talent identification model by Kusnanik (2013).





**Methods**

This type of the research is quantitative with approaching of decription analysis methods. This study was conducted on 202 students (102 boys and 100 girls) of elementary school in West Surabaya. The subjects were Grade VI students with aged 11-13 years old, height at least 150 cm and active in physical education.

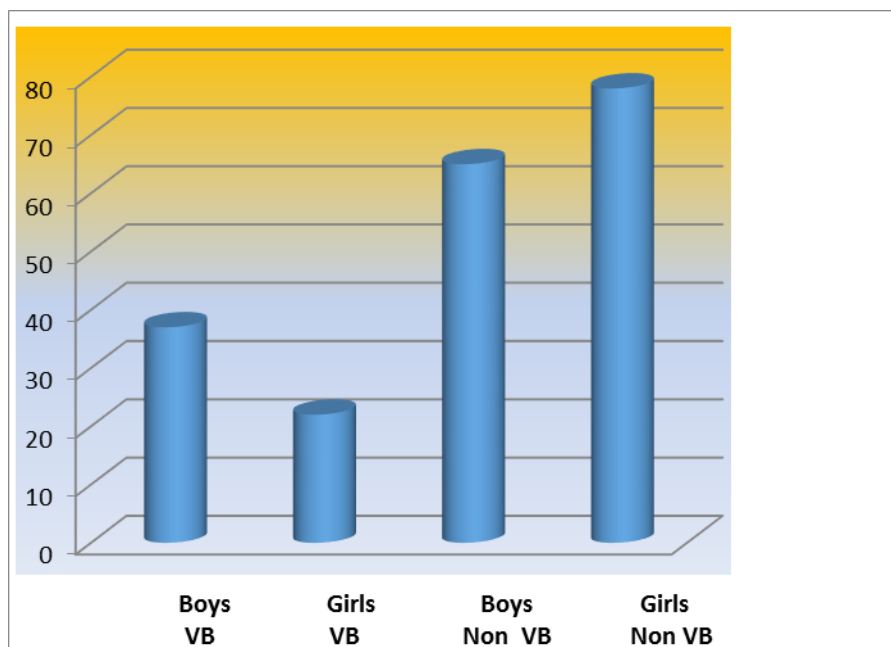
Data was collected by test and measurement including height, body mass, spam arm, sitting height, leg length, and standing reach for anthropometrical measurement; shuttle run, vertical jump 1 leg, vertical jump 2 legs, multistage fitness test for physiological testing; flexibility, throw and catch tennis ball for biomotorical testing.

Data was analysed using equation model of talent identification for volleyball. In addition, data was entried into talent identification software for volleyball (Kusnanik, 2013).

**Results and Discussion**

The result of this study found that there were 59 students who identified as young talented volleyball players (37 boys and 22 girls) while 143 students were identified as non volleyball (65 boys and 78 girls). It was approximately 29% of students who identified as young talented for volleyball players. The result can be seen in the Chart 1 below.

Chart 1. The results of this study



From the Chart 1 above showed that boys were higher than girls for identifying young talented volleyball players. On the

other hand, girls were higher than boys for identifying young talented for non volleyball players.





The example of using the equation model and software was Daiki (boy) 12 years old, height 158cm, body mass 50kg, sitting height 81cm, spam arm 162 cm, standing reach 203 cm, and leg length 95cm; vertical

jump 2 legs 46 cm, vertical jump 1 leg 39 cm, shuttle run 18 seconds, multistage fitness test level 6 shuttle 7; flexibility 12 cm, throw and catch tennis ball 12 times. Based on the equation, it can be calculated :

$$\begin{aligned}
 D &= -48,522 + (0,139 \times 158) + (0,223 \times 81) - (0,075 \times 50) + (0,058 \times 162) - \\
 &\quad (0,020 \times 203) + (0,084 \times 95) - (0,065 \times 12) + (0,093 \times 12) - (0,072 \times 18,53) - \\
 &\quad (0,181 \times 6,7) + (0,029 \times 46) + (0,056 \times 39) \\
 &= -48,522 + 21,962 + 18,063 - 3,75 + 9,396 - 4,06 + 7,98 - 0,78 + \\
 &\quad 1,116 - 1,33416 - 1,2127 + 1,334 + 2,184 \\
 &= 2,37614
 \end{aligned}$$

Those data were also entried into the software, as shown on the tables below.

Table 1. TID volleyball for volleyball



**IBAB (Identifikasi Bibit Atlet Berbakat) Bolavoli**

ID :	8	Vertical Jump 1 Kaki :	39
Nama :	Daiki	Vertical Jump 2 Kaki :	46
Jenis Kelamin :	Putra	Flexibility :	12
Tinggi Badan :	158	Lempar Tangkap Bola Tennis:	12
Tinggi Duduk :	81	Shuttle Run :	18,53
Bobot Badan :	50	Multistage Fitness Test :	6,7
Rentang Lengan :	162	Hasil :	2,376
Tinggi Raihan :	203	Kategori :	BOLAVOLI
Panjang Tungkai :	95		

Add Save Preview Delete

Table 2. The out put of TID for volleyball



															29 Desember 2012	
															12:51:53	
															(Identifikasi Bibit Atlet Berbakat ) Bolavoli Putera	
ID	Jenis Kelamin	Nama	TB	TD	BB	RL	TR	PT	V1K	V2K	Flex	LTBT	SR	MFT	Hasil	Kategori
8	Putra	Daiki	158	81	50	162	203	95	39	46	12	12	18,53	6,7	2,376	BOLAVOLI

From Table 1 and Table 2 shown that the subject was identified as young talented volleyball palyer. There was no differences between the result from manual calculation using the equation model and the software.

In volleyball games, height is one of the key determinant of success. Height is important for the players in order to do some techniques properly such as smash and block. Hussein et al (2012) reported that volleyball players who have higher height will have highest vertical jump. Volleyball players who have a higher standing reach will be able to reach the ball above the net. The height of the volleyball net was 2,43 m fo male and 2,24 m fo female. Gabbett and Georgieff (2007) reported that standing reach between volleyball palyers were different significantly at the level of games. In many of sport small increases in body size and mass can impact significantly on performance. Assuming constant body composition, increased body mass increases both the energy demand as well as energy supply in most sports activities (Norton and Olds, 1996). It is difficult to win the volleyball games without doing service efficiently (Hayrinen, et al 2000). Therefore,

volleyball players need to have length legs in order to support jumping service.

Volleyball is an intermittent sport which needs a higher predominat energy system anaerobically. Volleyball players often doing some movement especially vertical jump or horizontal jump quickly. Besides that, volleyball players must have fast movement to the left, to the right, to the front or back in order to catch the ball. Hayrinen et al (2009) stated that efficiency of jump serve was correlated with speed of serve. Bloomfield (1998) reported that volleyball is an agility sport which depend on the ability of jump parcially.

The equation model and software talent identicitaion for volleyball players are easy to be applied by physical education teachers, volleyball coaches, parents in order to identify the students as young talented volleyball players or non volleyball players. Therefore this model can be used to make groups volleyball or non volleyball at students aged 11-13 years old. The advantages of this model were easy to apply and quick to analyze.





The students who identified as young talented volleyball players, will be developed their talent into volleyball clubs. The students who were not identified as young talented volleyball players, they were suggested to join other sports. The model of talent identification for volleyball was completed by software called "IBAB Bolavoli" of TID for volleyball. Therefore, it was talent identification model for volleyball which practice, effective and efficient to be applied.

## Conclusion

The equation model and software of talent identification for volleyball can be used to identify young talented volleyball players. This model can be used by physical education teachers, volleyball coaches, and parents not only for identifying young talented volleyball players but also for evaluating the nurture of volleyball.

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## THE GIFTED TEST OF ARCHERY ATHLETES BETWEEN THE AGES OF 12-14 THROUGH SPORTS SEARCH

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### ABSTRACT

*This research uses experimental methods to find out whether the sport search test has a predictive validity or not. The research starts by giving a sums of archery atheletes between the ages of 12-14 a search sports test to obtain a group of gifted students and a group of non gifted. There are 31 students found out to be gifted, and 31 students not gifted. After that, both groups of the gifted students and no gifted students are given an initial test to shooting 36 arrows with a distance of 10 meters. After this test, they are given a treatment of archery sports test in 36 meetings for approximately 3 months. Having finished the three months training, they are given the final test to find the score of the predictive validity.*

*Conclusions: (1) Profile of the physical components of the gifted archers between the ages of 12-14 evaluated by Sport Search test are height 157.52 cm, sitting height 79.84 cm, weight 50.00 kg, Arm 164.55 cm Range, Tennis Ball Throwing and Catching 11:13 times, Basketball Throwing 6.93 meters, Vertical Jump 40.58 centimeters, Agility Run 17.76 seconds, Run 40 M 6.77 seconds, VO<sub>2</sub> Maks 26.01. (2) the dominant factors in the archers athletes between the ages of 12-14 are as follow; gifted child's height 5.45 cm higher than the child which is not gifted. heavier body weight higher 8 kg, height sitting higher 1:49 cm, arms range higher 8.68 cm, throwing basketballs higher 1.76 cm, agility higher 0.12 seconds. (3) Prestation Profile of gifted archery athletes between the ages of 12-14, increase greater than students who are not gifted. Average value prestation of archery gifted students increase 175.23 while the non gifted students increase only 144.84. (4) Sport Search test has significant predictive validity for assessing one's talent in archery sports, the validity coefficient is 0,698.*

**Keywords:** Giftedness, Archery, Sport Search Test.

### INTRODUCTION

Sport archery is one of the oldest sports in the world, yet no one knows exactly when the bow and the arrow sport is found for the first time. It is said that, since prehistoric times, both tools are already used to hunt and protect human beings from enemy attacks. History has proven the use of bows and arrows which can be seen at relics of prehistoric man, estimated about 50,000 years ago.

In Indonesia, there are several kinds (rounds) of archery sports that contested. Among others: (a) FITA Round (Federation Internationale de Tir an l'arc), (b) Perpani Round (now the National rounds), and (3) Traditional Round. In Indonesia archery sports development started in the first National Sports Week in 1948, meanwhile in Indonesia Archery Sports Associated was formed on July 12, 1953 in Yogyakarta. Upon the initiative of Sri Paku Alam VIII. The first





National Archery Championship held in Indonesian is in 1959 at Surabaya. The Chairman of the first Perpani was Sri Paku Alam VIII, which lead the Perpani from 1953 until 1977. With the formation of the Archery Sports Organization, then Perpani became a member of the International Archery Fita Organization in 1959, at the congress in Oslo, Norway.

Talking about the history of archery sports achievements in Indonesia, Indonesian people is very proud with the Indonesian archers because the Indonesian athletes archers are often be the champions at the International events such as the SEA Games and Asian Games. The peak performance of the Indonesian archery sports are found when Nurfitriyana Saiman, Lilies Handayani and Kusuma Wardani got a silver medal in Seoul Olympics 1988. Yet, since then, triumph archery sports is no longer as good as the 1988 performance's. It declines from year to year. This decline happens due to various aspects, one aspect is the lack of early childhood gifted scoutings, which should be done by all Executive (PP), Regional Manager (Pengda) and the Branch (Pencab). Therefore, it is recommended that a gifted scouting sytem, which uses a sport search test, should be applied to the archery atheletes since early childhood.

A sport search test is a representative of a talent scouting guide model which implemented by the Australian state several years ago for scholastic achievement. At the time, sport search test can bring the Australian country to reach the expected

peak performance in the Olympics. Sports search talent scouting guide has 10 test items that include: height, sitting height, weight, range of both arms, throwing a tennis ball catching, throwing basketballs, jump up, run agility, sprinting 40 meters, and run multistage types.

Seeing the succseses of the Australian archery contingent, Indonesia contingent adopts the methods of talent scouting model sports search of the Australia to develop the talents of the archery atheletes. It is said that, it is necessary to study on how to develop and how to make effective the implementation of the talent scouting system to optimize the potential that exists. Finally, the Archery Association in Indonesia decides that the talent scouting system must be done systematically and comprehensively through educational institutions as a central guidance.

## **Theoretical Frameworks**

### **The nature of the Talentedness Sports Test**

Talentedness sports is defined as the effort to predict whether a gifted child is having an opportunity to be success or not in doing the exercises so that he or she can reach the ultimate performance

Meanwhile the nature selection is defined as a normal approach, done by an athlete to follow a particular sport because of the local influences, such as school traditions, expectations of parents, peers or friends.





Scientific selection is defined as a method which is used to select some athletes candidates who have the potential to be developed by using scientific method. Scientific selection much less takes time to achieve outstanding results it compared with the method of natural selection sports types that require high requirements, such as soccer, volleyball, and so forth.

## Talent Identification Criteria

The purposes of a guide scout talent, among others are, 1) to predict with high probability how much a person's chances to successfully achieve maximal performance as well as predicting him or her's ability to complete or to pass the basic training program in order to get the ultimate performances.

## The Nature of Sport Search

Guidelines sports is a talent scouting search is a talent identification model which consists of 10 grains of tests aimed to discover the potential of children between the ages of 11 to 15 in the sport that is adjusted to the characteristics and potential of the child. The ten test items are: Height, Sitting Height, Weight Loss, Range Second Arm, Tennis Ball Throw Catch, Basketball Throw, Jump Upright, Running agility, 40 Meters Run Fast, Run multistage (M. Furqan H and Muchsin Doewes 1999 : 16)

It is also said that, sport search is one of the programs developed by the Australian Sports Commission (The Australian Sport Commission) as part of the AUSSIE

SPORT'S whole approach; of the Australian nation to developm the junior sports approach. This sport search program is an initiative which contributes effectively to the education and the child development by making emphasis on fun, fair play, skill development, teaching quality, maximum participation, and leadership. This test is easy to be used and can be conducted in a small field and this games only requires simple equipments which easily be prepared. However, it is still encountered some problems related to the aspects of the processing of the data analysis, using the computer assistance.

Referring to the above statements, the test is defined as exams at school or the college entrance exams / academy exams, or the employee tests that include writing or marking answers. Furthermore, in the field of education or psychology, the test is defined as "a systematic procedure for observing and describing characters of someone using a scale, in the forms of numbers or a category." Meanwhile, the term "score" is defined with an indication of the student performances, which are stated in numbers. Numeric score is required since it can score something with accuracy.

In relation, with what is stated above, categories of the techniques and skills can be divided into three categories namely easy, average, and difficult. Talking about the categories, one cannot say that the more higher the category, the more difficult the matter. Furthermore, the concept of understandings in this sport search test is





defined as the lowest level of the intellectual concepts where students can only know and can only use the material without he/she need to connect one material with other materials or paying attention to all the applications of the materials.

## **Predictive Validity**

The predictive validity is categorized on criteria or Criterion - Related Validity (Fernandes, 1984: Azwar, 1999) is a procedure which requires the availability of external criteria which can be used as a standard basis test scores. This criterion is a variable that would predict behavior through a test or other relevant measure. Gronlund (1984:63) points out also that the criterion - related validity can be defined as the process of determining the degree to which test performance is associated to a value of other performance measures called criteria.

## **The Nature of Archery sports**

Sport archery is an individual sport, in which each archer will compete to collect the highest score. The task of each archer is too short 36 arrows aimed to the center target, from at a distance of 30 m. Archery target is a circle with a diameter of 30 cm. Each target has a highest score from 10 to the smallest value 0. The biggest value there is in the middle of the target with a value 10, while the smallest are the arrows lie found in the target edge.

In relation, with the above paragraph, in Indonesia, there is a national round, which is always being contested each year.

National Round is one of a number contested in archery sports. In the National round there are 3 (three) numbers contested with distance 30 meters, 40 meters, and 50 meters.

Talking about the characteristic of archery sports in Indonesian, at the National round the tools and the equipments are consist of a bow and an arrow made of bamboo and wood, while fisir or binoculars are made of iron.

## **The Nature of Archery Sport Achievement**

Prestation in sports according to Sport Systems Act Chapter I Article I number 17 (2007:4). Prestation is defined as the result achieved by a sportsman or group of athletes (team) in sport activities. Mean while, the archery sporting's prestaton is seen from the results obtained from any distance and totaly distance in which each athlete releases the dart; then the total throwing archery's then viewed as the results of the shooting as a total score. Then, one who has the greatest score is declared as a champion.

## **The Dart**

In the standard FITA, the dart is divided into five sections, namely arrowhead (pivot point), the arrow shaft, arrowheads (crest/cresting), wing controllers (fletcing) and bowstring holder (Nock). (Patricia Baier, 1976:5).

The eye of the dart is made of wood, while the arrowhead / cresting a color circles used as a marker for the owner. Wing controllers (fletcing) can be made of feathers







or fiber, which used to control the course of the arrows. Bowstring holder (Nock) can be made of aluminum or fiber. The Nock is used to clamp the rope bow.

On the board, there are ten circular targets consisting of 5 colors (yellow, red, blue, black, white). Each color is divided into two sections with a width of each part of equal size. On each side of these colors have different values: Yellow part value = 10, the outside value = 9, the red part value = 8, the outside value = 7, the blue part value = 6, the outside value = 5, black part value = 4, the outside value = 3, the white part value = 2, the exterior value = 1

## The Archery Equipments

For the novice archer the tools that should have been owned by him or her are includes (1) bow, (2) arrows, (3) protective sleeve, (4) a protective hand puller, and (5) tool viewfinder.

Prestation in sports archery is called an athlete peak performance achieved in a game or a race. The prestatation can only be achieved after going through various exercises and tests. Competition is usually done periodically and at a certain occasions. Achieving the highest prestatation in sport means that the results are coming out from all the cultivation of the seedling process, including the coaching process. From the process of the cultivation some athletes who show good in his/her performance will be choose to follow the cultivation of special seedlings programs.

In relation with the statements stated above, some notes should be paid attention: namely, the archer organization should run long-term programs for 1) the early childhood's programs talent scouting in a mass participation. 2) The junior training programs for the junior athletes to cultivate special seedlings athletes. 3) The post adolescence senior programs to cultivate a prestatation. It is said that the ultimate peak performance of sport or a prestatation era of an athlete lies in this senior period. Due to this reason, the archer organization must pay good attention to this senior period.

## The Characteristics of Archery Sports

Characteristics of archery sports can be said as an activity an athlete releases an arrow through a certain trajectory toward a target at a short/long distance. The difference between archery sport with other sports like shooting sport of the strength power. The archery sport power depends on energy arising from the pull or stretching of the bow against the bow. When the energy is gained the activity then turns into a power which push the arrow when it is released.

The quality strength which is required in the sport archery is the deployment of force elements against a piece of equipment (the bow with its equipment). The type of the force required is called strength endurance. The quality of the endurance strength is composed of power strength and endurance. Archery sports require muscular strength and endurance arc stretching performed repeatedly in a relatively long time in such





away order to the bow can reach. As mentioned earlier, one technical step is to stretch a bow in obtain the potential energy from the arc, efficiently and safely.

In the activity of stretching, in the contraction isotonic / dynamic position, the arm of the archer should be kept or must be maintained in such away to overcome the force of the traction. At the time of a full pull, the arm that holds the bow should really locked into the place (in isometric contraction/static position). This position will allow the arm that holds the bow absorbs the energy coming out from the bow at the time the arrow left the bow string.

Furthermore, it is also said that skills are part of the skill motion. Singer (1980:30) argues that "skills = speed x accuracy x shape x ability to adapt."

Jean A. Barret (1997) states that sport archery requires physical condition appropriate to the needs of the game cardiovascular requires namely: endurance, strength, endurance of the shoulder muscles, upper back muscles and balance.

## **The Characteristics of Gifted Children of The Ages 12 -14**

Gifted child growth and development are strongly influenced by the properties, thinking, attitudes and activities of the other community members and in the association such as the emotion they feel, sad or happy. While looking at the cultural, gifted child growth and development are influenced by the cultural level where they are gaining cultural experience. Also religious factors will

also provide the basic of gifted children's personal norms. Based on the academic achievement, gifted children have basically the central nervous system (brain and spinal cord) which is in prime condition. Therefore, gifted children can achieve a high cognitive level.

Children is defined as a child between the ages of 2-6 years old and children between the ages of 6 to 12 years old. Gallahue, DL, and Ozmun, JC, (1997:189) Also according Sugiyanto (1993:8) children can be divided into two parts, namely the little children and the older children. The period of a little child is a child between the ages of 1 or 2 years to 6 years. While the big kids are the children between of the ages 6-10 yearsold for girls and between the ages of 6 to 12 years for boys.

While teenagers or adolescent are defined as individuals who are between the ages of 10 to 18 years for women and the ages of 12 to 20 years for men. Adolescent period are transition from childhood to adulthood. This period is a period of rapid growth, characterized by complex biological development.

Meanwhile, according to Singgih Gunarsa (1995) in general, children are grouped into four groups. They are 12 - 14 years: early teens, 15-17 years old: Teenagers and 18 - 21 years. Meanwhile, physical size of growth rapidly in the early years and then slowing down, finally elongated growth will stop until some and reaching adulthood. In the early period there is a tendency adolescent girls tend to be





higher than boys, but then the boys become taller and larger, until the the maximum size obtained. In the years since the end of the adolescent, obvious morphological changes occur both in men and women.

## RESEARCH METHODOLOGY

Place of execution in Jakarta, began in April-July 2008. Exercise performed three times a week with a time of 90 minutes each exercise. The exercises done which is on Monday, Wednesday and Friday (At 15:00 to 17:00 GMT). The total of the meeting is 36 times.

### The Research Methods

This study used comparative studies to determine giftedness archery athletes. Then students between the ages of 12-14 years old are being tested using the search sport first. To obtain the students who are gifted and not gifted in archery sports, the student will be tested by releasing as many as 36 arrows shot at a distance of 10 meters. After these initial tests, the students will be given training or treatments. The exercises are done 36 times for 3-month meeting. After a given training for 3 months then the students will put in in the final test to know the value of the predictive validity of the test.

### The Population, The Sample and The Techniques Sampling

The population in this study are junior high school students between the ages of 12-14 years old, the students is found from the school where the location closer to the field

archery in west Cengkareng. The name of the school is SMP 249.

The sample of the study are students who are gifted and not gifted in sport model search namely 62 students, 31 students are gifted and 31 students are not gifted. According Suharsimi Arikunto (1986:92), "The sample is partially or representative of the population studied. While the sampling technique used is purposive random sampling. The samples are taken only from students between the ages of 12-14 years old. According to James Tangkudung (2006:35) that a good age to start training in archery sports is between the ages of 12 - 14 years old and between the ages of 16-18 years old. After doing the test then the student will be selected randomly a gifted child and the no gifted child in sports search.

The technique used are tests and a measurement for testing the talented scouting sports athletes. The implementation of the test and the measurements techniques are as follows: The executors or testers must know the test instructions first, before beginning the measurements. Directive implementation should follow what is recommended in the Manual Test Method output / publication of The Laboratory Standards Assistance Scheme of The National Sports Research Center, the Australian Commission (Draper, Minikin and Telford: 1991).

### The Data Analysis Techniques

The data obtained from the results of the archery skills of gifted children and non-





gifted children in archery sports. The sequence data analysis steps of this research are: Looking for Archers Profile Ages between the ages of 12-14 Years old. Analysis of the profile archers between the ages of 12 - 14 years old counts in terms of sports search using the calculation of the average (mean) of each test item. The formula used is:

$$M = \frac{\sum X}{N}$$

Description:

M = Mean (average)

$\sum X$  = The number of each test item

N = Number of Samples

Performance profiles analysis of archers between the ages of 12 - 14 years old is done by calculating the average (mean) results of the initial tests and the final test in each group, then the results are compared and found the difference. Analysis of differences in prestaton between groups of archery gifted athletes and non gifted athletes is done to strengthen the predictive validity of the sport test search scores.

### The Finding Predictive Validity Test

Methods of data analysis used to test the predictive validity is using Pearson Product Moment Correlation (Suharsimi Arikunto, 2000:72). Validity test is done by correlating scores giftedness of each sample, then the value of achievement after a given treatment in the form of archery practice. The Pearson Product Moment formula is as follows:

$$N \cdot \sum XY - \sum X \cdot \sum Y$$

$$r_{xy} = \frac{N \cdot \sum XY - \sum X \cdot \sum Y}{\sqrt{\{N \cdot \sum X^2 - (\sum X)^2\} \{N \cdot \sum Y^2 - (\sum Y)^2\}}}$$

(Source: Suharsimi Arikunto, 2000:72)

Description:

$r_{xy}$  : Correlation Coefficients Between X and Y

X : Score giftedness.

Y : The Achievement of Achievement Archery.

XY : The number of multiplication between X and Y  $\sum$

$\sum X^2$  : Number of Squares X

$\sum Y^2$  : Number of Squares Y

N: Number of Samples

The result of r count than is justify to the consultation table at 5% significance level. If r calculate > r table then the point is valid. Conversely, if the count r < r table, then the invalid test item is found.

### RESEARCH RESULTS

Presentation of the research results are based on the statistical analysis performed on the results of the search and achievement tests archery sports. The Following is a summary of the description of the data and the results of the research and the discussion of research results.

The process of data collection is obtained from the children of gifted and the non gifted children in junior secondary school (SMP) in West Jakarta. It consists of 31





children gifted and 31 children are not gifted. The whole children are measured in the their height, sitting height, weight, range of both hands, throwing a basketball, vertical jump, agility run, run 40 meters and ran a multistage. Then the data entered into the program.

The interesting things from the description is that on average, gifted child's height 157.52 cm the child which is not gifted 152.06 cm. These conditions are also found in the mean sitting height gifted children: 79.84 cm, the child which is not gifted: 78.35 cm. Similarly, the gifted child's weight 50.00 kg, the child is not gifted: 42.08 kg. And the average span of both arms of gifted children: 164.55 cm, which is not gifted: 155.87 cm. As for the average throw and catch a tennis ball gifted children: 11 times, the child which is not gifted: 12 times. As for the average throw basketball gifted children: 6.93 meters, the child is not gifted: 5,17 meters. Likewise, the average vertical jump of gifted children 40.58 cm, the child is not gifted: 33.77 cm. As for the average run agility gifted children 17,76 seconds, the child which is not gifted: 17,04. As for the average run 40 meters, gifted children: 6.77 seconds, child which is not gifted: 6,88. As for the average run of gifted children multistage 1.26 mL / kg bw / min sec, the child which is not gifted: 17.64 mL / kg bw / min.

## The Discussion of The Research Results

Comparison profile archers between gifted and non gifted children in archery sports is found the gifted children get better

results than the non gifted. Based on the above results, it can be seen that there are physical components and better power of gifted children in sport archery such as: height, sitting height, weight, range of both arms, throwing basketballs and jump straight. Compared with the non-gifted. The results above show that in doing the archery sports, one requires a strength physical components and a better power.

The results shows that in making a program archery exercises, the trainer should pay better attention to the physical components and strength of the archery athletes.

Based on the above results it can be seen that, before getting treatment (practice archery) archery abilities of gifted children is smaller than the child which is not gifted. After getting treatment, there are significant differences, archery abilities of gifted children is greater than the child which is not gifted. Gifted children have archery achievements greater than the child which is not gifted. The group of gifted children have archery achievement of 24.97 is better than in the group category of the child which is not gifted.

Talent is an innate ability that is fundamental to the development of sporting prestation. Prestation and skills displayed by a motion strongly influenced the talent possessed. People who have a good talent base, relatively faster in learning a particular skill than people who have low talent base. Giftedness is a modality for learning sports skills.





Based on the results of the data analysis above, it can be seen also that the value of sport test validity is 0.698. Where  $r_{count} = 0.698 > r_{table 5\%} = 0.355$ , which means that search sport tests have significant predictive validity to determine giftedness in sport archery.

Based on the results of the study it is also found that, archery achievement between groups of children are gifted and non gifted children do not have significant differences. Group categories of gifted children have archery achievement with a score of 175.23, while the category of gifted children do not have the achievement in archery with a score of 144.84. Groups of children who are gifted have archery achievement with a score of 30,387 which is better than the groups of children are not gifted.

Statistically test the search sport has significant predictive validity to determine giftedness in sport archery. In fact it is also indicated that the group of gifted children have greater achievement in archery better than the group of children who are not gifted. It can be concluded that the predictive validity of tests is quite in high search sport.

## The CONCLUSIONS AND SUGGESTIONS

### a) The Conclusion

Based on the research and the data analysis mentioned above, it can be concluded as follows: 1). Profile archer gifted children between the ages of 12-14 years old in terms of search sport. Is the height is 157.52 cm, seat height is 79.84 cm, weight is

50.00 kg, 164.55 cm is the range arms, throwing a tennis ball is 11:13 time is for catching, throwing Basketball is 6.93 meters, 40.58 centimeters tall jump, agility run is 17,76, ran 40 M 6.77 is seconds, and ran multiresistant (VO<sub>2</sub>Maks) is 1.26 ml / kg. 2). The dominant factors in the archer between the ages of 12-14 years old, the gifted child's height 5:45 cm higher than the child which is not gifted. Heavier body weight 8 kg, height sitting higher 1:49 cm, range 8.68 cm arms, throwing basketballs further 1.76 cm, agility 0:12 seconds. 3). Profile archery prestation between 12-14 years old, namely that gifted children archery have a greater achievement than children archery is not gifted. Average value of archery achievement of gifted children at 175.23 while the child which is not gifted at 144.84. 4). Sport search has significant predictive validity for assessing one's talent in archery sports. The validity coefficient is 0,698.

### b) The Suggestion

Based on the results of this study, the Central Board, the Regional Board, Teachers and Coaches of archery archers are given the following suggestions: 1). In looking for gifted children in archery sports, it is a must to consider the physical components such as: height, sitting height, weight, range of both arms and throwing a basketball. 2). In an effort to find more effective and efficient search for gifted athletes. It seems that, the sport search can be recommended as a simple alternative in terms of talent scouting seedling. 3). Archery sports coaches should





use the talent scouting sports to the children range from the ages of 11 to 15 years old.

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## Evaluate of Program Coaching Intellectual Disability Children at Extraordinary School Of Karya Ibu Palembang

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### Abstract

*This study aims to evaluate context, input, process and product coaching program with CIPP method taken by using qualitative approach. The population was intellectual disability children in extraordinary school of Karya Ibu Palembang. The technique for collecting data was observation, interviews, document searches, and triangulation. This study resulted in the background and clear objective, recruitment of coaches was done by direct assignment through decree of Principal, recruitment athletes was done by direct of sport talent and potential, facilities owned were well enough, coaches arranges program based on experiences, the achievements that very proudly. This study concludes that: the cleared background and objective coaching program in the establishment sports coaching input still lack of funds and sports facilities infrastructure, coaching sports process was technically not made in accordance with procedures and still requires maximum support and coordination of local government, special Olympics,, product of sport coaching at shown results.*

**Key Words :** Evaluate Program, Development, Intellectual Disability Children.

### Introduction

Sport is a necessity of life that can't be abandoned and should be carried out repeatedly to be maintained in good health in the growth and development of the physical, spiritual and social. There is no element of race, class, religion, economic status, gender, age everything can work in accordance with the objectives to be achieved.

Children with special needs (ABK) also have the opportunity to exercise such purpose sports people in general, it's just a sports crew have done on the way and need to be modified equipment so that the child can do sports activities without reducing the benefits of the sport itself. ABK mental retardation is a child who has significant

intelligence is below average and is accompanied by the inability to adapt the behavior that appears in their infancy. As for the classification of mental retardation based on the level Inteligency Quotion (IQ), namely: (1) mild mental retardation, (2) moderate mental retardation, (3) severe mental retardation, (4) very severe mental retardation (Sutjihati in Blake, 2007).

Intellectual disability child can develop to the fullest potential of motion with the help of others. One of the social organization that handles mental retardation is Special Olympics International. In Indonesia known as the Special Olympics Indonesia (SOIna). Special Olympics Indonesia (SOIna) is the only social organization in Indonesia that is accredited







by Special Olympics International ( SOI ) to address child mental retardation empowerment through sports training and competition throughout the year . Through the organization of coaching , training and competition , child mental retardation can be productive citizens , useful and accepted as an integral part of the community.

Coaching is a very important determinant in the sports , so that the goal can be achieved accomplishments in sports . The emergence of talented athletes can not be separated from the process of coaching is done in a health club . Sporting achievement is determined by the programs drawn up by coach , adequate infrastructure , funding support and participation of the school environment , community , and the support of concerned parents . Related to construction of sporting achievement by Subardjah ( 2000 : 68 ) there are many factors to be considered include the following : the purpose of fostering a clear , systematic training programs , materials and proper training methods , and evaluation that can measure the success of the coaching process itself.

Departing from the background of the problem , the focus of this research is the evaluation of intellectual disability sports coaching program in extraordinary school of Karya Ibu Palembang .

## **Intellectual Disability Children**

In general, children are children who have intellectual disability development

barriers well below the average child his age ( normal child ). Intellectual disability have limited capabilities in adaptive skills as well as difficulty in communicating verbally , because limitations intellectual disability children experiencing difficulties in academic tasks, and therefore require special services the intellectual disability child. According to the definition of mental retardation in Sutjihati Kauffman and Hallahan (2007 : 104 ) through the AAMD ( American Association on Mental deficiency ) included a definition of mental retardation , the Mental Retardation Significantly Refers to general subaverage intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the development period . The definition emphasizes that a child's mental retardation mental retardation showed intellectual functioning below average clearly accompanied by an inability to adjust behavior and occurs during development.

## **Sport Development National System**

Undang-undang Nomor 3 Tahun 2005 Pasal 1, ayat (3) states that the national sports system overall athletic aspect is interrelated in a planned , systematic , integrated , and sustainable as a whole which includes the setting , education , training , management , coaching , development , and supervision to achieve the objectives of national sports.





Scoring potential athletes can not be done by way of instant , tiered coaching , competition routine , giving hours of flying , the availability of development funds , facilities as well as the attention of the government to be an important factor in the effort to bring forth the seeds of athletes ( wibisono, 2011 : 5 ).

## **Sports Coaching in Schools**

Promotion and development of sport in schools is an integral part of the educational process in order to improve the quality of human resources in Indonesia . Coaching and sports development implemented through family , educational pathways , and pathways in the development of community -based sport for all people who last a lifetime ( Mutohir et al , 2008).

## **Sport Coaching for Intellectual Disability**

Based , Undang-Undang Nomor 3 Tahun 2005 tentang Sistem Keolahragaan Nasional pasal 30, it is clear that the government is very supportive of sports coaching program for people with disabilities are no exception for persons with mental retardation in both education and coaching that is in the center or health club Handicap.

Sports coaching for children mental retardation should be specifically tailored to the physical abnormalities and / or the child's mental mental retardation . The objectives of sports coaching for children with mental retardation include: improving physical fitness

, practicing self-discipline and courage , showing kemampuan expertise , gain friendship and excitement for the Intellectual Disability children (Special Olympics Indonesia, 2006).

Specialized sports coaching tunagrahita children who perform well will be able to provide opportunities for children to excel in mental retardation decent living at the same time socializing between people with mental retardation , as well as the wider community so that their welfare is guaranteed .

## **METHODS**

### **Research approach**

The approach taken in this study is the approach of Daniel Stufflebeam 's CIPP model in terms of the stages of context , input , process , and product.

### **Subjects**

School subjects of this study were (SLB C ) Capital work Palembang , which include : administrators , coaches , child mental retardation ( athlete ) , the community , parents , , Officer in Pengda SOIna South Sumatra and facilities School ( SLB C ) Mother works Palembang . The research was conducted in the province of South Sumatra , precisely in the city of Palembang . The reason researchers took the city of Palembang as the study area because a lot of kids sporting achievement records tunagrahita both local, national and





international.

## Collection Data Techniques

Researchers collected data by merging triangulation by observation, interviews, and documentation in the field resulting in a more focused and capturing information as required in this study.

## Data Analysis

This study uses a qualitative analysis of non-statistical method, wherein the component data reduction, and presentation of data carried out simultaneously with the data collection process after the data is collected, the three components analysis (data reduction, data presentation, drawing conclusions) interact.

## RESULTS

### (1) Context

Based on the analysis, evaluation of program context aspects of the background, objectives and program of sports coaching program in SLB Mothers Work Palembang C can be expressed either, because Mrs. SLB C Palembang work background, the purpose of coaching and coaching programs are clear, strong and accomplished.

### (2) Input

Based on interviews and documentation for researchers to do research, it can be concluded that the funds for

coaching sports in Palembang Mrs. SLB C work is very limited because there are no funds khusus untuk sports coaching. Funding for sports coaching in SLB C Capital Works Palembang still join the BOS funds procurement of infrastructure work Mrs. SLB C Palembang, therefore the training process lasts sometimes coaches did not get the honor and will now leave following the weekend outside sports and championships Palembang city manager proposal and are usually assisted by Pengda SOIna in fundraising.

### (3) Process

Based on our analysis, it can be concluded that the training program for the implementation of aspects of the work of Mrs. SLB C Palembang has conducted training programs in accordance with the well program has been made, while it is for the welfare and coordination aspects in sports coaching program in SLB Mothers Work Palembang C can be expressed in being the welfare state in this case there is honor coaches and athletes, but still minimal, for the coordination of the coordination but not maximized.

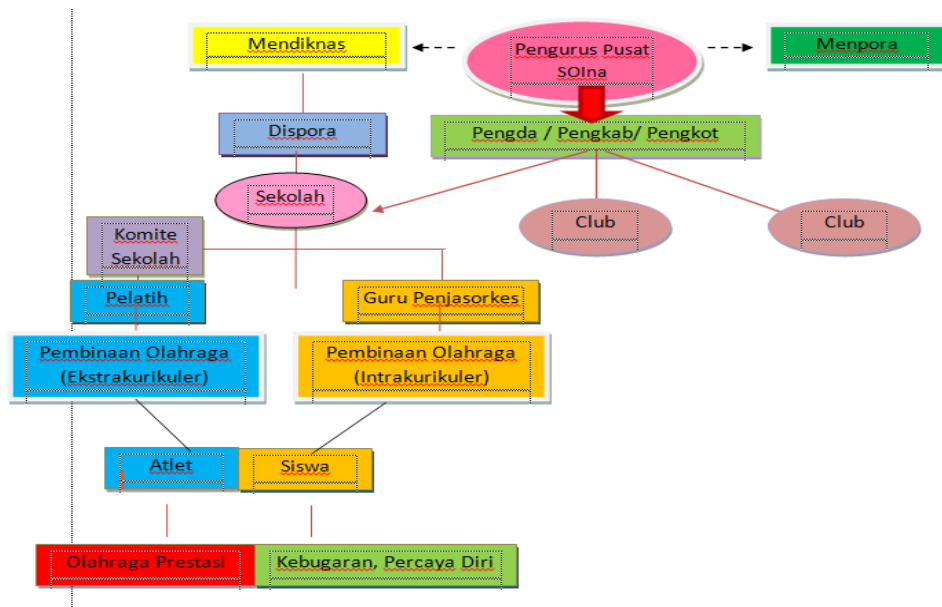
### (4) Product

Based on our analysis on product evaluation in sports coaching SLB Mothers Work Palembang C produces an increase in physical fitness, self-reliance and behavioral changes that occur in the child's mental



retardation . on aspects of sports performance can be summed up in either category , due to the stable performance at the local level , nationally and internationally , there are events that are held every SOIna and NPC students SLB C Capital Works Model factual implementation of sports in Palembang Mrs. SLB C work can be seen in the image below:

Palembang South Sumatera always represent , nevertheless attention on aspects of government investigators concluded in the category due to the government's attention but still less than the maximum .



**Gambar 1 Model Faktual Pelaksanaan Pembinaan Olahraga Anak Tunagrahita di SLB C Karya Ibu Palembang (Hasil penelitian 2013)**

**Result**

( 1 ) Context

Sports coaching conducted in Palembang Mrs. SLB C work has led to the implementation of Law no . 3 of 2005 Article 25 paragraph 4 of the National Sports System , which reads " The development of sport education implemented with regard to the potential , abilities , interests and talents

of students as a whole , either through intra- and extracurricular activities " ( Act 3 of 2005).

Coordination between the SLB C SOIna with Mom Works Palembang allegedly staged training exercise can be done by SLB C Capital Works Palembang . Through the program " Sports Throughout the Year " from SOIna , tunagrahita more children follow the





spirit of sports coaching in SLB C Capital Works Palembang.

## ( 2 ) Input

A natural thing when a sports achievement of children in special schools tunagrahita Palembang boasts Mrs. C work for local, national and international , this is because the sport experience possessed by the coaches in Palembang Mrs. SLB C work and training in the face of mental retardation in children South Sumatra Province.

For athletes aspects that can be analyzed : ( 1 ) there is no selection of athletes but coaches are pointing directly tunagrahita children in a sport that has the potential to then be given additional training in specific sports clubs tunagrahita children ( SOIna ) and children with disabilities ( NPC ) . ( 2 ) reasonable when athletes in Palembang Mrs. SLB C work to excel in sports as an athlete SOIna participation within its capabilities and no grouping ( divisioning ) by sex , age and level of ability . It means the chance to win the game system is wide open because the children are grouped according to ability and mental retardation if it does not get fixed champions awarded so , the kids keep the spirit and the confidence to continue to follow the practice throughout the year.

To aspects of infrastructure can be concluded that , facilities and infrastructure owned by SLB C Capital Works Palembang is sufficient , but still should be improved

further so that in sports coaching at Mothers Work Palembang SLB C can be optimized and through sporting activities can be found and excavated again sporting talent of the child mental retardation that can boast self , parents , families , communities and the nation more broadly.

## ( 3 ) Process

To achieve optimal performance can not be instant and everything must go through a gradual process . As for the process to be followed , among others, used the exercise program , the type of exercise , frequency of exercise and proper training methods . Evaluation results through interview , observation and documentation of the exercise program exercising in Palembang Mrs. SLB C work is in accordance with the implementation has made exercise program is to do sports coaching two (2) times a week.

## ( 4 ) Product

Based on interviews , observation and documentation of the results obtained during the study : 1 ) Achievement area to get good results , evidenced by several achievements such as HIPENCA in Palembang . 2 ) National Achievement obtain results that boast , as evidenced by some of the achievements at the national level through the National Championship event , PORNAS SOIna , and POPCANAS . 3 ) international achievements , it is difficult to reach





international achievements and boast the name bangaa , but mental retardation children who come from South Sumatra precisely SLB C Capital Works Palembang able to donate some gold medals for Indonesia through even the Special Olympics World Summer Games ( SOWG ) , and ASEAN Paragames .

## Conclusion

Based on the discussion about the child's intellectual disability program of sports coaching in extraordinary school of Karya Ibu Palembang. SLB C work , it can be concluded that :

1 ) Context of sports coaching which include : background , objectives , and programs in sports coaching children tunagrahita SLB C Capital Works Palembang have clear guidance in the establishment in accordance with the data and facts on the ground ditemukanpeneliti.

2 ) Input sports coaching children in extraordinary school of Karya Ibu Palembang Capital Works Palembang there are still shortcomings in terms of sporting infrastructure, and a number of coaches were minimal and not worth the number of students ( prospective athletes tunagrahita ).

3 ) Process , the implementation of the training program has been running well on schedule of activities , but for the welfare (honor coach ) and there is still a lack of

coordination , it is based on the data and findings of the researchers in the field.

4 ) Product of sports coaching in extraordinary school of Karya Ibu Palembang. SLB C work includes aspects of physical fitness , behavioral changes , and a very proud achievement , have demonstrated results in accordance with the purpose and background of mental retardation in children sports coaching SLB C Capital Works Palembang.

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## An Exploration on Athletes' Use of TOPS

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### Abstract

*This research was done to examine gender and athletes' levels influence on using TOPS by athletes at practice and competition situation. It was carried out toward 160 athletes between 16-24 years old ( $M = 18.8$ ), consist of Male = 80 ( $M = 18.8$ ) and Female = 80 ( $M = 19.2$ ) derived from 19 sport types (Local athletes = 80; National athletes = 80; individual sport = 68; team sport = 92). The data was gathered using Test of Performance Strategies Inventory (TOPS), consists of eight subscales in practice and competition situation, each subscale consists of four items. The result of data computation by Multivariate Analysis of Varian (MANOVA) showed that gender and athletes' level influence on using TOPS by athletes independently; female athletes were more frequently than TOPS male athletes at practice. Meanwhile, male athletes were more frequent than TOPS female athletes at competition. National athletes were more frequent than local athletes at practice, and vice versa.*

**Key words:** TOPS, gender, athletes level

### INTRODUCTION

Although it has been known and understood that the use of psychological skill can give positive effect to appearance and learning of movement skill (Ungerleider & Golding, 1991; Defrancesco & Burke, 1997; Meyers, Bourgeois, LeUnes, & Murray, 1999), the fact that research related with that issue was relatively limited (Wang, Huddleston, & Peng, 2003). Moreover in the context of cultural diversity and individual differences, as well as in the context of sport instruction and education in Indonesia. The coach and the athletes commonly didn't apply the training of psychological skill as integral part of the whole training program. The survey research by Hidayat (2011) toward 78 coaches at schools and badminton clubs in

West Java about the implementation of Psychological Skill Training (PST) in badminton's instruction indicated that the coaches generally had understood the importance of aspect and technique or strategy of psychological skill training (87,2%), but due to the shortness of time allocation (69,2%), competence shortness (71,8%), and the thought that it should be done only by psychologists (57,7%) then the coaches in general didn't implement it. This finding strengthened the idea of Weinberg & Gould (2007) who said that some coaches or trainers didn't apply Psychological Skill Training because of three main reasons; the shortness of coach's knowledge and understanding, the misunderstanding about psychological skill as potency that rooted







from talent, and the shortness of time or opportunity. It might be done in certain situation only when faced to the critical condition or special cases.

The researches on the influence of gender difference and athlete's level or skill level to the use of Psychological skill were also limited as well as inconsistent. Some studies revealed that gender had significant influence to the use of psychological skill strategy. Male athletes were stated to be better and more frequently using strategy of psychological skill than female (Meyers, Bourgeois, Stewart, & LeUnes, 1992; Meyers, *et al.*, 1999). The different result proposed by Wang, *et al.*, (2003), indicating that gender did not give significant influence to the use of Psychological skill strategy, however it gave significant influence when gender interacts with athlete's geographical site.

In this respect, this research is aimed at examining the influence of gender and athlete's level/skill level toward the use of *Test of Performance Strategies*/TOPS (Thomas, Murphy, & Hardy, 1999). TOPS was designed to measure the strategy of psychological skill technique used by athletes whether during the practice or in competition, consisted of 64 items which appraises the combination between technique and psychological skill in two strategic situation; in competition and during the practice. The variables assessed in competition situation are *self-talk, emotional control, automaticity,*

*the goal setting, imagery mental, activation, negative thinking and relaxation.* While the variables assessed during the practice were the same with the competition situation, with the difference lies on changing the variable of negative thinking negatively with the variable of attentional control. 32 items out of 64 TOPS items dealt with competition situation, and the rest of 32 items dealt with the practice situation.

## METHOD

### **Subject**

The research was based on the aim to examine the difference of gender and athlete's skill level toward the use of TOPS. To realize it, the research was done using the factorial research design of 2 x 2. The number of research subject is 160 athletes with the ages ranges between 16 to 24 years old (*Mean = 18,8*), consisted of 80 male athletes (*Mean = 18.8*) and 80 female athletes (*Mean = 19.2*) from 19 different kinds of sport (80 local level athletes and 80 national level athletes). The subjects were divided into four groups. The first group is consisted of the combination of male athletes with the local level athletes (A1B1). Group two is consisted of the combination of male athletes with the national level athletes (A1B2). Group three is the combination of male athletes with local level athletes (A2B1), and group 4 is the combination of female athletes with the national level athletes. (A2B2).



### **Procedure**

The data collection is aimed at determining the influence of gender and athlete's level toward the use of psychological skill (TOPS), and determining the difference of psychological skill use in competition situation and during the practice. The data was gathered from 160 West Java athletes from 19 kinds of sport. The gender was classified into male and female athletes while the skill level was categorized into local and national level. Every athlete was asked to fill the TOPS scale (Lane, Harwood, Terry, & Karageorghis, 2004) composed from two condition (competition and practice), eight subscales and 64 items. Each condition was compiled from 32 items. The scale was developed using the model of Likert scale with the scale extend from 0 to 4. The choice of Likert scale 1-4 was based on the consideration that the model was more practical and able to predict better theoretically.

### **Instrument and data analysis technique**

In line with the objective of this research to examine the use of *Test of Performance Strategies* (TOPS) based on

gender and athlete's level so the instrument that would be used is TOPS scale developed by Thomas, *et al.*, (1999) and Lane, *et al.*, (2004). The instrument was developed in the form of scale using the model of Likert scale in two condition; in competition condition (consisted of 8 sub scales, those were *goal-setting automaticity, emotional control, imagery, activation, self-talk, relaxation, and negative thinking*) and condition of practice (consisted of *goal-setting, automaticity, emotional control, imagery, activation, self-talk, relaxation, and attentional control*). The total number of the items was 64, consisted of 32 items for the competition condition and the rest 32 items in the condition of practice.

All data gathered were analyzed using Multivariate Variant Analysis (MANOVA) with the assistance of SPSS version 19. MANOVA was used to determine whether gender and athlete's level gives influence to the use of Test of Psychological Skill (TOPS). The analyses process was done in the following phases (1) deciding statistical description, (2) Homogeneity Test of multivariate and univariate, (3) *main effect multivariate significance test*, (4) univariate significance test of between subject effect, (5) *pair wise comparisons test* between A, B,

## **RESULT**

### **Statistical description**

Table 1. Statistical Description





Gender	Usage Situation	Athlete's Level (A)			
		Local (B1)		National (B2)	
		M	SD	M	SD
Male (A1)	Practise	91.90	6.519	95.72	7.016
	Competition	106.45	8.296	108.77	7.724
Female (A2)	Practise	105.18	7.435	109.88	7.723
	Competition	93.00	7.907	94.87	6.493

**Multivariate main effect significance test**

Based on the result of Multivariate test using *Hotelling's Trace*, it could be seen as follows:

- (1) The score of FoA (2,155) amount .171 and is very significant to  $p = .000 < .01$ . It meant that gender gave very significant influence to the use of TOPS during the practice and competition. While the variable variability of using TOPS during practice and competition that could be explained by gender variable was 78.1% as shown by the score of *Partial Eta Squared* with the amount of .781.
- (2) The score of FoB (2, 155) amount 7.006 and is very significant to  $p = .001 < .01$ . It meant that athlete's level gave significant influence to the use of TOPS during the practice and competition. While the variable variability of using TOPS during practice and competition that could be explained by gender variable was 8.3 % as shown by the

score of *Partial Eta Squared* with the amount of .083.

- (3) The score of FoAB (2,155) amount 2.383 and is not very significant to  $p = .843 > .05$ . It meant that gender and athlete's level did not give interactive influence to the use of TOPS during the practice and competition, or **there was not interaction** between gender and athlete's level to influence the use of TOPS during the practice and competition.

**Univariate significance test of between-subjects effects**

The analysis was done further by *Tests of Between-Subjects Effects*. As has been understood that *Tests of Between-Subjects Effects* examines the influence of univariate ANOVA for every factor to the dependent variable. While the *Ftest significance* is used to examine it. Based on the result of the test of *Between-Subjects Effects*, it could be concluded as follows:





- (1) To examine the influence of gender to the use of TOPS during practice, the score of FoA was gotten  $(1,156) = 145.579$  and very significant to the p score =  $.000 < .01$ , this meant that gender gave very significant influence to the use of TOPS during the practice. The variability of TOPS usage during the practice could be explained by gender at the amount of 48.3 % (*partial eta squared*).
- (2) To examine the influence of gender to the use of TOPS during the competition, the FoA score was gotten  $(1,156) = 128.328$  and it was very significant at p score =  $.000 < .01$ , this meant that gender gave very significant influence to the use of TOPS during the competition. The variability of TOPS usage during the competition that could be explained by gender reached the score 45.1 % (*partial eta squared*).
- (3) To examine the influence of athlete's level to the use of TOPS during the practice, the score of FoB had been reached  $(1,156) = 14.067$  which was very significant to p score =  $.000 < .01$ . It meant that the athlete's level gave very significant influence to the use of TOPS during the practice. The variability of TOPS usage during the practice that could be explained by gender reached 8.3 % (*partial eta squared*).
- (4) To examine the influence of athlete's level to the use of TOPS during the competition, the score of FoB had been reached  $(1,156) = 3.026$  which was not significant to p score =  $.84 > .01$ , and this meant that athlete's level did not give significant influence to the use of TOPS during competition.
- (5) To examine the influence of interaction between gender and athlete's level to the use of TOPS during the practice, the FoAB score was reached  $(1,156) = .148$  and it was not significant at p score =  $.701 > 0.05$ . This meant that **there was not interaction** between gender and athlete's level to influence the use of TOPS during the practice.
- (6) To examine the influence of interaction between gender and athlete's level to the use of TOPS during the competition, the FoAB score was reached  $(1,156) = .035$  and not significant to p score =  $.852 > 0.05$ , which meant **there was not interaction** between gender and athlete's level to influence the use of TOPS during the competition.

#### **Pairwise comparisons test**

There are two pairwise comparison test being analyzed: pairwise comparison test inter variable of gender (A) and athlete's level (B). Based on the result of pairwise comparison test between male athletes ( $A_1$ ) and female athletes ( $A_2$ ) the following result had been found as follows:

- (1) There was very significant difference on the use of TOPS during the practice between male athletes ( $M = 93.812$ ) with





female athletes ( $M=107.525$ ) indicated by  $p$  score =  $.000 < .01$ . Female athletes had used TOPS more often than male athletes during the practice.

- (2) There was very significant difference on the use of TOPS during the competition between male athletes ( $r_{rate} = 107.612$ ) with female athletes ( $M=93.938$ ) as shown by  $p$  score =  $.000 < .01$ . Male athletes had used TOPS more often than female athletes during the competition.

Based on the result of pairwise comparison test between national level athletes ( $B_1$ ) and local level athletes ( $B_2$ ) the following result had been recorded:

- (1) There was very significant difference on the use of TOPS between local level athletes ( $M = 98.538$ ) with national level athletes ( $M=102.800$ ) as indicated by  $p$  score =  $.000 < .01$ . National level athletes had used TOPS more often during the practice than local level athletes.
- (2) There was not any difference on the use of TOPS during the competition between local level athletes ( $M=99.725$ ) with the national level ones ( $M = 101.825$ ) as shown by  $p$  score =  $.084 > .05$ .

## DISCUSSION

The result of the research indicated that gender and athlete's level gave very significant influence independently to the use of psychological skill strategy whether in collective manner or partial at the occasion of

the practice and competition. Female athletes had used TOPS more often during the practice compared to the male athletes, while male athletes had used TOPS more often during the competition than the female athletes. National level athletes had used TOPS more often during the practice than the local level ones, and there was not any difference on the use of TOPS during the competition between local level athletes and national level ones. Thus finding indicated that female athletes were more interested to use TOPS during the practice while the female athletes preferred to have it during the competition and national level athletes were more eager to apply TOPS during the practice.

The result of research about the influence of gender to the use of psychological skill strategy is relatively limited and still in the state of ambiguity. Some studies reported that gender gave significant influence to the use of psychological skill strategy. Male athletes were reported to be better and more frequently using psychological skill strategy than female athletes. (Meyers, *et al.*, 1992; Meyers, *et al.*, 1999). So it can be stated that the result of this study will support the previous findings and studies.

The different result of research given by Wang, *et al.*, (2003), indicated that gender did not give significant influence to the use of psychological skill strategy, and gave significant influence when the gender





interacts with the athlete's geographical location, whereas in this research, the researcher did not find the influence of gender interaction and athlete's level to the use of psychological skill strategy. The same thing happened to the research conducted by Hardy, Hall, and Hardy (2004) and Harwood, Cumming, & Hall (2003), which proved that the difference of gender did not give significant influence to the use of psychological skill strategy in self-talk and mental imagery. The existence of these inconsistent findings can be explained among others due to the difference of characteristics and size of the samples. On the samples that had the same characteristics and the amount of samples which was relatively small just like on the study of Wang, *et al.*, (2003) and Hardy, *et al.*, (2004) found that the difference of gender did not give significant influence to the use of psychological skill strategy. The characteristics of sample meant among others were the difference of geographical location, athlete's level or skill level (Hardy, *et al.*, 2004; Wang, *et al.*, 2003), or external characteristics like individual or group kind of sport (Hardy, *et al.*, 2004), and the quality of the practice it self (Wang, *et al.*, 2003).

The athlete's level proved to have given very significant influence to the use of TOPS during the practice but did not give significant influence to the use of TOPS during the competition. National level athletes had used TOPS more during the practice compared with local level athletes. It means that the

difference of athlete's level (local and national) gives different influence significantly to the use of psychological skill strategy (TOPS). National athletes had used TOPS more frequently during the practice than local athletes, while during the competition the difference of athlete's level did not give different influence to the use of TOPS. This result gave essential information to the coaches to prepare the planning of mental training program for their athletes during the practice, particularly for the national athletes, while during the competition the planning of program should not only be focused on national athletes but also for local athletes. The kind and model of psychological skill training is decided based on the result of TOPS need assessment inventory.

Based on the result of those research findings, the important implication related with the implementation of the program of psychological skill training intervention that gender and athlete's level should be taken into consideration as factors that gave important contribution to the success of the program being conducted, because the difference of gender and athlete's level had been proved to have given significant influence to the use of psychological skill strategy (TOPS).

## CONCLUSION

Based on the result of analysis using Multivariate Variant Analysis (MANOVA), some points of conclusion can be concluded as the following:





- (1) Gender and athlete's level independently gave influence to the use of TOPS by athletes whether during the practice or during the competition. Gender gave significant influence with the amount of variability 78.1 %, each 43.3 % for practice subscale and 45.1 % for competition subscale.
- (2) Athlete's level gave very significant influence to the use of TOPS during the practice and did not give significant influence to the use of TOPS during the competition.
- (3) There was not interaction between gender with athlete's level to the use of TOPS whether during the practice or during the competition (in multivariate or univariate).
- (4) Female athletes had used TOPS more often during the practice compared with the male athletes, while male athletes had used TOPS more frequently during the competition than female athletes.
- (5) National level athletes had used TOPS more often during the practice than local level athletes.

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## The Relationship of Service Quality with Badminton Club Members' Satisfaction in Bandung

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### ABSTRACT

*This research aims to determine the relationship between service quality and badminton club members' satisfaction in Bandung. This research uses descriptive correlational method using a sample of 30 active members with purposive sampling technique. This research resulted in four conclusions, namely: 1). There is a fairly strong relationship between service quality and badminton club members' satisfaction for 0.682 with a coefficient of determination of 46.57 %. This means that a badminton club member satisfaction is affected by service quality variable of 46.57 %, while the remaining 53.43 % is the contribution of other variables in addition to the service quality. 2). There is strong relationship between service quality and badminton club male adolescent members' satisfaction for 0.723 with a coefficient of determination of 52.34 %. This means that a badminton member satisfaction is affected by service quality variable of 52.34 %, while the remaining 47.66 % is the contribution of other variables in addition to the service quality. 3). There is strong relationship between service quality and badminton club female adolescent members' satisfaction for 0.603 with a coefficient of determination of 36.37 %. This means that a badminton member satisfaction is affected by service quality variable of 36.37 %, while the remaining 63.63 % is the contribution of other variables in addition to the service quality. 4). There is no difference between a club male and female adolescent members' satisfaction.*

**Keywords:** Service quality, member satisfaction

### INTRODUCTION

Every badminton club in Bandung tries to provide the best service to each of its members. However, in its development, not all badminton clubs in Bandung can provide satisfactory service to the members. Presumably this condition is closely related to the badminton club management such as the availability of the facilities and infrastructure of training, training atmosphere, training method, service system to club members, attitudes and behavior of coaches, as well as the quality of training. If the service quality is

lower than expected by the members, then the members will not feel satisfied.

One indication that is assumed as a result of the service quality that is less satisfactory or unsatisfactory is the resignation (drop out) of badminton club members or move to another club that can provide what they want. This condition is also supported by Djide (1993:11). The similar statement about the indication of *drop out* in sport activities is stated by Lutan (1992:6). According to the statements of the two experts above, it can be assumed that the number of *drop out* of a sport club members





including badminton club members is strongly related to the non-fulfillment of their members due to satisfaction of services provided which does not match the expectations of members of the badminton club.

In order to develop and compete with other badminton clubs, a badminton club is required to provide a service with good quality that meets the needs and desires of its members. The provisional estimate about the resignation or movement of a member of badminton club is assumed happen as the result of the service quality provided in the badminton club which has not satisfied or even dissatisfied the members. Hence, this issue is the main reason for the researcher to establish the research about the relationship of service quality with badminton club members' satisfaction in Bandung.

## RESEARCH METHODOLOGY

### Research Method.

The method used in this research is descriptive correlational method which is a method of inquiry or research that aims to describe or depict the state of certain (person, organization, or community) in the present based on factors that appear in the situation that is investigated. While a correlational research is a research that aims to discover whether or not there is a relationship between the research variables that are examined.

### Population and Sample.

The population in this research was badminton club members in Bandung which belong to the adolescent group including 135 people. While the sample was 100 people which were chosen used *purposive sampling* technique.

### Research instruments.

In accordance with the formulation of research problems and to assess the hypothesis, it is necessary to explore the data collection instrument information and obtain data on the independent and the dependent variables, thus the researcher made use of questionnaire as the research instrument. The use of questionnaires as a means of collecting data in this research was based on the realities faced by the researcher, as asserted by Hajar (1996:181) and Arif (1992:70). Questionnaire used in this study is a type of closed questionnaire that is presented in the form of structured statements, while the format used is *likert* type that has five-point choice (five-point scale).

## RESULTS AND DISCUSSION

### A. Research results.

#### 1. Results of Testing Research Instruments.

##### a. Validity Test





Based on the result of validity test, questionnaire items for valid service quality variable were 34 points and invalid questionnaire items were 8 points. The invalid questionnaire items were not used in collecting data. While a number of 34 valid questionnaire items were later used as a research instrument for the service quality variable.

Afterward, the test result of the questionnaire of members' satisfaction variable, from the total 42 questionnaire items contained 39 valid items and three invalid items. The invalid questionnaire items were not used in collecting data. While a number of 39 valid questionnaire items were later used as a research instrument.

#### **b. Reliability Test**

The reliability test in this research used *Cronbach's Alpha* test. Based on the reliability test result, it was found two outputs, namely reliability test result of service quality variable (X) and reliability test result of members' satisfaction variable (Y). From the two outputs above, it can be seen that the value of reliability with *Cronbach's Alpha* for the service quality variable (X) was 0.957 and the value of reliability with *Cronbach's Alpha* for members' satisfaction variable (Y) was 0.950. According to the results of processing and comparing with the norms proposed by the researcher, it can be concluded that the measuring instrument in this research was reliable with the perfect degree of reliability.

The results of validity and reliability tests above show that the measuring instrument in form of questionnaires used in this research was valid and reliable. This means that the measuring instruments used have the ability to measure aspects of service quality variable and members' satisfaction variable.

#### **2. Data Normality Test Results**

Normality test aims to determine whether the data is at the level of a normal distribution or not. In addition, the normality test will also determine the next processing step to use parametric or non-parametric statistics. Normality test data was completed using *Kolmogorov Smirnov* test calculations in SPSS 17 for the service quality variable and members' satisfaction variable.

Analysis was performed on probability (Sig.) compared with degrees of freedom  $\alpha$  0.05. From the calculation of the service quality, it was obtained a value of 0.143 and for the members' satisfaction variable, it was obtained a value of 0.093. Since both values were greater than 0.05, then the two variables were categorized normal or normal distribution.

#### **3. Hypothesis Test Results**

There were four research hypotheses proposed in this study, namely:

- 1). There is a significant relationship between service quality and members' satisfaction of badminton club in Bandung.





2). There is significant relationship between service quality and badminton club male adolescent members' satisfaction in Bandung.

3). There is significant relationship between service quality and badminton club female adolescent members' satisfaction in Bandung.

4). There was no significant difference between a club male and female adolescent members' satisfaction in Bandung.

After going through the stages of processing, it was obtained the following results:

1). There is a fairly strong relationship between service quality and badminton club members' satisfaction for 0.682 with a coefficient of determination of 46.57 %. This means that a badminton club member satisfaction is affected by service quality variable of 46.57 %, while the remaining 53.43 % is the contribution of other variables in addition to the service quality.

2). There is strong relationship between service quality and badminton club male adolescent members' satisfaction for 0.723 with a coefficient of determination of 52.34 %. This means that a badminton member satisfaction is affected by service quality variable of 52.34 %, while the remaining 47.66 % is the contribution of other variables in addition to the service quality.

3). There is strong relationship between service quality and badminton club female adolescent members' satisfaction for 0.603 with a coefficient of determination of 36.37 %.

This means that a badminton member satisfaction is affected by service quality variable of 36.37 %, while the remaining 63.63 % is the contribution of other variables in addition to the service quality.

4). There is no difference between a club male and female adolescent members' satisfaction.

## B. Discussion.

Service in badminton club is intended to provide satisfaction for its members. There are five dimensions that are commonly used to measure the service quality including measuring service quality in badminton club. Tjiptono (2009:17) identifies five basic dimensions related to the service quality as follows:

1. Direct evidence (*tangibles*), including physical facilities, equipment, personnel, and means of communication.
2. Reliability (*reliability*), the ability to provide services promised to promptly and satisfactorily.
3. Responsiveness (*responsiveness*), which is the desire of the staff to help customers and provide services steadily.
4. Guarantee (*assurance*), covers the knowledge, skills, courtesy, and trustworthiness that of the staff are free from danger, risk or doubt.
5. Empathy (*empathy*), includes ease of relationships, good communication, personal attention, and understand the needs of customers.





The statement above is appropriate with the opinion of Rangkuti (2000:17) who states that customers' satisfaction is determined by the various types of services obtained while they use several stages of the service.

a. Direct evidence (*tangibles*).

This relates to the direct evidence (*tangibles*) in the form of the physical facilities which is essential in organizing badminton club. This is because physical facilities such as buildings, courts, canteen, place of worship (mosque), bathroom, dressing room, and the toilet become one of the main factors and is essential for the organization of badminton club. If these factors are not met properly, it can be ascertained badminton club members will be dissatisfied with the service provided.

Equipment factor in organizing badminton club, for example: lockers to store clothes and equipment, shuttlecock, and a net are the main equipments that must be provided by a badminton club organizer. This is because those are the main equipments that can determine whether or not the good service quality can be fulfilled and gives satisfaction for its members.

Communication facilities such as information board, telephone and virtual information channel are things that are absolutely owned by the badminton club at this time. Speed and accuracy of information related to the services provided by the badminton club, especially when training and

competition is a component that can give satisfaction for members of the badminton club.

Physical appearance of the managers and coaches badminton club is also an important factor that cannot be ignored. This is because the coaches and managers become one of important factors to provide service quality that can directly affect satisfaction or dissatisfaction badminton club members. Some statements of the experts above is supported by Rangkuti (2000:17) who says that performance is determined by the service attendant, the service process, and physical environmental conditions when services are provided.

b. Reliability (*reliability*).

This relates to the reliability of the ability to provide services promised promptly and satisfactorily in organizing badminton club is a very important thing. Every member of the badminton club will be satisfied if they get the services that were promised before or when they joined the badminton club. As well the fast service provided by the coach or manager of the club became one of the determinants of satisfaction of badminton club member.

c. Responsiveness (*responsiveness*).

This relates to the desire of the organizers and coaches of a badminton club to help the members by providing services steadily becomes one of the important factors in providing outstanding service for the badminton club members. The club members





would feel proud and happy if coaches and club managers provide services steadily.

d. Guarantee (*assurance*).

This relates to the guarantee that covers the knowledge, skills, courtesy, and trustworthiness of the managers and coaches to the satisfaction of the members of the club. Good knowledge of badminton club coaches and managers can provide high confidence for coaches, managers, as well as for members of the badminton club. It allows coaches and managers to provide maximum service both during training at the club or at the time of the match. Quality of knowledge of the coaches and managers of the club allows members to get a sense of security and comfort as members of the badminton club where they practice.

e. Empathy (*empathy*).

This relates to empathy which includes easiness of making relationships, good communication, personal attention, and understand the needs of the members of the club is an absolute requirement for club members. Each member of the club as individuals have the right and desire to be treated well either as an individual or as a member of the badminton club. Each member club has the desire to get personal attention from coaches and managers to understand their expectations and needs.

Some researcher's statements is supported by Rangkuti's (2000:17) statement that what affects customers' satisfaction is the service situation associated with

customers' internal condition that accordingly affects service performance. Meanwhile, Alma (2006:23) says: ". . . *there are various strategies that can be applied by the company to improve its customer satisfaction, such as . . . effective complaint handling. This treatment can be done by identifying and determining the source of problems that cause customer dissatisfaction and complaining. This problem needs to be solved, followed up, and attained so that in the future the same problem does not occur.* "

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions.

Based on the data analysis that has been completed, it can be concluded that:

- 1) There is a significant relationship between service quality and members' satisfaction of badminton club in Bandung.
- 2) There is significant relationship between service quality and badminton club male adolescent members' satisfaction in Bandung.
- 3) There is significant relationship between service quality and badminton club female adolescent members' satisfaction in Bandung.
- 4) There was no significant difference between a club male and female adolescent members' satisfaction in Bandung.





## Suggestions .

Based on the conclusion stated before, the researcher would like to give suggestions to the parties involved in this research as follows:

### 1. For badminton club supervisor or manager.

- a. Supervisor or manager of badminton club in Bandung should act as a regulator, mediator, and as well as a good model for coaches and members of the badminton club.
- b. Supervisor or manager should be able to improve the service quality in a variety of aspects to make the badminton club members satisfied with the services provided and can be a source of competitive advantage with other badminton clubs.
- c. Improving service quality in physical form such as buildings, badminton courts, exercise facilities including completeness of media or training aids, and performance of coach .

### 2. For Coaches.

- a. In order to improve badminton club members' satisfaction, the coaches are suggested to increase their knowledge and experiences related to badminton skills.
- b. Coaches must improve the knowledge and other skills that relate directly or indirectly to badminton which can lead the badminton club members to be satisfied getting the services from the coach.

- c. Increase knowledge of badminton coaching, such as skills in providing physical training, training technique, tactics training, and mental training required by the club members during practice at the club and when they compete.

### 3. For the purposes of scientific development.

- a. This study only examines the relationship between service quality and badminton club members' satisfaction variables in Bandung, the researcher suggests for further research to examine other variables that also have important roles in improving badminton club members' satisfaction in the coaching process.
- b. It is recommended to expand the scope of the study, for example, all members of badminton clubs at all groups of age in West Java so that the target population of the research becomes wider.

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## RELIGIOUSNESS AND SPORT ACHIEVEMENT ON ATHLETES

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### Abstract

*Athletes' sport achievement is influenced by their mental conditions. Meanwhile, athletes' mental condition is influenced by their religiousness. Religiousness play important role in athletes' life. Regarding to sport achievement, it is related to competitive orientation and motivation, self-control, and reaction to winning and losing*

*This paper is aimed to explain the role of religiousness on athletes' achievement. Religiousness issue often does not receive enough attention in the sport science and sport psychology. It is because of the view that the most determining factor for success in sport is physical training, skill, and competition experience.*

*Religiousness play important role as the key of athletes' psychological stability and well-being. Competitive nature of athletes' life gives constant stress. In this matter, religiousness becomes buffer that support athletes' psychologically. Thus, it is recommended to integrate religiousness as part of sport education, training, and self-development programs.*

**Key words:** *religiousness, sport achievement, athletes*

### INTRODUCTION

Exciting news came from the football field in Indonesia. Indonesia U-19 national team managed to come out as a winner in the AFF Cup 2013 after beaten Vietnam by a shootout with the score 7-6. U-19 national team success did not stop there. Indonesia again won the Asian Cup qualifiers stage in Group G, beaten South Korea 3-2.

The victory was exhilarating and surprising. South Korea is known as the defending champion, while Indonesia only ever won once, that was in 1961. Garuda Muda team struggling to qualify for the final round of AFC Cup U-19 was fairly perfect. Of the three games that has been passed (against Laos, the Philippines, and South Korea), all are won by Evan Dimas (captain) and his friends. Indonesia conceded only two

goals and was able to put nine goals. From the results, the Indonesian ensured a ticket to the finals of the AFC U-19 Cup in Myanmar in next 2014 (*taken from various news sources*).

The interesting thing is when the team asked what was the recipes to be the victor. Technically, *first*, the coach, Indra Sjafri, fielded all players. He looked that all players have relatively equal abilities and both have great motivation to win. *Second*, the players are the talented ones that are found from various regions in Indonesia. *Third*, most of the players have known each other and played together in some competitions. *Fourth*, the players have the good physical stamina.

In addition to those technical and strategic factors, there is one more factor





which plays a major role: the players' mental state, or in other words their spiritual power.

Before the match coach, Indra Sjafri, always insisted on his team to remember their parents and not to forget praying to God. He also invited the players to give alms to orphans and asked prayer from them for the national team champion. Before the players entered the field, they always began it by praying according to their respective beliefs. When one of the team players managed to score a goal, they did "sujud syukur" as a form of gratitude to God who has given the team victory. When the fight was over, the players were protected from the excessive media coverage to keep the team from being arrogant. Arrogance was viewed as the beginning of the destruction of key teams (Imawan, 2013).

When being interviewed separately, Evan Dimas stated that belief in God is the key of his motivation to win. He believed that if a person is grateful, God will add more favor to the person. In sports, winning is a miracle from God. Besides God, no one needs to be feared of. "*All except God can be defeated*" (Leonard, 2013). That was why, even though their opponent was the strong South Korea, the team remained optimistic to win.

The event above demonstrates the role of religion in the lives of athletes as a determinant factor of sport performance. Learning from U-19 national team, we can see the role of religiosity on achievement

motivation, optimism, mental toughness, and self-control of the athletes.

Spiritual-religious aspect which is not much talked in the sport science and sport psychology literatures, suggests that its role is not realized yet. For the people of Indonesia, religion is an important aspect of life, so that the role of this diversity can be easily understood without explanative theory. However, for the purpose of scientific-academic interest, the road toward the understanding of the role of religiousness on athletes' achievement is needed to be opened. Therefore, the purpose of this paper is to discuss about the role of religiousness on the athlete's performance.

## DEFINITION OF RELIGIOUSNESS

Religion is an internally coherent system of beliefs that binds a believer to a pattern of worship, obedience to a superordinate being, and commitment to specific doctrine that purports to explain problems that are germane to the human condition (Cashmore, 2002, p. 215).

Religiousness can be understood as a personal or group search for the sacred, that unfolds within a traditional sacred context. Behaviors and religious beliefs about life and death, morality, virtue, social justice, self-improvement, and "the good life", have had a profound effect on individuals, groups, and cultures throughout the course of history (Zinbauer, 2009, p. 834).

Religiousness is seen as one aspect of spirituality. The search for the sacred





refers to what is considered holy, worthy of reverence, and associated with the divine. Specific aspects of religiousness include religious attitudes, prayer, and religious experience. Religiousness is a rich psychological phenomena, consisting of beliefs, behaviors, emotions, identity, meaning, personality, and morality (Zinbauer, 2009, p. 385).

## PSYCHOLOGICAL DIMENSION OF COMPETITIVE SPORT

Football is a very popular sport. It can be played both as a recreational sport and competitive sport. Football is played at the local level to the international level. Victory in the football competition between countries is being largely celebrated in the nation.

Expectation given on a football team is often so great and it affects the psychological condition of the players/athletes. When undergoing the competition, the players are psychologically demanded to achieve optimum arousal level to commence the match and maintain it throughout the meeting, concentrate throughout the match, control themselves in the face of adverse situations, interact referees and rivals, and face the pressure exerted by coaches, colleagues, public, and media (Dosil, 2006, p. 141).

Those demands are source of tension and stress for the athletes. If they perceive the feeling of being weak, unconfident, incapable, less skilled, or less experienced, the pressure can be

overwhelming and cause negative stress and anxiety that are detrimental to their performance. According to Wann (in Qoriah, 2008) anxiety is a psychological condition that occurs in one series with arousal and stress. Process of arousal and stress are interconnected. When a person is experiencing high stress, they usually experience physiological arousal with a high level as well.

Anxiety in sport is more than just a fear of the match, but also the effect of bad past experiences, such as facing a formidable opponent and had no history of winning games. Negative effect of anxiety is that it can distract athletes' concentration. They worry their anxious thoughts rather than the task at hand.

Distracted concentration makes the performance of athletes not at their best. They make more mistakes. Failure to reach the target will bring frustration and trigger their emotions. Athletes who could not control himself and his emotions would disrupt the game or breaking the rules. That is what makes victory became ever more elusive (Jones & Hardy, 1990).

To overcome this anxiety, there are some solutions (Nevid, in Qoriah, 2008 ):

Coping with stress, both of which focus on emotion and focused on problem. Two methods to cope the stress is through counseling (to address cognitive anxiety) and progressive relaxation (to cope with somatic anxiety).





Raising hopes of efficacy and confidence in athletes that he will be able to face the challenge, show the best performance, and reach his target.

Developing psychological resilience by building commitment to the task, a positive view of the challenges, and a strong self-control. Athletes who are mentally though view the stressors as interesting and challenging, not as a burden.

Cultivating optimism. Athletes who have positive expectations for the future will be able to cope with stressors effectively.

Providing social support. The extent of social networks and good relationships with others, such as with coaches, family, and friends, affect the effectiveness of stress coping.

## RELIGIOUSNESS AND SPORT COMPETITION

Cashmore (2002, p. 216) explains that religion is basically related to sport. Sport contest in Greece in the past formed part of religious festivals. Greek culture incorporated competition into civic and religious life. Sport contest aims to pursue not only athletic supremacy, but a quest for recognition in eyes of the gods. This religious motive encourages people to compete in sports competition.

Tradition connecting competition with religion always exists all the time. In Islamic culture society, exercising and maintaining health are recommended in religion, and there is also an ethical guidance for a Muslim

sportsman (Qoriah, 2011a, b). In the individual level, religion inspires many athletes. They are grateful and acknowledge God's role related to their victory in a competition (Cashmore, 2002). The example closest to us is the U-19 national team which did "sujud syukur" for the victory in football competition.

Religion matters. Belief that God is The Greatest Helper helps athletes through many ways, although not all of them produce victory. *First*, belief in God fosters self-confidence and hope for good outcomes of the game. *Second*, religion helps athletes to control their emotion and anxiety during the match that can interfere their performance. *Third*, because religion helps athletes to control themselves, religion also helps athletes to be focus maintaining high motivation level (Cashmore, 2002).

Religiousness determines athletes' success because it contributes in their mental toughness (Qoriah, 2012). Certain religious beliefs can improve and maintain mental toughness. In the context of Islam, mental toughness that characterized with its patience is considered as the result of faith in God, the Judgement Day, and destiny/ *taqdir*. The purpose of patience is not merely to foster mental toughness, but also to suppress *nafsu*/ ambition that can make athletes fall by exaggerations and therefore justifies any means in getting their victory.

Mentally tough athlete has the ability to drain the positive energy in difficult situations. They have at least seven





attributes (Loehr, in Kuan & Roy, 2007; Omar-Fauzee, 2012):

Self-confidence (believing one can play well and succeed), Control of negative energy (overcoming negative emotions such as fear, anger, frustration), Control of attention (staying focused and act well), Control of visualization and imagination (creating a positive mental image ),

Level of motivation (the desire to have the energy and persistent ),

Control of positive energy (having energized by sense of excitement, enjoying and being satisfied because the sport), and

Attitude control (being not easy to give in).

Those attributions can be achieved with the help of faith and religious practice.

Religion also plays a role in the ethical and moral cultivation (Qoriah, 2011a). Islamic concepts related to sportsmanship consists of some virtues for sportsman and people around him that order them to: 1) comply with the rules of the sport, 2) work well in team, 3) be honest and fair in matches, 4) control bad attitude and anger, 5) try hard and pray, 6) be patient, 7) be sincere, and 8) be thankful to God.

Based on that, religion has a wide role. Religion's role is not only during competition, but also in the period before and after the match, during the period of education, training, and the coaching athletes. Religion is not only beneficial to the success of athletes in the field, but also

contributes on their well-being as human. This will be discussed in the next section.

## RELIGIOUSNESS AND ATHLETES' WELL-BEING

Religiosity and spirituality affect one's psychological well-being. The high religiousness level is associated with better mental health status and psychological well-being. Religious people tend to be more prosperous emotionally and not conduct deviance behavior (drinking alcohol, taking drugs, and engaging in social problems). They are happier and more satisfied with life, enjoy life and able to control themselves (Compton & Hoffman, 2013).

Related to sport, religion is known as preventive and protective factors from using substance/ doping (Zenic, Stipic, and Sekulic, 2011), consuming alcohol and free sex (Moore, Berkley-Patton, & Hawes, 2011).

Why could religion affect a person's mental and physical health? There are six answers according to Compton and Hoffman (2013), namely:

Religion provides social support. Religion makes a person involved in a religious community and it is a source of social support. However, unlike the usual form of support, religion connects one to the owner of the greatest power, God. Religion makes a person believes the support of God.

Religion supports a healthy lifestyle. Increasing religiousness means less risky behavior. Religion prevents someone from doing behaviors that are harmful to health.





Therefore, people who are religious could be healthier than those who are not.

Religion promotes personality integration. Personality integration comes from religious commitment. It helps people to focus on what is important in life and settle conflicting goals.

Religion encourages generosity and altruism. Doing good things and helping others are the source of psychological well-being.

Religion provides a unique strategy to cope with stress. Religion is useful when one faces adversity. Religion gives hope and explanation why unwanted and unexpected adversity can occur, for example with belief that the adversity is a test from God which aims to make human strong. Religion helps people to live with wider view, to have a purposeful life, and to find meaning in life. Religion encourages forgiveness and suppresses negative emotions.

Religion leads a sense of meaning and purpose in life. Religion connects a person to the ultimate and noble meaning and purpose of life. It makes a person look life and humanity as something important.

Religiousness also raises certain emotion useful in creating a positive relationship between humans and allows one to express their value and highest potential (Emmons, in Compton & Hoffman, 2013). Those emotions are as follows:

#### Gratitude and Appreciation

Gratitude is feeling grateful for life and seeing life as a gift. Gratitude is a

fundamental aspect in one's personal and social life. Being thankful is recommended in every religion and it is the source of many virtues. The ability to experience and express gratitude are two important signs of emotional health. Gratitude can be trained by remembering the good things that happen in life.

Being grateful is an emotional response to a prize/ gift. It is appreciation that is felt after doing good action that is beneficial (Emmons, in Compton & Hoffman, 2013). Grateful people tend to be happier and have a healthy personality. Gratitude can support social relationships with others, life satisfaction, optimism, more positive emotions and fewer negative emotions.

Meanwhile, appreciation is a response to the world that similar to gratitude. Being appreciative allows us to notice people and life experience and to acknowledge their value and importance. Like gratitude, appreciation allows us to perceive experience as a gift. The more appreciative people, the more they are likely to feel positive emotions, life satisfaction, and fewer negative emotions.

#### Forgiveness

The ability to forgive help someone to resist negative emotions such as anger, hate, resentment, hostility, and desire for revenge. Forgiveness is one way to regulate negative emotions (Emmons, in Compton & Hoffman, 2013).

Enright et al (in Compton & Hoffman, 2013, p.238) defines forgiveness as a willingness to abandon one's right to







resentment, negative judgments, and indifferent behavior toward one who unjustly injured us, while fostering the undeserved qualities of compassion, generosity, and even love toward him.

McCullough (in Compton & Hoffman, 2013) found that the ability to forgive bring psychological well-being and healthy and supportive interpersonal relationships. Forgiveness helps people to overcome the hostility which relates to poor health.

## Compassion and Empathy

Compassion is the ability to connect deeply with another person, especially with their suffering. Compassion encourages empathy and desire to serve others. Compassion and empathy useful for others and for our own selves because they help us feel better about ourselves. People who have high empathy are known to have greater life satisfaction and positive social relationships.

Related to compassion, other characteristic that appear is humility. Being humble involves a relative lack of self-focus and self-preoccupation, an ability to acknowledge mistakes, openness to other opinion and ideas, and an appreciation of many different ways people contribute to the world (Compton & Hoffman, 2013, p. 240). Humility requires power to suppress ego in order to learn, observe, appreciate, and relate to others and the greater meaning of life. Humble people respond better to criticism by taking responsibility for their

problems and increasing their efforts to improve their problems.

## RELIGIOUSNESS AND SPORT ACHIEVEMENT

Religiousness begin to be highlighted in sports science and sports psychology as psychological factors that is important to the success of athletes. From a number of studies, it is known that religiousness affects athletes' sports performance and is linked to efforts of instilling ethics and managing athletes' stress and anxiety, achievement motivation growth, prevention of unhealthy behaviors such as substance abuse, and mental health care.

Competing athletes suffer a lot of pressure. The higher the game level, the higher expectations of public and the stronger opponents faced. In that situation, the tension and anxiety naturally raised, but that psychological condition can be detrimental if it becomes distractive to athletes and makes them unable to perform optimally.

In this situation the role of religion is to maintain stability of athletes' psychological condition. That stability is needed by the athletes to enable them show the best performance in the match. Religion teaches how to cope with stress, foster hope and self-confidence, build mental toughness, optimism, and gives social support for the athletes.

The case of Indonesian U-19 National Football Team showed us that religion plays a major role on the





performance athletes. Religiousness colored the life of athletes and their coach from the pre-match period until the game was over. They believed that prayer is a formidable weapon. It is a great source of personal power; and that God will provide help. It is a source of hope and optimism. Remembering of the greatness of God grew humility and gratitude. They gained social support from the people who pray for the team to achieve the best. At last, their charity before the match resulted in feeling of peace and happiness of doing so. Those psychological dynamics explain how that team could perform well.

## CONCLUSION

Not many study examine the phenomenon about the role of religion on the athlete's performance. But from some of the literatures, it is found a relationship between religiousness and the athlete's performance, which it is moderated by a number of psychological factors.

Religion affects the athlete's performance through psychological dynamics that arise. Religion helps athletes achieve and maintain their psychological well-being that is important in some ways: religion becomes the source of social support, provides guidance to healthy lifestyles, encourages the integration of personality, generosity and altruistic behavior, teaches stress coping strategies, and gives meaning to life for the athletes.

The implication of that knowledge lies in applied field. Religiousness can be integrated in education, training, consultancy, and research on sport science and sport psychology. Synthesis between the three disciplines of sports science, psychology, and religion is possible to be done and will provide better understanding and recommendation in the effort of enhancing sport participation and athletes' performance.

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## The Effect of Training Method and Achievement Motivation toward 60 Meters Sprint (Quasi Experimental to Female Athletes of SMP Kayuagung Ogan Komering Ilir)

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### ABSTRACT

*This research started from the low speed toward 60 meters sprint in female athletes SMP Kayuagung Ogan Komering Ilir. This research aimed to: determine the influence of training method and achievement motivation toward 60 meters sprint. It was an quasi experimental research. The samples treatment in this research were 48 female athletes. This research instrument used was achievement motivation and 60 meters running test. The data obtained were analyzed by using the analysis of variance and Tuckey test. The results of this research showed that: the influence of circuit training method is better than interval training, there was interaction between training method and achievement motivation, in the high level of achievement motivation, the influence of circuit training method is better than interval training method, in the low level of achievement motivation, the influence of interval training method is not better than the circuit training method.*

**Key Words:** *Training Method, Achievement Motivation, 60 Meters Sprint.*

### Introduction

The role of sport is very important at this time to support human life to stay healthy and have excellent physical fitness in order to carry out everyday tasks well. As a developing country, Indonesia perform in all areas of development including coaching in the field of sports. Will be improved through exercise and physical fitness as well as the spiritual formation of personality and good performance.

Given sport activities ranging from primary school to college. Therefore, school sports activities included in the school curriculum as a means of supporting the growth and improvement of physical fitness of students. Sports activities at school have a

purpose in addition to increasing growth and physical fitness, as well as to enhance the pleasure of exercise and to improve performance. Coaching and sports development in the last decade very intensively conducted through the schools created an activity outside of school or extracurricular often called. Sports coaching as part of efforts to improve the quality of human resources. Therefore, through exercise and lifestyle habits made will be formed with the human body or a healthy body.

Search of qualified human resources in sport done in various ways ranging from making a sports activity or sports championship. Sports championships conducted ranging from elementary school to





college, and starting from the local level to the international. As stated in the Constitution of the Republic of Indonesia on the 2005 National Sports System chapter 18 verses 8 and 9 reads: Each educational unit can do sports championships appropriate level of growth and development of learners at regular intervals between units of the same level of education. Sports championships between education units as prescribed in paragraph 8 may be continued at the level of local, regional, national and international.

One of the events that followed the event was National Olympic Sport to Junior High School (SMP) provincial level. According to the Ministry of Education and Culture (2012:2) "O2SN SMP is an activity in the field of sports is competition among junior high school students within the scope of a particular region or level of competition". One of the sports competed in the championship is athletic.

Based on the data obtained on the O2SN SMP 2012 in South Sumatra particularly athletics toward sprint 60 meters, performance athletes Ogan Komering Ilir is unsatisfactory gives the provincial level, especially for female. At O2SN SMP South Sumatra Province in 2012, OKI rank 5 with obtaining a gold medal in 60-meter sprint to male, being the female did not contribute any medal.

Based on the results of observations conducted by researchers at the track and field athletes in Ogan Komering Ilir, related to the failure of female athletes toward 60

meters sprint on the numbers O2SN activity in 2012 is still low, this is caused by several factors, ie factors of the individual (athlete) that quality of the physical condition of athletes and less motivation for high achievement, while external factors such as infrastructure, quality and knowledge of trainers and training programs. Training program from coach less precise so fast athletes experience fatigue, exercise is boring because of the lack of variation in practice and the role of the coach is not optimal to set the workout time, so that the resulting outcome for female sprinter unsatisfactory.

Physical condition is one of the basic components for sporting achievement. Components of the physical conditions in the sport, among others such as strength, speed, endurance, flexibility, muscular power, agility, coordination, balance, accuracy and reactions. However, components of physical condition is most important for sprinter speed. To improve the components of good physical condition it is necessary to exercise, because the better the person's physical condition or abilities, the greater the chances for achievement. Vice versa, the lower the level of physical condition is getting harder for achievement.

Forms of training methods to increase the sprint of which a great many methods of circuit training, interval training methods, weight training methods, continuous training methods and others. But so far, the method applied is the method of interval training





interval training method which has the disadvantage of less varied so boring and monotonous for athletes and also the lack of proper training dose of trainers in delivering the load and break the impact on the condition of athlete, because a given load too heavy and short rest periods, causing fatigue. Then to improve the performance of the optimal researchers tried to use the method in which the circuit training circuit training method using items that make exercise a fun activity because it has variations, so the training provided must be organized in such a manner, training to sprinter not only do sprint, course however strength training, speed and speed endurance reaction also needs to be done. Type of exercise that has been determined, with the aim of doing a boring exercise will not and more efficient. Circuit training method and interval training method has advantages and disadvantages of each, with the right exercise program are expected both methods can increase toward 60 meters sprint. In this case the researchers wanted to know which of the two methods are effective and efficient in improving toward 60 meters sprint.

In order to support increased sports performance coaching process an athlete must specifically programmed. In addition to the physical condition, practice, techniques, tactics and mental factors that affect performance athletes to achieve the feat is the psychological factor. One aspect that psychology plays an important role in

improving the sports performance and achievement motivation.

Running is one number that is competed in athletics. Running is often interpreted as the quickest way for animals and humans to move with the foot. Term in the sport as body movement which at some point all feet are not touching the ground. According Syahara (2009:245) run is a continuation of the special features as the time when the body is released from its foundation (phase drift) of one foot, because at the time of floating bodies, the movement becomes less stable as compared to walking. At run time it takes control of the body as a whole.

According to the Ministry of Education and Culture (2012:24) numbers are the numbers off the athletic competitions that consist of: a) run 60 m, b) long jump, c) javelin with heavy equipment: 700 gr son, daughter 600 gr, d) Reject bullet weighing equipment: son 4 kg, 3 kg daughter. Sprint sprint (60 yards) is a kind of running race in athletics, which ran 60 yards using the maximum speed along the distance traveled by the shortest possible time, in this case the athlete's 60-meter distances in units of time (seconds).

Circuit training system developed by Morgan and Adamson in 1953 at the University of Leeds in England. Circuit training system is increasingly popular as a coach to try and develop a form of circuit training with some variation of training that are tailored to the needs of the sport.





According Sajoto (1995:83) "Circuit training is a training program consisting of several stations and at each station an athlete do the kind of training that has been determined. The practice is said to complete the circuit, if an athlete has completed training in all stations in accordance with a predetermined dose. According Soekarman (1987:70) circuit training is:

A combined training program of some items that training its purpose in doing an training will not dull and more efficient. Circuit training exercises will be covered for: (1) muscular strength, (2) muscle endurance, (3) flexibility, (4) agility, (5) balance and (6) cardiopulmonary endurance. The exercises have to merupakan cycle so not boring. Circuit training is usually the existing circuit 6 to 15 stations, lasted for 10-20 minutes. Rest of the station to another 15-20 seconds.

Based on the study of the theory proposed in the circuit training method is a training method that consists of several post and post every athlete do the kind of exercise that has been determined in accordance with the objectives to be achieved. Forms of exercise every post include: shuttle run, knee push ups, sit ups, back up, harvard steps ups, 50 meters sprint, zig-zag running, skipping, knee tuck jump, sprunglauf, squat thrust and 60 meters sprint.

According Harsono (1988:156) "Interval training is an exercise system that was punctuated by intervals of the form of periods of rest". So in the implementation of

the interval training, rest-exercise-rest-exercise-rest and so forth. Interval training is an important way to fit exercise into the overall training program. Many trainers recommend to use interval training to carry out the exercise because the results are very positive for developing the overall endurance and stamina athletes.

According Lutan (2002:49) "Exercise is a form of interval training method that incorporates the implementation workload for a relatively short time, and interspersed with rest periods between every opportunity". Based on the study of the theory of the interval training method is a form of exercise methods undertaken by the lapse of time between loading and rest. During interval training, will be associated with a given stimulus method repeatedly and different intensities, with loading and planned break.

In sports activities that psychological factors play an important role in improving the achievement of achievement motivation. According Husdarta (2011:37) achievement motivation is "An impulse that occurs within the individual to continually improve certain qualities with the best or more than usual".

Athletes who have achievement motivation will do everything possible to do its job with all his might. Especially when challenged to win the competition she entered. Athletes who are motivated tend to have high discipline in practice and in matches, because athletes be moved by the urge to excel and achieve the best results.







Achievement motivation according to Singer (1984:41):

*Achievement motivation is typically considered with behaviors in the context in which there is: 1) reference to a standard of excellence or competition against other, which allows for evaluation as to level of success (or failure), 2) degree of challenge (uncertainty as to outcome), 3) personal sense of responsibility for out come.*

Achievement motivation is usually considered in the context of the behavior that refers to a standard of excellence or competition against the other, which allows for evaluation of the degree of success or failure, the level of challenge or uncertainty of the results, a sense of personal responsibility for the results. People who have high achievement motivation will act in accordance with the wish achievement always wanted to excel, to excel from the others.

Achievement motivation tend to require him to work harder in order to work responsibilities can be properly implemented. Athletes who have achievement motivation will seek to know his efforts to improve its ability to conduct an evaluation of the success or failure obtained. Athletes who have achievement motivation will accept and respond to serious if given corrections or suggestions from the coaches.

**Methods**

It was an quasi experimental research, with design factorial 2x2.

**Table 1. Factorial design 2 x 2**

Achievement Motivation	Training Methods	
	Circuit Training	Interval Training
High	A <sub>1</sub> B <sub>1</sub>	A <sub>2</sub> B <sub>1</sub>
Low	A <sub>1</sub> B <sub>2</sub>	A <sub>2</sub> B <sub>2</sub>

The population consists of 90 people. Sampling technique in this study is using purposive sampling technique that is based on sampling a particular consideration of the researcher. Based on this, the researchers determined the sample techniques based on percentage so didapatkanlah sum total sample of 48 people, divided into 4 groups.

After the division of the sample then the sample is treated as 16 sessions. Further tests carried out after the end of treatment was given to four groups, two groups for circuit training methods with high achievement motivation category (A<sub>1</sub>B<sub>1</sub>) and low achievement motivation category (A<sub>1</sub>B<sub>2</sub>), then the two groups for interval training method to train high motivation category (A<sub>2</sub>B<sub>1</sub>) and low achievement motivation category (A<sub>2</sub>b<sub>2</sub>) are given training in accordance with the designed program.

The data obtained will be processed by analysis of variance (ANOVA) followed by two lines and Tuckey's test if the interaction between variables found training





methods with variable achievement motivation. Therefore, this study used a 2x2 factorial design, the data analysis using ANOVA technique two lanes, with a confidence level  $\alpha = 0,05$ . Before the data were processed using Analysis of Variance techniques, first performed ANOVA test requirements, the test for normality using Liliefors Test and Test of Homogeneity of Variance using Bartlett test with significance level  $\alpha = 0,05$ .

### Results and Discussion

Based on the results of the normality test calculations to eight groups in the design of the study found that the price  $L_{\text{observasi}} (L_o)$  earned less than the price  $L_{\text{table}}$  on the real level of 0,05. It can be concluded that all groups of data in this study were drawn from a normally distributed population that can be used hypothesis testing research.

Hypothesis testing of this research was done by using ANOVA two lanes. Then conducted further tests using the Tuckey test. ANOVA techniques use two-track aims to determine the contribution of individual independent variables on the experimental results (main effect) and to determine the effect of the interaction ( interaction effect). The main influence in this study are: ( 1 ) differences influence the circuit training method and the interval training method

toward 60 meters sprint, (2) the effect of the interaction is the influence of a combination of training methods and achievement motivation toward 60 meters sprint.

Based on the summary of the ANOVA calculation above two lines can be noted that : 1 ) the alternative hypothesis ( $H_a$ ) states that there are significant circuit training method is better than interval training methods accepted , because the results of the calculations show that  $F_{\text{calculate}} > F_{\text{table}}$  (  $5,17 > 4,06$  ). 2 ) the alternative hypothesis ( $H_a$ ) states that there is no interaction between training methods and achievement motivation on acceptable to 60 meters sprint , because the calculation shows that the  $F_{\text{calculate}} > F_{\text{table}}$  (  $6,38 > 4,06$  ). It can be concluded that there are significant interactions between training methods and achievement motivation toward 60 meters sprint.

With demonstrated research hypothesis which states that there is an interaction effect between training methods and achievement motivation toward 60 meters sprint, then the analysis should be continued with Tuckey test. Tuckey test complete calculation can be found in appendix. While the summary of test results Tuckey presented in the table below:





**Table 2.** Anova Next Phase *With Tuckey Test*

Group Compared	Dk	Qh	Qt ( $\alpha = 0.05$ )	Information
<b>A<sub>1</sub> and A<sub>2</sub></b>	<b>1,88</b>	<b>3,21</b>	<b>2,92</b>	<b>Significant</b>
<b>A<sub>1</sub>B<sub>1</sub> and A<sub>2</sub>B<sub>1</sub></b>	<b>2,65</b>	<b>4,80</b>	<b>3,77</b>	<b>Significant</b>
<b>A<sub>1</sub>B<sub>2</sub> and A<sub>2</sub>B<sub>2</sub></b>	<b>2,65</b>	<b>0,25</b>	<b>3,77</b>	<b>Unsignifcant</b>

Based on the results of further tests using the Tukey test above can be stated that:

The first research hypothesis states that the effect of circuit training method (A<sub>1</sub>) is better than interval training method (A<sub>2</sub>) apparently accepted (Qh = 3,21 > Qt = 2,92).

The research hypothesis which states that there is interaction between the training methods and achievement motivation toward 60 meters sprint apparently acceptable.

The third hypothesis is stated at a high level of achievement motivation, the influence of circuit training method is better than the method of interval training toward 60 meters sprint received (Qh = 4,80 > Qt = 3,77).

The fourth hypothesis on the low achievement motivation, the influence of interval training method is better than circuit training method is rejected (Qh = 0,25 < Qt = 3,77).

Based on the data analysis of the first research hypothesis which states that the circuit training method (A<sub>1</sub>) produces better results than the method of interval training (A<sub>2</sub>), is accepted. The average score of a group circuit training samples A<sub>1</sub> = 53,02 is significantly higher than the average score interval training group A<sub>2</sub> = 46,98 (Qh = 3,21 > Qt = 2,92).

Results of testing the first hypothesis suggests that overall, the scores given method group exercise circuit training is higher than the group given exercise method with interval training. In other words that the proposed research hypothesis is accepted. From these findings it can be argued that this method of training is given to the circuit training results would be more effective than the method given exercise with interval training.





Results related to the interaction hypothesis testing, proving that there was an interaction between training methods and achievement motivation in their influence toward 60 meters sprint, in other words that the proposed research hypotheses verified. In the group of high achievement motivation given circuit training method to obtain a higher score than the group given the high achievement motivation interval training methods. So also with low achievement motivation groups, both have a significant influence but not, given the results of the group interval training method was slightly better than the group given exercise circuit, although the motivation of the group given the low achievement interval training methods and methods circuit training did not affect the significance.

The third research hypothesis which states that the high achievement motivation, circuit training method ( $A_1B_1$ ) produces better results than the method of interval training ( $A_2B_1$ ), accepted. The average score of the sample group circuit training method  $A_1B_1 = 56,83$  is significantly higher than the average score method of interval training group  $A_2B_1 = 44,10$  ( $Q_h = 4,80 > Q_t = 3,77$ ). The third hypothesis test results showed that overall, the scores given method group exercise circuit training is higher than the method of interval training on high achievement motivation. In other words that the proposed research hypothesis is accepted. From these findings it can be argued that the method of circuit training is more effective than the

method used interval training on high achievement motivation.

This method of circuit training using items that offer a wide variety of forms of exercise to improve physical condition so as not to saturate or boring for athletes and many more benefits of circuit training method as disclosed Harsono (1988:230) that:

Improve the physical condition of the various components simultaneously in a relatively short time.

Each athlete can practice according to their progress.

Each athlete can observe and assess their own abilities.

Exercise easily monitored

Save time, because in a relatively short time to accommodate a lot of people practicing at once.

Athletes who have high achievement motivation will have a strong desire and drive to achieve optimal performance. Athletes who have high achievement motivation will have the higher the initiative in carrying out the tasks assigned. So in doing circuit training, athletes who have high achievement motivation will be able to control myself in accepting various forms of exercise and would earn a good workout too. This happens because of possible circuit training methods have various forms of speed training, especially with athletes who have high achievement motivation that will produce





results and maximal exercise can increase the maximum running speed. Based on the results of the data analysis are the findings that, in the high achievement motivation, the group given circuit training method is better than interval training toward 60 meters sprint.

The fourth hypothesis testing results show that overall, the scores given method of interval training group was no better than those given circuit training on beprestasi low motivation. Further tests were carried out based on the influence between the two methods are in a low level of achievement motivation, but the effect is not significant between the interval training method and circuit training method. The average score of the group sample interval training method  $A_2B_2 = 49,87$  is higher than the score of the sample group circuit training method  $A_1B_2 = 49,20$  ( $Q_h = 0,25 > Q_t = 3,77$ ). The average score interval method group showed higher than the circuit but the result was not significant. In other words, the research hypothesis was rejected. This suggests that the hypothesis is not verified significantly.

Based on further testing, it was found that the low achievement motivation did not occur a significant impact toward 60 meters sprint between the group given method of circuit training and interval training methods. So it can be concluded that the role of achievement motivation has a major effect. According Satiadarma (2000:73) "Achievement motivation (achievement motivation) is the orientation of a person to keep trying to get the best results as closely

as possible with the basic ability to survive even fail and keep trying to complete the task as well as possible because he feels proud to menyelesaikanya well ". Athletes who have high achievement motivation has a strong urge in him to get a good result, while athletes who have low achievement motivation did not have the spirit of the practice or the race and athletes who have low achievement motivation just to do something because it is influenced from outside.

Based on the opinion of the above it is clear that achievement motivation is a crucial factor in one's accomplishments. Therefore, the application method and circuit training interval training to increase running speed is supported with high achievement motivation because with high achievement motivation will get a good performance anyway.

## Conclusion

Based on the research findings and discussion of research results can be summarized as follows:

The Effect of circuit training method is better than interval training methods for toward 60 meters sprint. In other words, circuit training method to increase rather than interval training methods toward 60 meters sprint.

There is interaction between the training methods and achievement motivation toward 60 meters sprint.





In the high level of achievement motivation, the influence of circuit training method is better than interval training method toward 60 meters sprint. In other words, to increase toward 60 meters sprint circuit training method is more effective than the interval training method.

In the low level of achievement motivation, the influence of interval training method is not better than the circuit training method toward 60 meters sprint. In other words that the low achievement motivation there is no influence toward 60 meters sprint a significant between group given the group interval training method and circuit training methods are given.

## Suggestion

Based on the research results, method circuit training is effective to improve speed especially to 60 meters sprint. Based on the conclusions and implications of the above, it is expected to:

Coach, in an effort to increase toward 60 meters sprint effective trainers should use appropriate training methods according to the physical condition of an athlete.

Athletes who want to increase toward 60 meters sprint should effectively do the exercises in accordance with the directives and guidelines of the coach.

Researchers who want to investigate this matter further, so that would be able to consider a variety of limitations in this study, such as sample size, and so forth. The goal is for the usefulness of the findings obtained.

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## REASONING STRATEGY FOR FAIRPLAY BEHAVIOUR

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### Abstract

*The thinking process about what is the best to do and why it is called good is called moral reasoning. In the process, it is applied moral rules and the reasons behind the decision-making in terms of moral values. The process takes place in a systematic way related to the evaluation towards the implementation of the values as the reference. The thinking process does not occur automatically. It requires discipline, time, knowledge of belief, and a systematic approach. The reasoning and the consideration of value judgments are always based on what we believe or believe about ourselves, the community, and others around us.*

### MORAL

The moral term is associated by motive, intention, and purpose to do. Moral is related to intention. Ethics is the study of morality. Meanwhile, according to Freeman, ethics is related to moral and behavior. Scott Kretchmar, further, states that ethics also concerns about compassion and sympathy about ensuring a good life to share with others. Suseno says that morals are always referred to the merits of human as human beings. Moral field is the field of human life seen from human kindness side. Moral norms are the standards to determine good or bad attitudes and actions of human beings in terms as human being and not as a specific and limited role of the performer. Moral development is a process and through that process one adopts the values and behaviors accepted by a society (Bandura, 1977).

Basically, someone who consistently internalizes norms is seen as a moral person. The experts apply what is called "bag of virtues" (Kohlberg, 1981), this theory believes

that someone imitates the behavior of others as a model or role model that he or she values to have certain based traits or behaviors that indicate the expected values. To understand the moral, Kohlberg (1981) and Rest (1986), argue that moral comprehension directly influences motivation and behavior but has a relationship that is not so strong. The close relationship is in empathy, emotion, guilt, social background, and experience.

Suseno sees there are three basic moral principles, namely the principle of good attitude, the principles of justice, and the principle of respect to yourself. The principle of good attitude in which this principle precedes and underlies all other moral principles, obliges that the attitude is required not to harm anyone. The principle that we should seek the good effects as much as possible and try as much as possible is to prevent bad consequences of actions. The principle of justice which is not the same as good attitude, for example, in order to save a







goal from the opponent's attack, a defender holds by hand, it should not be justified for any reason, doing good by breaking the rights of others is also not acceptable. The principle of respect for yourself requires to say that humans have always treated themselves as a valuable for themselves. This principle is based on the ideology that human beings are persons, the center of traveling and willing, who have the freedom and conscience, logic creature.

In teaching ethics and moral values, there should be in examples. A proverb says that action is better than words. Rusli Lutan (2000) says that moral values are various consisting loyalty, virtue, honor, truth, respect, friendliness, integrity, fairness, cooperation, and other tasks. Furthermore, there are four universal cores of moral values:

## 1. Fairness

Fairness exists in several forms: distributive, prosedural, retributive and compensatory. Distributive justice means justice that includes the distribution of benefits and burdens relatively. Prosedural justice consists of procedures that assess the perception of sportspersonship or fairness in determining the result. The retributive justice includes a fair perception in relation to the punishment given to offenders. The fairness compensation includes the kindness or benefits

gained by the victim or at an earlier time.

## 2. Honesty

Honesty and virtue are always associated with trust and reliability which are always associated with the impression of not lying, cheating or deceiving. This is manifested in acts and words. All elements believe that referees can be risking their integrity by making fair decisions. They are trusted by thier decision that reflects honesty.

## 3. Responsibility

Responsibility is an important moral value in society. This responsibility is the insurance of action itself. An athlete should be responsible to his or her team, coach and the game itself. This responsibility is the most important moral value in sports.

## 4. Peace

Peace means: a) never persecute, b) avoid presecution, c) dismiss persecution, and d) being kind.

Freeman, in Physical Education and Sport in a Changing Society Book suggests 5 basic areas of ethics that should be given, they are: 1) fairness and equality, 2) self-respect, 3) respect and consider others, 4) respect for rules and authority, 5) a perspective sense or relative value (2001:210).

## 1. Fairness and Equality





The students or athletes are expecting fair and equal treatment. Students want an opportunity to learn the same. Often, students who are below average in sports are negligible.

## 2. Self Respect

Students or athletes need self-respect and positive image of them to be successful. Coaches and teachers who train all their students with the same take the right steps in each direction so that the students feel important and worthy the teachers or coaches sights.

## 3. Respect and Concern for Others

Students and athletes need to respect other people, whether classmates, opponents in games, teachers or coaches. They need to learn about how important it is to treat others with respect.

## 4. Respect rules and authority

Students and athletes need to respect authority and rules, because without these two things a federation cannot function.

## 5. Sense of perspective or value

Some questions about the use of exercise to consider are: a) how important sport is, b) what is the relationship of sports in our

educational philosophy? , C) how important a victory is, and d) what becomes our academic integrity?

## SPORTPERSONSHIP

Sportsmanship is not a word related to justice that is not only determined by the game, but the quality tends to give attributes to the moral dimensions, such as willingness to accept the decision of the linesman that was wrong, obey the rules and the game on the race as well as the athlete remains with the referee's decision even detrimental. Meanwhile, according to Fritz Earle (1991: 73) says that sportsmanship in attitude, because attitude is a habit of mind. Sportsmanship can be concluded as a real manifestation of mental or moral attitude in its implementation which is characterized by a spirit of honesty, obey the rules, being noble and accept the decision that has been set in the match and race (Ngatman, 1996: 16). The source of disobedience values of sportsmanship among others are: 1) the public or the community, 2) the mass media, 3) sponsor. If the involvement of the public, the media and the sponsors is more than the proportion, for instance, they just get popularity of benefits, then there will be a very big problem, namely the destruction of the joints sports in sportsmanship. The sportsmanship in sport, in which the joints are fair play and sport characteristics that should be done with full sincerity and characterized by surprises and suspense, will melt and lose the feel of hard struggle,





because the athletes' achievements are stimulated by drugs, not by an objective evaluation system, score of the game that can be set, even the referee can be invited to be involved either directly or indirectly ( Ngatman, 1996, 15-16 )

## CONFIDENCE

Self-confidence is the main asset of every athlete to achieve the highest possible performance. According to Cratty (Cik Den in Patra, 2006: 146), athletes, in general, are more frequent to face tension or stress situation compared with no sense of strain. If the sense of tension is continuous, it will cause anxiety in athletes. To reduce anxiety, confidence is needed. There are many aspects that can improve an athlete's self-confidence. The most frequently encountered is the success or achievements of the previous ones. Naturally, every athlete has different characteristics. In general, the difference is that an athlete has: 1) over confidence, 2) lack of confidence, 3) full of confidence.

Over confidence is associated with personal traits of athletes. The negative side of over confidence is that an athlete often underestimates the opponent. These feelings usually arise due to the expectations of the athlete. The high expectation, but if the athlete loses, the athlete can be frustrated. In addition to over expectations, athletes who always expect to achieve the achievement

more than the ability. The coach expectations that are inconsistent with the ability of the athlete will result in failure of the athletes in achieving the specified targets. Frequent failures experienced by athletes can undermine over confidence. Moreover, such failures can undermine the confidence the athlete to get achievement.

A lack of confidence which affects athletes will harm themselves in order to achieve the best achievement, thus a lack of confidence in athletes is a negative factor for sport achievements. Therefore, a lack of confidence means hesitating the ability of the athlete himself or herself. The frequent failure done by an athlete who lacks confidence will easily lead to despair. If the sense of despair continues, it will lead the athlete to withdraw from activities. Impact exercise will eventually have difficulty in achieving higher performance. Too often protected and pampered, athletes consequently become less confident to be able to overcome any problems faced in the field. In contrast, confidence in athletes is as a positive attribute in order to achieve the best performance. For that attitude, it needs to be imparted to the athletes to feel steady when playing, so they can solve the problems faced in the field.

Confidence is an important element that affects the athletes' performance. Confidence is often interpreted as a description of the personal skills associated with a particular purpose, other definition about confidence or certainty level is owned





by a person about his or her ability to be successful in sport (Wann, 1997). It means that there is an element of confidence in the ability of the match related to the real condition to or objectives to be achieved. There are many aspects that can improve an athlete's self-confidence. The most frequently encountered is the success or achievement that is often achieved precedingly.

## FAIR PLAY

In the English-Indonesian Dictionary (Echols and Shadily, 1988:230), the word "fair play" can mean bright, fair, reasonable, and beautiful. According to William D. Halsey (1987: 344) and Victoria Nuefeldt and Fernando de Mello Vianna (1993: 199), the "fair" can be similar with clear, bright, sunny, beautiful, pleasing in appearance, moderately good or acceptable. The term can also be interpreted for "fair" (1) free from prejudice, (2) according to acceptable rules or standards. In the same dictionary, for the fair play term means the game which has a sense of sportsmanship, fair treatment or fair action against all people.

Meanwhile, fair play in sport can be interpreted as a true sportsperson spirit or warrior sportsman spirit, which can also be interpreted in terms of the finest sportpersonship. An athlete can be considered as fair play, if he or she does something admirable deeds that cover more than just 100% on the written rules. The implementation of fair play must be marked

by a spirit of truth and honesty, to subject to the regulations, either explicitly or implicitly (Ditjora, 1972: 1-6).

Fair play as a moral concept, respect for the opponents as well as self-esteem, contains (1) a sincere desire, in order to make equal chance for the opponent as the same as the athlete, (2) very carefully consider ways to get a win, so it will firmly reject the indiscriminate victory. The opposite should be seen as a partner, as a friend to compete (friendly rival), which is bounded by sports fraternity, so that a match can run properly. Contained in this, there is sense of meaning: honest, fair, respectful, humble, and good correlated meanings like that. Fair play is a big-hearted spirit of the opponent, which in turn can lead to an intimate human and warm relationships. The referee / judge decisions that benefit themselves will be rejected if it is found inaccurate.

A philosophical statement, that fair play is *the very essence of sport*, in other words, it can be said as the soul of the sport. Regarding this statement means that if a game, a sport competition without the existence of fair play, cannot be called again as a sport. Why? Because something that no longer has the soul means dead which appeared in the arena was a 'massacre', a ruthless "murder" against opponents. Kept in mind, that the essence of sport is a struggle, and uphold the glory of sport, not merely for victory.

## FAIR PLAY VALUES





Play and do sport in the context of education require the actor to be a knight, honest to admit the excellence and accept to be defeated by the opponent is part of the inherent fair play values in these activities. This is in line with the Loland's opinion (2003) in which fair play is the attitude and behavior that upholds these values contained in sports, respects regulations and avoids opponents who have benefited from illness or condition do not allow the match to continue. The Department of National Education of Indonesia (2008) makes the guidelines of fair play and defines fair play as a form of self-esteem that is reflected in aspects such as: (1) honesty and fairness (not cheating), (2) respect for the opponent (when winning or losing), (3) noble and sincere attitude, assertive and authoritative (not affected even if the opponent is not fair), being humble with victory and cool (able to control themselves when they lose), (4) responsibility and love of peace (do not like to play hard and rough).

Fair play is the generosity of spirit of the opponent who raises familiar, warm and affectionate humanitarian. So, fair play is a mental attitude that shows dignity sports as a knight. As an abstract concept, fair play can be defined and operationalized in the form of behavior that includes several traits (Derde

Martin, 2004). Further, Beamish and Ritchie (2006) authenticate that fair play is a consciousness that is always attached to that rival that is fellow sparring bound by brotherhood.

The European Sports Charter and Code of Ethics issued by the Sports Council of Europe states that fair play is more than just playing within the rules. Fair play is fused with the concept of friendship and respect for others and always playing in the real spirit. Fair play means not only performance but fused with behavioral issues correlated to preventing act of deception, pretend to play, doping, violence (both physical and expression of words), exploit, take advantage of opportunities, excessive commercialization or beyond the limits, and corruption. According to Laker (2001), fair play is a form of self-esteem which is reflected in: (1) honesty and sense of justice, (2) respect to the opponent, either in defeat or victory, (3) attitude and sincere warrior actions, (4) authoritative assertiveness, if it happens that an opponent or spectators do not play fair, (5) humility in victory, and (6) composure or self-control in defeat.

According to Martens, there are some characters that need to be implanted to athletes such as figured below (2004:59)





Moral Values	In Daily Activities	In Sport Activities
Respect	<ul style="list-style-type: none"> <li>• Respect to others</li> <li>• Respect the game equipments</li> <li>• Respect to the environment</li> <li>• Self- respect</li> </ul>	<ul style="list-style-type: none"> <li>• Respect to the rules and traditions of the game</li> <li>• Respect the opponent</li> <li>• Respect the official</li> <li>• Respect winning or losing</li> </ul>
Responsibility	<ul style="list-style-type: none"> <li>• Self responsibility</li> <li>• Reliable</li> <li>• Self Control</li> <li>• Persistent</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare for the best</li> <li>• On time when playing or training</li> <li>• Self discipline</li> <li>• Be cooperative with teammate</li> </ul>
Care	<ul style="list-style-type: none"> <li>• amuse and be empathy to others</li> <li>• Forgiving</li> <li>• Being kind and sincere</li> <li>• Avoid egoism and cheating</li> </ul>	<ul style="list-style-type: none"> <li>• Setting the teammate to become the best</li> <li>• Support teammate when distracted</li> <li>• Generous with praise, stingy with criticism</li> <li>• Play for team, not individual</li> </ul>
Honesty	<ul style="list-style-type: none"> <li>• Honest</li> <li>• Sincere act</li> <li>• Trustable</li> <li>• Brave to do the right</li> </ul>	<ul style="list-style-type: none"> <li>• Play under regulations</li> <li>• Loyal to the team</li> <li>• Free drugs</li> <li>• Admit mistakes</li> </ul>
Fairness	<ul style="list-style-type: none"> <li>• Follow the good rules</li> <li>• Tolerance to others</li> <li>• Share to others</li> <li>• Avoid taking advantages from others</li> </ul>	<ul style="list-style-type: none"> <li>• Treat other players as you treat others the</li> <li>• Honets to every player</li> <li>• Give other player chance</li> <li>• Play to win as the rules</li> </ul>
Being A Good Citizen	<ul style="list-style-type: none"> <li>• Obey the law</li> <li>• educated</li> <li>• give contribution to the society</li> <li>• protect others</li> </ul>	<ul style="list-style-type: none"> <li>• to be a good example</li> <li>• struggle to be the best</li> <li>• give incomes to sports</li> <li>• support teammate to be a good citizen</li> </ul>

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## THE DIFFERENCES OF COACH-ATHLETE RELATIONSHIP PATTERNS

### BETWEEN INDIVIDUAL AND TEAM SPORTS

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#### Abstract

*The concerns of this study is the degradation or even achievement is not optimally reached in several sports, which assumed its caused by not merely physical factors but rather the dynamics of interpersonal communication and relationship between athletes and coach. The purpose of this study is to determine differences in communication patterns between athletes and coach of the individual and team sport, especially on the three factors: closeness, commitment, and complimentarity.*

*This research is a descriptive study because data collection was conducted using a questionnaire, survey and instrument CART - Q (The Coach - Athlete Relationship Questionnaire). Subjects were athletes and coaches in the sport club unit at UNY, which are divided into two groups: individual and team sports. The data was analyzed by multivariate and univariate statistical tests using computer programme (SPSS).*

*The results showed the difference in the pattern of the athlete - coach communication between individual sports and team sports. From the three components, which has a significant difference is the commitment of the coaches between individual sports and team sports. Other components do not have significant difference.*

**Keywords:** *communication patterns, team sports, and individual sports*

#### INTRODUCTION

Athletes' performance is the result of multiplicative function of intrapersonal and interpersonal relationship. Athletes will present a good performance if supported by physical and mental readiness and psycho-social factors one of which is seen through good and dynamic relationship in the training environment (interpersonal relationship). Studies of sports psychology is frequently concentrated only to the intrapersonal components, such as motive, level of fatigue, perception, etc. In fact, in the context of sports, healthy and dynamic relationship between the athletes and the coach holds an important role for the physical, motoric, psycho-social, and mental development that leads to a maximum achievement (Jowett & Cockerill, 2002).

Although it cannot be separated from other components (training programs, facilities and infrastructures, etc), coach and athletes are two decisive subjects that determine the attainment of maximum achievement. Athletes as the spearhead of the attainment of achievement in sports are a complex subject. In training, therefore, not only physical aspect is paid attention to but also psychological, emotion, and social needs. Furthermore, there are also other aspects, such as security, happiness, appreciation, opportunity to express opinion and to affiliate, and other needs embedded in individuals in general. In return, the coach's rights must be fulfilled, including his physical, material, mental, and social needs.

A coach is a person who not only has the competency in certain kind of sports but has also an awareness and responsibility to be a *father* for his athletes. A good coach not







only runs the training programs but also tries to build good relationships with the athletes. A coach in a certain team sports has even a much harder task because each athlete has their own characteristics. Thus, a coach must be able to identify the relationship and communication patterns that he has to apply to the athletes.

The suitability of relationship patterns of the athletes and the coach is the decisive component that determines the success in training. The good relationship between the coach and the athletes does not just happen by chance but rather there is a desire and effort from both sides. The relationship here is interpreted as a professional relationship that directly or indirectly gives a positive influence to the improvement of quality and achievement in sports.

The good relationship between the coach and the athletes can be described in three components known as 3C (*closeness, commitment and complementarity*) (Jowett, Ntoumanis: 2004). From these three components, it is very possible that there are differences in the relationship patterns between individual and team sports. Therefore, this research aims at discovering and comparing the value of each component as an indicator of relationship patterns of the coach and the athletes in individual and team sports.

## OBJECTIVES AND SIGNIFICANCES OF THE RESEARCH

The objectives of the research are to observe and identify the relationship patterns between the coach and the athletes in individual and team sports by referring to the three main components: *closeness, commitment, and complementarity*.

Methodologically, this research is expected to give a proper and rational framework to the development of communication and interaction techniques

that can support the success in training in order to attain an optimum achievement.

## LITERATURE REVIEW

A Coach and athletes are two components that becomes the spearhead of the attainment of the main goal in sports, a maximum achievement. In order to attain a maximum achievement, a proper physical, technical, tactical, psychological preparation and planning is highly required (Bompa, 2000). Physical, technical, tactical, and psychological component is related to the quality of body system, movement efficiency, maturity of mindset, and athletes' maturity of emotion respectively.

The explanation above explicitly shows that to attain a success in training and an optimum achievement, not only is athletes' physical and technical preparation taken into consideration but also the maturity of emotion and mindset in the games. They do not instantly happen but rather they must be built from the beginning of the training process. Also, they only can happen if there are an awareness and desire from both sides (the coach and the athletes) to create a positive socio-emotional environment either in the training and the games.

It is becoming impossible to generalize the ability of one athlete with another because every one has their own ability. It is the ability possessed individually by the athletes that needs to get special attention so that they can exploit their maximum potency. However, individual uniqueness of an athlete is often seen as a deficiency (Anshel, 1997). For example, John McEnroe, a tennis player, uses his anger to uplift his spirit. Yet, for those who do not understand this will consider McEnroe hotheaded. The problem is it is very likely





that his anger may disrupt his opponent; it takes down the spirit of his opponent. Thus, it can be seen as something that does not show sportsmanship.

Moreover, Monice Seles is often warned due to her loud bellow when hitting the ball. Actually, it is a uniqueness of her play and there is no certain rule that disallows such a conduct. Sometimes we think that athletes always need advice from their coach when the game is about to start. Nonetheless, some athletes tend to be in their own instead of being accompanied by others. Therefore, every athlete has their own characteristics and generalization cannot be made towards them. These kinds of things need to be understood by the coach because their uniqueness can make them compete to attain maximum achievement. Whereas those who are 'normal' tend to have a normal achievement as well (Monty P, 2007).

The coach and the athletes have a social relationship that makes an interaction pattern and are interplay. To build a positive and conducive social condition within two or more individuals, there are some principles that need to be noted, be it norm, the role of individual, and the relationship among individuals. Norm is related to the unwritten rule about how someone has to behave morally. The role of individual in this regard is related to how the coach and the athletes can carry out his task as an individual and the responsibility attached to them. Whereas relationship is perceived as someone's feeling to others. (love, respect, etc)

## A. The Coach-Athlete Relationship Pattern

The relationship pattern studied consists of three main components, closeness,

commitment, and complementarity (Jowett, Paull, et al, 2005).

1. **Closeness** is feeling and or perception that refers to interpersonal factor, such as expressions of like, trust, and respect. The openness in communication, problem delivering and solving, reception and appreciation describes closeness. It must be realized that the quality of trust and respect is associated with the success of training programs (Janssen & Dale, 2002). These positive things will not happen if there is no harmonious support from the related parties in the process of implementing the training programs.
2. **Commitment** is the reflection of wholeness or attachment of mindset between the coach and the athletes. It can also be defined as a positive intention coming from both sides in order to maintain and optimize relationship. The absence of commitment may cause unfavorable condition, poor communication, and failure in attaining the goal of the training.
3. **Complementarity** reflects positive interaction between the coach and the athlete working together in the effort to improve performance and achievement. Jowett et al. (2005) argue that complementarity usually shows a positive correlation between optimum achievement and satisfaction of an interaction, especially between the coach and the athlete.

Recently, Jowett, et al. (2005) also develops an additional component that can describe the relationship between the coach and the athletes, namely Co-orientation factor. Although there is still no further analysis and study, this factor reflects the perception that the coach and the athletes have each other.

## B. Effective Communication in Sports





A positive team dynamics and an effective communication are the key components for team winning. A coach must be able to understand and apply effective communication that will improve the cohesion in his team and make sure that the training programs run well. For the athletes, performing effective communication can improve their performance inside or outside the game.

Communication skill in sports is one of the factors that give positive contribution for athletes' performance, training development, and sports participation. The occurrence of good communication in sports is to transfer the goals including persuasion, evaluation, information, motivation, and problem solving. When we perform communication in the field, it is very likely that the communicant and the communicator are not in comfortable situation. There are many interferences when the athletes and the coach are communicating each other in the field including fatigue, noise, or other interferences which are technical and semantic in nature.

## RESEARCH METHOD

This research is conducted through a survey. The data is analyzed with inferential statistics because the results of the research do not only describe the communication patterns but also see the differences of the athlete-coach communication pattern in individual and team sports. The subject of the research is determined through simple random sampling consisting athletes and coaches in Yogyakarta State University sports extracurricular activity, either individual sports (*pencak silat*, athletics, Taekwondo) or team sports (baseball, volley, and basketball).

The instrument of the research is standard questionnaire (CART-Q/ *The Coach-Athlete relationship Questionnaire*) adopted from Jowett and Ntoumanis' research (2004). The valuation of the CART-Q uses interval scale and scale seven which

has no median score and neutral point. The number chosen by the sample shows the level of respondents' agreement to the question given.

The validity of the instrument is obtained by calculating Pearson's correlation coefficient in three components, closeness ( $r = 0,75$  ;  $P < 0,01$ ), commitment ( $r = 0,62$  ;  $P < 0,01$ ), complementarity ( $r = 0,59$  ;  $P < 0,01$ ). Instrument reliability is obtained by calculating the Croanbach coefficient  $\alpha$ , closeness ( $\alpha = 0,82$ ), commitment ( $\alpha = 0,87$ ), complementarity ( $\alpha = 0,87$ ) (Jowett & Ntoumanis : 2004).

The data collection is conducted by asking subjects' willingness to fill out the instrument (the CART-Q).

Analysis technique employs descriptive analysis which is then interpreted. Data analysis is conducted using two-step object test that is multivariate test to find out the differences in the athlete-coach communication pattern in individual and team sports.

Test of between-subjects effects is conducted afterwards to find out the differences in the pattern of each component (closeness, commitment, complimentarity) reviewed from the valuation of the athletes and the coach from each sports. All the process of analysis is conducted using SPSS program.

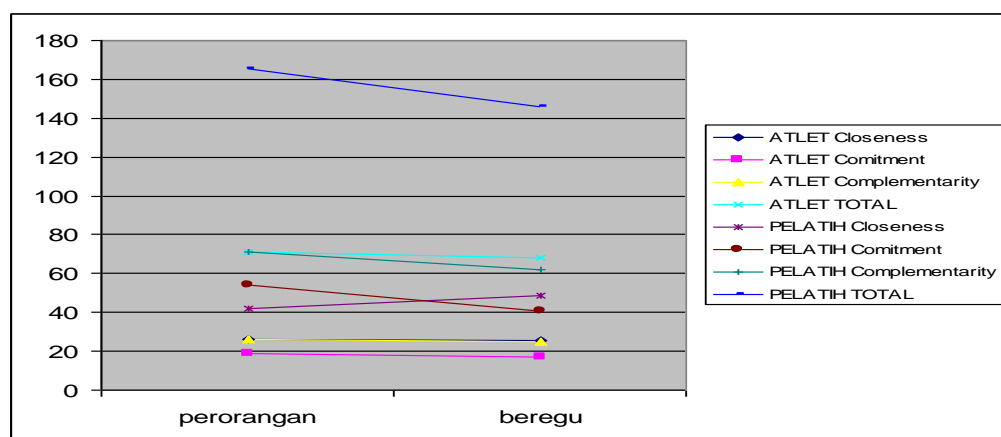
## FINDINGS AND DISCUSSIONS

The multivariates test result shows that F value = 4.924 with  $p = 0.002$ . If it is compared to the significance level that  $\alpha = 0.005$ , then multivariate  $H_0$  is acceptable. It means that there is a different communication pattern between a coach and an athlete among the sports field both in the form of team and individu. Whereas, the univariate test result for each components is shown in the tabel below:



	ATHLETE		COACH	RESULT
<i>closeness</i>	F = 1.058	F = 3.380		No significant difference
	p = 0.313	p = 0.077		
<i>commitment</i>	F = 2.977	F = 11.017		No significant difference for the athlete
	p = 0.095	p = 0.003		Significant difference for the coach is
<i>complemetarity</i>	F = 1.711	F = 6.800		No significant difference
	p = 0.202	p = 0.014		

The mean score based on the result of the research is shown in the Picture 1 below.



Picture 1. Mean score of interaction pattern

As a homo socius, communication is an important aspect which leads to the person's triumph and success including athletics field. The aims and achievements of a training program could not be attained optimally without any effective and decent communication.

As stated before, there are many methods in delivering a message during the training process. Those methods should be noticed since it could cause a wrong interpretation if the message is delivered pleonastically and instructed ambiguously. Wrong interpretation will cause

wrong behaviour of both the coach and the athlete. Therefore, in order to create an effective communication which leads to the good achievement of the training program, it is important to consider communication skill for both the coach and athlete.

Anshel (1997) cited by Monti P. Satiadarma (2000) states that there are ten aspects which have to be considered in communicating with the athletes. They are:

- (1) Sincerity, sincerity is an absolute aspect in communication and a basic need for the coach and the athlete in delivering their idea.





(2) Extrovert, it is important for a coach to have extrovert behaviour. As a facilitator, a coach becomes a vessel who gathers the athletes' aspirations. The introvert behaviour will cause some narrow perspectives and limited solution and creative ideas.

(3) Consistency, consistency is an absolute behaviour which should be possessed by a coach. An athlete will not understand how to behave in a good manner if there is not any consistence behaviour.

(4) Emphaty, a coach needs to be able to emphatize toward his athlete, so that he could avoid underestimating and boing during the communication process. Empathy could also make the coach to be more sensitive to what his athlete feels about.

(5) Unsarcastic, sarcastic behaviour tends to demean others. In communication, especially for a coach, it is important to avoid sarcastic since it would cause the confidence decline and unvalued feeling of the athlete, so that the communication process between the athlete and the coach will be inconducive.

(6) Praise and critics addressed to the behaviour, not personal

There are three points to be considered in praising: first, use a positive statement and relates the praise with the person's name. Second, use a feedback. Third, use the recency effect.

(7) Respect to others' integrity, integrity is important since every person deserves to gain an honor.

(8) Use positive sign

During the communication process, try to deliver the message

well, not only verbally but also use other non-verbal language positively (body language, physical characteristics, touch, sound, position and eye contact).

(9) Give a skill training

Coaching program for athlete is a kind of education program. Education for the beginner could not be generalized with those who are in the expert level. The athletes who have been in the expert level will more capable in taking up the lessons in the form of conceptual abstract.

(10) Interact consistently

A coach should be able to keep the consistency with the athletes based on the professionalism norms, not only for the personal interest.

Those ten points above become the basic point to create a pattern of relationship between an athlete and a coach. In this research, the pattern of relationship represents the four main component. The elaborations of each relation pattern are as follows:

(a) **Closeness**

Closeness, in this research, is not only felt physically, but also there should be a kind of quality inside. The link between the closeness and coach-athlete belongs to *reciprocal socialization*. It is a socialization of feedback process. It means that in a teamwork, athlete do the socialization process with his coach and the vice versa.

Every person tend to have a feeling to be close with others. Thus, every person try to bond with others such as friends, relatives, brothers, parents, etc. Nevertheless, sometimes, we faces some difficulties to create a good relationship.





Emotional closeness is a closeness which is able to touch the feeling of others. We could build a corporation if there is an emotional closeness.

In this research, closeness refers to not only such physical matters but also quality matters within it. The closeness relation includes to the category of reciprocal socialization which is a mutual socialization process. It means, the athlete may socialize with the trainer or vice versa. As the matter of fact that everyone tends to have closeness sense to others, a person makes efforts to bond with others. These include friends, brothers, sisters, parents, or acquaintance. Nevertheless, many may undergo difficulty in creating the relation well. Here, emotional closeness is what capable to touch other feeling. The existence of emotional closeness may lead to cooperation among them.

Based on the research data, there are no significant differences on the closeness factor among the athletes and the coach for individual or team. This indicates the athletes and the coach conscious that good relation and communication will give positive feedback to the successfulness of the rehearsing program. The successfulness of the program will result on maximum achievement.

### (b) **Commitment**

The result of the research indicates that there are significant differences between coach's commitment in the individual sport and the team one. The commitment between athletes on both branches respectably is not significant. Both coach and athletes must put the best of their efforts to be competence. However, competence without high commitment will not serve maximum result. Commitment is loyalty where there is effort to last on a team. Commitment is someone's determination to attain a goal without getting any influence on any circumstance until the goal achieved. In other words, commitment is important in attaining goal. When the athletes and the coach have the determination to

carry out the given commitment, the goal can be easier to achieve. In this case is the implementation of rehearsal program and the maximum achievement accomplished.

### (c) **Complementarity**

Complementarity is a reciprocal relation that is very interpersonal. Two or more individuals find the needs of each other, to fit, to complement and to understand each other. All of these must be built positively among athletes and coach because of these can encourage high commitment to acquire collective's goal which is the maximum achievement. There are no significant differences between individual and team in complementarity factor.

## **CONCLUSION**

Many factors of Psychosocial hold contribution to the successfulness of the implementation of rehearsal program and the maximum achievement accomplished by athletes, individual or in team. Based on the research, it can be concluded that there are different patterns of communication between athletes and coach in individual sport and the team one. Significant differences are seen in the coach's commitment component. The other component is noted as not significant.

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## Relationship of Psychological Factors with Sport Injuries at Body Contact Athletes of DKI Jakarta

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### Abstract

*The objectives of this research are to obtain information the relationship of psychology factor with sport injuries at body contact athletes of DKI Jakarta . This study was conducted at DKI Jakarta Province by using survey method. The number of 30 athletes as a sample is selected of purposive random sampling., used T test ( $\alpha = 0,05$ ), correlation coefficient ;  $r_{xy} = 0,607$  , determinant coefficient =  $0,368$ ,  $t_{value} = 4,04$  and  $t_{table} = .2,042$ . The research findings are; There is a relationship of psychology factor with sport injuries at body contact athletes of DKI Jakarta*

**Keywords;** *Psychology factor and Sport injuries*

### Preface

Early work on the relationship between psychological factors and athletic injury risk was often a product of coaching or clinical experience. Recently, more scientific advances have been made in ferreting out the psychological factors and potential mechanisms involved in injury risk. Many postulated that the mechanism behind the life events-injury relationship lies in an individual's stress responsivity . For example, in cardiac medicine, individuals who react to stress tests with large and prolonged stress responses are at greater risk for later cardiac problems. A similar relationship exists between life events, stress responsivity, and injury.

### Psychological Factors

The proposed model of the psychological factors involved in athletic injury provides a framework for assessing injury risk and suggests interventions for reducing the likelihood of injury for the high-risk athlete . This model owes much to earlier stress research (Allen, 1983; R.E. Smith, 1979) and was developed from a synthesis of the stress-illness, stress-injury, and stress-accident literatures.

Central to the model is the stress response with its mutually influencing cognitive and physiological/attentional elements. In any athletic situation, participants will experience different cognitive responses; for example, competition may







produce positive feelings of challenge, excitement, and joy (eustress) or negative feelings of dread, anxiety, and discomfort (distress). The type of affective response an athlete experiences can easily influence injury risk. Distress may be more likely than eustress to lead to injury.

Physiological/attentional responses are rooted in endocrinological changes (e.g., elevated adrenocorticotrophic hormone [ACTH] and catecholamine levels, release of glucocorticoids) and autonomic nervous system changes (e.g., activation of the sympathetic nervous system). Observable changes in sympathetic nervous system arousal may include an increase in respiration, pupillary dilation, increased sweating, piloerection, generalized muscle tension, tremor, increased distractibility, and emotional lability.

### *The Stress Response.*

The way in which the cognitive and physiological elements of the stress response interacts, especially in stress-inducing athletic situations, influences the likelihood of injury.

### **Physiological/Attentional Changes.**

The changes during stress that may be the major culprits in stress-injury relationships are generalized muscle tension, narrowing of the visual field, and increased distractibility. Unwanted simultaneous contraction of agonistic and antagonistic muscle groups in generalized muscle tension (often called guarding or bracing) reduces flexibility, motor coordination, and muscle efficiency, which

can easily set the athlete up for a variety of injuries such as strains, sprains, and fractures. If the athlete's muscles are "fighting" themselves, he or she may not be able to quickly generate the motor patterns necessary for moving out of harm's way in a dangerous situation (e.g., a baseball or racquetball approaching the head).

**Cognitive Appraisals.** Logically connected to the physiological/attentional aspects of the stress response are the cognitive appraisals of the athlete. For example, an athlete's attitudes about competition may influence the likelihood of injury. If the athlete views competition as challenging, exciting, and fun, this sort of "good" stress (eustress) may help the athlete remain on task, stay focused, and "flow" with the competition. Injury risk in this situation would probably be lower than when the athlete feels "bad" stress (distress), for example, if the athlete views competition as anxiety producing, or as potentially embarrassing, or as a tribulation.

If confidence is down, the athlete may feel that he or she does not have the resources to meet the demands of the situation. The feeling that "I'm going to blow it" or "this person is going to cream me" can easily contribute to an acute stress response and the accompanying physiological/attentional changes that set up the athlete for injury. Also of great importance is what the athlete thinks are the consequences of performance. Thoughts such as "if I don't do





well I'll be cut" can lead to exaggerated stress responses

### *Psychosocial Factors and Stress*

The three major contributors are the personal history of stressful experiences, personality traits, and resources that help in coping with stress (social and behavioral). The model also suggests that personality variables and coping resources act either directly on the stress response or as moderator variables for the effects of stress history. In doing so, they may act independently or in combination.

**History of Stressors.** This includes life events and daily hassles. The previous injury history may be important to consider as well, in that an athlete may return to play before he or she is fully recovered physically. Also, the athlete may be physically but not psychologically prepared to return to sport competition.

*Life Events.* The study of the influence of past stressful events on health began with studies on the relationship of major life events to illness outcome. In the now-classic study of T.H. Holmes and Rahe (1967), the researchers demonstrated a connection between the number of major life changes a person experiences (e.g., divorce, relocation) and the person's likelihood of becoming ill. The original scale, developed to measure life events (Social Readjustment Rating Scale; SRRS), listed 40 major events ranging from death of a spouse to minor violations of the law. Within a few years the life-events approach to health research was

applied to athletic injury, when T.H. Holmes (1970) found a positive correlation between major life events and injury in football players.

Since Holmes conducted the football investigation, there have been over 20 studies of stress and athletic injury risk, with 18 of the 20 finding some type of positive relationship between life stress and injury. The best evidence for high-life-stress athletes being more injury vulnerable still involves football.

Generally, research has shown that the risk of being injured increases in direct proportion to the level of life-event stress. The strength of the life stress-injury relationship, however, varies considerably across studies. Athletes with high life-event stress are two to five times more likely to be injured than athletes with low life-event stress. The largely positive findings across sports and competitive levels is compelling considering the diversity in measures of life stress and definitions of injury.

*Daily Hassles.* Chronic daily hassles are the everyday stresses and strains of living that may or may not be connected to major life events (e.g., job dissatisfaction, loneliness). These hassles have been shown to be predictors of health outcome (Kanner, Coyne, Schaefer, & Lazarus, 1981), psychological distress (Monroe, 1983), and stress responsivity (J.M. Williams et al., 1990, 1991) but not injury vulnerability (Blackwell & McCullagh, 1990; R.E. Smith, Smoll, & Ptacek, 1990a). They are included here as potential contributors to injury outcome





because both injury vulnerability studies had methodological limitations. An assessment of both life events and daily hassles may still give us a better overall picture of athletes' stress and their potential injury risks.

**Personality.** The general health literature has demonstrated that personality variables such as hardiness, locus of control, and sense of coherence are related to health outcomes. Except for locus of control, research into the relationship between these variables and athletic injury is lacking.

Competition anxiety, sensation seeking, and achievement motivation are included in the model because of their direct relevance to sport. High competitive trait-anxious athletes, when placed in stressful situations, exhibit strong stress responses and thus are more likely to incur injury. The roles of sensation seeking and achievement motivation in injury are at present speculative. Perhaps sensation seekers may actually be at greater risk of injury because of their willingness to take chances. Alternately, they may be at lower risk because they are less likely to cognitively appraise extremely demanding situations as stressful. High achievement motivation may place an athlete at risk in certain situations. For example, when the athlete feels a strong need to excel but has inadequate skills, frustration and stress may result. A high achiever also may experience relatively greater stress when confronted with a superior opponent.

**Coping Resources.** There is evidence that an athlete's coping resources

influence injury outcome both directly and indirectly. R.E. Smith, Smoll, and Ptacek (1990a) found that male and female high school varsity athletes low in both social support and psychological coping skills (e.g., ability to concentrate, stay positive, and regulate arousal) exhibited the greatest injury risk. A major methodological advance of this study was the finding that social support and coping skills interact to predict vulnerability or resistance to injury.

## Sport Injuries

Acute injuries may be due to extrinsic causes, such as a direct blow, either as a result of contact with another player or equipment, or intrinsic causes, such as a ligament sprain or muscle tear. Acute injuries may be classified according to the particular site injured (e.g. bone, cartilage, joint, ligament, muscle, tendon, bursa, nerve or skin) and the type of injury (e.g. fracture, dislocation, sprain or strain).

**Bone Fractures.** Fractures may be due to direct trauma such as a blow, indirect trauma such as a fall on the outstretched limb or a twisting injury. Fractures may be closed or open (compound), where the bony fragment punctures the skin.

Fractures are classified as transverse, oblique, spiral or comminuted. Another type of fracture seen in athletes, particularly children, is the avulsion fracture, where a piece of bone attached to a tendon or ligament is torn away.





The clinical features of a fracture are pain, tenderness, localized bruising, swelling, and, in some cases, deformity and restriction of movement. Fractures are managed by anatomical and functional realignment. Non displaced or minimally displaced fractures can be treated with bracing or casting. Displaced fracture require reduction and immobilization. A displaced, unstable fracture requires surgical stabilization.

**Joint dislocation.** Dislocation of joint occurs when trauma produces complete dissociation of the articulating surfaces remain partially in contact with each other. Stability of joint depends on its anatomy. The hip is relatively stable because it has deep ball and socket configuration. Whereas the shoulder is far less stable because it has a small area of bony contact. Less stable joints such as the shoulder and fingers are more likely to dislocate. More stable joints such as the hip, elbow, ankle and subtalar joints require much greater forces to dislocate and are, therefore, more likely to be associated with other injuries (e.g. fractures, nerve and vascular damage). All dislocations and subluxations result in injuries to the surrounding joint capsule and ligaments.

Complications of dislocations include associated nerve damage, for example, axillary nerve injury in shoulder dislocations, and vascular damage, for example, brachial artery damage in elbow dislocations. All dislocations should be X-rayed to exclude an associated fracture.

Dislocated joints, in most cases, may be reduced relatively easily. Occasionally, muscle relaxation is required and this is achieved either by the use of an injected relaxant such as diazepam or by general anesthetic. After reduction, the joint, needs to be protected to allow the joint capsule and ligaments to heal. Where possible, early protected mobilization is encouraged. Subsequent muscle strengthening gives the joint increased stability.

**Ligament.** The stability of a joint is increased by the presence of a joint capsule of connective tissue, thickened at points of stress to form ligaments. The ends of the ligament attach to bone. Ligament injuries range from mild injuries involving the tearing of only a few fibers to complete tears of the ligament, which may lead to instability of the joint. Ligament injuries are divided into three grades. A grade I sprain represents some stretched fibers but clinical testing reveals normal range of motion on stressing the ligament. A grade II sprain involves a considerable proportion of the fibers and, therefore, stretching of the joint and stressing the ligament show increased laxity but a definite end point. A grade III sprain is a complete tear of the ligament with excessive joint laxity and no firm end point. Although they are often painful conditions, grade III sprains can also be pain-free as sensory fibers are completely divided in the injury.

The initial management consists of first aid to minimize bleeding and swelling. For grade I and II sprains, treatment aims to





promote tissue healing, prevent joint stiffness, protect against further damage and strengthen muscle to provide additional joint stability. The healing of collagen in a partial ligament tear takes several months.<sup>4,5</sup> However, depending on the degree of damage, return to sport may be possible sooner than this, especially with protection against further injury.

The treatment of a grade III sprain may be either conservative or surgical. For example, the torn medial collateral ligament of the knee and the torn lateral ligament of the ankle may be treated conservatively with full or partial immobilization. Alternatively, the two ends of a torn ligament can be reattached surgically and the joint then fully or partially immobilized for approximately six weeks. In certain instances (e.g. anterior cruciate ligament rupture), torn ligament tissue is not amenable to primary repair and surgical reconstruction of the ligament, usually using tendon, may be performed instead.

**Muscle Strain/tear.** Muscles are strained or torn when some or all of the fibers fail to cope with the demands placed upon them. Muscles that are commonly affected are the hamstrings, quadriceps and gastrocnemius; these muscles are all biarthrodial (cross two joints) and thus more vulnerable to injury. A muscle is most likely to

tear during sudden acceleration or deceleration.

Muscle strains are classified in three grades. A grade I strain involves a small number of muscle fibers and causes localized pain but no loss of strength. A grade II strain is a tear of a significant number of muscle fibers with associated pain and swelling. Pain is reproduced on muscle contraction. Strength is reduced and movement is limited by pain. Grade III strain is a complete tear of the muscle. This seen most frequently at the musculotendinous junction.

Management of muscle strains requires first aid to minimize bleeding, swelling and inflammation. Subsequent treatment promotes efficient scar formation through the use of strengthening exercises, electrotherapeutic modalities, soft tissue therapy and stretching.

## Research Method

The objectives of this research are to obtain information the relationship of psychological factors with sport injuries at body contact athletes of DKI Jakarta . This study was conducted at DKI Jakarta Province by using survey method. The number of 30 athletes as a sample is selected of purposive random sampling.

## Result

**Table 1. Data Description**





Variable	Psychological (X)	Sport injuries (Y)
Lowest value	183	60
Highest value	270	100
Average	240,06	86,66
Std deviation	21,01	13,21

**Table 2. Frequent Distribution of Psychological Factors (X)**

No	Interval Class	Median	Absolut Frequent	Relatif Frekuensi
1	183 – 198	190,5	2	7%
2	199 – 214	206,5	0	0%
3	215 – 230	222,5	9	30%
4	231 – 246	238,5	8	27%
5	247 - 262	254,5	6	20%
6	267 – 282	274,5	5	17%
Total			30	100%

**Table 3. Frequent Distribution of Sport Injuries**

No	Interval Class	Mean	Absolut Frequent	Relatif Frequent
1	60 – 67	3,5	2	7%
2	68 – 75	1,5	5	17%
3	76 – 83	9,5	5	17%
4	84 – 91	7,5	7	23%
5	92 – 99	5,5	0	0%
6	100 – 107	03,5	11	37%





	Total	30	100%
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**Hypothesis**

Relationship of psychological factors with sport injuries at body contact athletes of DKI with regression  $y = 2.662,67 - 0,26X$ . There is increase value of X (Psychological factors) will decrease value of Y (Sport injuries) and contrarily there is decrease value of X will increase value of Y.

Relationship degree of Psychological Factors (X) with Sport injuries (Y) showed by value correlation coefficient as  $r_{xy} = -0,607$ , to know degree significance of correlation coefficient used T test with error degree 0,05 ( $\alpha = 0,05$ ).

**Table 4. Correlation Coefficient test X and Y**

Correlation Coefficient	Determinant Coefficient	T <sub>value</sub>	t <sub>tablel</sub>
- 0,607	0,368	4,04	2,042

Correlation Coefficient test X and Y find  $t_{value} = 4,04$  more than  $t_{table} = 2,042$ . Meaning correlation coefficient  $r_{xy} = - 0,607$  is significance. And therefore there is a negative relationship of psychological factors with sport injuries at body contact athletes of DKI. Coefficient of determinant ( $r^2$ ) is 0,368 or 36,8 %, with thus contribution of variable X (Psychological factors) to variable Y (Sport injuries) is 36,8 %, rested be influenced by another factors.

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# IMPACTS OF VIOLENCE IN PHYSICAL EDUCATION LEARNING AGAINST CHILDREN DEVELOPMENT

(A qualitative-descriptive study)

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## Abstract

*The objective of this qualitative-descriptive study was to find out and examine the incidences of violence experienced by children as the victims of violence committed by physical education learning in Yogyakarta. Violence against children in the learning of physical education in Yogyakarta is related by the lack of knowledge about violence factors that can impact on a child's development, so far only understand physical violence, which has a direct impact on the child, in addition to physical violence but also can have an impact on child development.*

*The methods used in collecting data were in-depth interview, for ten violence victims committed, and recording, using tape recorder. This study was also equipped with observation guidelines used by the researchers when carrying out direct observations on the activities of subjects. The collection of data was started from Agustus 2013 to September 2013.*

*Result of research indicate that a lot of violence type, both for in the form of physical violence, psychological, economics and social. Violence perpetrator are teachers, school employees, and school friends also. Boy and also daughter also become the violence victim. Affect the natural by violence of child in the form of physical hurt even handicap, traumatic, losing time of school which is all the very pursuing of child growth. Therefore very psychological adjacent needed and also involvement of all party to comprehend the children right to obtain; get the protection from various act of violence.*

**Keywords :** *violence, child abuse, children development, violence impacts*

## Introduction

Child maltreatment ( child abuse ) , one of which is violence against children has long been going on and has attracted the attention of researchers to examine and study it in a variety of studies . According to Speight (2006 ) , child maltreatment is a very broad concept that can be defined as " something that impede or inhibit optimal development of children " . One form of child maltreatment is occurring in school , at a

place that children should be protected from all forms of threats and uncertainties and preferably within a period of growth and development. Children who should receive care , protection and affection in school instead of getting the wrong treatment both physically , psychologically and socially. School violence can occur in many forms , both physical , psychological , social , economic and sexual . Various cases of violence often encountered in everyday life , even without realizing it also occurs in the





home or family . In fact , it happens more intense forms of violence and child maltreatment .

Some research indicates that as a result of the psychological aspects of violence can affect children , compared to children in the age in subsequent years . Impact or result of abuse suffered by children not only directly at the time of the events took place such as physical injuries , but for a long time will appear disturbances both in terms of perception , attention and cognition as well as affect the emotional development and healthy social relationships with others. Especially for emotional development , children who are at risk of abuse gets more difficult to complete the development tasks than children his age who did not receive any treatment . Swick & Freeman , (2004 ) further argues that childhood is the most important time to pay attention to the caring and love in life . Of various forms of violence experienced by children , psychological and cultural violence is violence that is not visible with the naked eye (intangible ) , but the effect on a child's development . Psychological violence by Ni Carthy ( in Wirawan , 1999) is mentioned as violence committed but not permanently bind to harass someone and thus affect the peace of one's feelings . Discomfort in the form of worries , fears , irritability , annoyance or anger ( Sumiarni , 2003) .

The results Speight (2006 ) showed that the number of possible long-term effects due to emotional abuse and neglect of children are : learning outcomes below

average , growth disorders , anxiety , personality disorders , psychopath , sociopath : marital difficulties , drug and alcohol abuse , crime and perpetrators of violence in the next generation . As far as the facts and the data that has been presented , children who experience violence have not been considered as a problem of development of the child who gets the attention of parents , teachers or the competent authorities .

This phenomenon is of interest to the authors to examine in depth through qualitative descriptive study , to obtain data and information on " How Impact of Violence Against Physical Education Learning Child Development " ?

## **Violence Against Children**

According to the World Health Organization ( WHO ) , 1999 violence is the use of physical force and authority , threats or acts of self , individual or group of people or a society causing or likely to cause bruising or injury , death , psychological harm , or developmental abnormalities deprivation .

According to Toth et al., (1996 ) , Child abuse is a form of action violence, harassment , molestation and abuse can cause psychological trauma . According Fantuzoo and Mohr (1999 ) , understanding child abuse differ between researchers and observers of children . But basically limited only as a witness or observe violence . In the last five years more evolved in the direction of how children experience violence





themselves . Clinicians provide understanding of violence against children is as attack patterns and behaviors force including physical assault , sexual , and psychological as well as economic .

The results Djannah , et al . , (2003 ) revealed that there are forms of family violence in five categories: physical, psychological , economic , sexual and social . First , the form of physical violence -beating , kick , bump , slap that caused injury or bruise , even once resulted in strangling the victim unconscious . Second , psychological or emotional abuse such as insults , yelling , verbal abuse or harassment . Third , sexual assault is asked to serve as forced child ( sex ) or sodomized and murdered his victims . Fourth , the economic violence that children are forced to work with master trend earnings and do not feed the child . Fifth , social violence which limit the victim's social relationships , either with the family or with neighbors .

According Kalibonso (2002 ) form of violence experienced by children is not different from the violence in adults consists of :

- a. Physical violence ( Physical Abuse ) is any action that causes pain , injury , injury or disability on a person's body , and or cause a person's death , such as a slap , punch , penjabakan , roughly pushing , trampling , kicking , strangling , throws with hard object , torture using sharp objects such as knives , scissors , iron and burning .
- b. Psychological violence is any act or utterance that resulted in the loss of confidence , loss of the ability to act ,

and a sense of helplessness and fear in children . This may be as insulting and degrading self-esteem , threatened with words will be killed and others.

- c. Sexual Violence ( Sexual Abuse ) is any conduct involving sexual harassment ( sexual harassment ) and forcing children to have sex without the consent of the victim .
- d. Economic violence is the tendency of children are forced to work with master income children , and do not feed or abandon family members .
- e. Social violence is to limit the victim's social relationships , both with the exterior, interior and RGA or with neighbors and peers .

4 Impact of Violence on Child Development Mentally , the violence will lead to a generation of children who are weak, such as aggressive , apathetic , irritable, depressed , and others . Impact is even further extend the cycle of violence . Children who experience violence , will now likely be perpetrators of violence against others.

## Child Development

Children are the future growth and development of children who experienced early in life which is full of dynamics , because of the growth process experienced many changes both in terms of physical , mental , intellectual , social and moral . Referring to the opinions expressed by Kartono (1995 ) , is a childhood is a period of elementary school children aged 6-12 years and is also called intellectual period . During the school age children in a time of very rapid development of the child because the schools





as a new social environment , the wider influence children as individual beings and social beings .

At school age , children living with the attitude that " firm , objective and empirical ' . So-called because of their intellectual period intellect and reason ( ratio , think ) the more prominent . Children more interested in the world around and more stimulated by external stimuli . Children learn to be a ' small realist ' , who were eager to learn and " master the world objectively " . At this time , children are always asking , asking for guidance , teaching demands and desire to enter public education and outside the family .

According to the theory of Kron in Kartono (1995 ) , there are four periods in the development of child observation functions are:

- a. Synthesis - fantastic period ( 7-8 years ) , meaning that the child observation is the general impression of its being still vague . In this period, children love fairy tales , legends and fantasy stories .
- b. Naive realism period ( 8-10 years ) , meaning that the child is able to distinguish sections / parts but not mampumenguhungkan one another in a relationship totality . Fantasy element has been replaced with concrete observations .
- c. Critical realism period ( 10-12 years ) , meaning that the child had to be realistic observation and critical . Children are able to make logical synthesis , because of the emergence of understanding , and sense wawsan already reached the level of maturity .

- d. Subjective period ( 12-14 years ) means that the element of emotion or feeling comes back , and a very strong influence on all his observations child assessment .

From the description it can be argued that the interests of children at the time of school age are very devoted to everything that moves dynamically , so that the activity of a variety of very interesting child . The more activity the child will be more useful for the development of his personality . Memory in children 8-12 years of age , reaching an enormous intensity and the most powerful . Rote memorization power and be able to load the material in the amount of memory the most .

Characteristics are often not understood by all teachers . Activity of children is often interpreted as something troublesome teachers , even regarded as a stubborn nature , stubborn , disobedient , and against negativistis . These conditions also affect the emotional stability of the parents and or guardians , so that can happen is a child too given what was asked ( over protective ) or otherwise treated with violence such as being hit , pinched , and shouted threats that make the child live with the constant fear , even ignored ( neglected ) .

Children who are victims of violence will experience a variety of obstacles in a developmentally normal or reasonable . One of them is the development of emotional barriers by Hurlock (1980 ) , referred to as





emotional neglect or emotional hunger . Further consequence is a very influential cognitive developmental delays due to a period intellectuals , where memorization is very strong kid and a memory capable of storing material at most. Children who experience violence at school , whether physical, psychological or sexual abuse will cause the child will grow into a psychopathological have here an indication of the high , the personal is always going to be overshadowed by feelings of insecurity , anxiety and a feeling of worthlessness , so it can being personally aloof and sometimes lead to ganagguan behavior and depression . ( Toth , et al . , 1996 ) .

## Research Methods

This study examines the Impact of Violence on Learning Physical Education to the Development of the child . The study was designed through a qualitative approach eskriptif . Based on the opinions hitney ( in Alwasiah , 2002) is a descriptive method of fact-finding by the right interpretation . Descriptive research studying the problems in society , as well as the procedures that apply in the community as well as the particular circumstances , including the relationship , activities , attitudes , outlooks , as well as the processes and the ongoing effects of a phenomenon .

With descriptive methods also investigated the position ( status ) phenomena or factors and the relationship between a single factor with the other factors

. Descriptive study of the qualitative approach according to Neuman (2003 ) aims to :

- 1 . Presents a detailed and thorough description of a portrait of life
- 2 . Placing of new data which may differ from previous data
- 3 . Creating a series of categories and classify the types of data obtained
- 4 . Clarify the small parts of the steps or stages of a process
- 5 . Documenting a causal process or mechanism
- 6 . Reported background or context of the situation .

Methods to be used in the data collection in this study there are several kinds , arguing that the impact of the problem of violence against the child's development is a complex issue . In addition , using multiple methods , researchers are expected to obtain the data and information more fully and deeply .

Data collection methods used are :

- 1 .In-depth interviews ( Indepth - interview)
- 2 . observation
- 3 . Recording with a tape - recorder
- 4 . photography
- 5 . Check list ( Chek Lists )

## Results and Discussion

Of subjects , forms of violence experienced can be said to be outside the bounds of reasonableness and can be categorized as a criminal act . In detail as follows :





## 1. Treatment of Violence against Children Physical Aspects

- a. hit .
- b. scolded
- c. has hair pulled
- d. slapped
- e. retractable , retractable clothes
- f. beaten with a broom stick and a broom fibers
- g. with a hard object thrown

## 2. Violence against Children Treatment of Psychological Aspects

- a. Ridiculed
- b. be insulted
- c. yelled
- d. reviled
- e. be cowed
- f. comparisons with other children .
- g. ridiculed as stupid children , deaf ears
- h. derided as the poor , do not have anything at

## 3 . Treatment of Violence against Children Social Aspects

- a. banned from playing with his friends
- b. there is no time to play

4 .Perpetrators of violence against children  
Perpetrators of violence is the act provides instructional physical education teacher at the school , and a school employee or a friend who went to school with the child . Performers usually have a position as the most closest , trusted and have social relationships with children . According to Farmer , et al.,(2003 ) , threatening and yelling child is also a child abuse verbally spoken form of name calling or calling as the name of an animal and tell her or disliked or child who desired his death so humbling self-esteem .

## 5 . Impact of violence against children

In accordance with the results of the study , the effects of child abuse can be categorized as follows :

- a. Physical effects that children experience physical injuries
- b. The psychological impact of children who are victims of violence experienced excessive fear of the teacher , feel sad why not loved like the other children , experiencing sleep disturbances such as nightmares and delirium .
- c. Social Impact of children who are victims of violence should not be playing with peers , children time to grow and develop naturally with age children become ever enjoyed .
- d. Impact on the intellectual development of the child can not be admitted at the concentrations studied in school , get good grades and do not worry not going to the next grade .

The impact of the violence that has been described is shown that the child did not seek because powerless to interact normally with other children . This development is also unstable , making them also have problems in relationships . Will eventually lead to deterioration of academic and overall development of resistance .

Based on observations of the behavior of the subject during the interview can be argued that the impact of the abuse suffered by children affect several aspects of children's behavior in terms of : the fear continues, moody , anxious , difficult to express the desire / feeling , easy to feel pain / pain , feel different from other people , difficult child care for anyone else , children tend to be aggressive / unruly , children have





no hopes / ideals , children are often given the violent incident that happened to him , feeling unloved parents rarely get along with other children , difficulty concentrating , difficult to eat , easy sad because little things , avoid talking about violent events , and it's hard to forget the incident of violence experienced .

Long-term effects of child abuse include symptoms post traumatic stress disorder ( PTSD ), such as emotional disorders , sleep disorders , nightmares and recall events that suppress , mistrust of adults and excessive fear . Further impact is anti- social behavior , suicidal behavior , low self esteem , anxiety and depression . Some children who become research subjects fled from the house because it does not hold up with the abuse suffered . Mentally , the violence will lead to a generation of children who are weak, such as aggressive , apathetic , irritable, and depressed .

## Conclusions and Recommendations

From the results of research and discussion on the impact of parental violence on child development can be stated the following conclusion : Based on the results of the study , the effects experienced by children vary widely ranging from minor injuries to severe physical injuries , mental disorders and disturbances in social interaction children .

Violence against children in any kind and form , can not be tolerated on the grounds that the teacher has the right to

educate children beating on the grounds . If violence has occurred , it will usually recur in children because ketidaktahuan and helplessness . Child remained in a state filled with violence . Directly or indirectly interfere with the normal development of the child .

Results of this study demonstrate that some children experience decreased academic achievement . Some children recognize that they have difficulties in learning as well as for the concentration to follow the lessons in school . It can be concluded that abuse in the form of child abuse would be a cycle of violence that can occur if the subject of future research into adults.

From the conclusion of the study that has been stated above , some suggestions can be submitted as follows :

1. For children who are victims of violence should receive adequate protection from acts of violence committed in the school . In accordance with the results of the study , the effects of violence on child development proven to exhibit disruptive influence growth and development of physical , mental and social development.
2. For teachers, Although formal legally give full rights to education and child care , but that does not mean Guu can perform arbitrary actions against their students . Every teacher should already know and apply the dictum that exist in the legislation in force , that the teachers who commit acts of violence or maltreatment of the students could be penalized in





accordance with Law No. 23 of 2002 on Child Protection .

3. For the government, Government as the authorities , especially the police , the National Commission for Child Protection , Social Services , Department of Education and Religious Affairs, should be proactive and intensive socialization by means of each of the laws and regulations that have been established .

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# THE 3<sup>rd</sup> INTERNATIONAL SEMINAR ON PE, SPORT & HEALTH 2013



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## SPORT AS AN EFFORT OF BUILDING CHILDREN CHARACTER

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### Abstract

*Sport activities have always been played an important role for children and adult both socially as well as culturally. People play sport for different kinds of reasons including healthiness, vigorous, stress management, socialization, relaxation etc. One of other importance reason is building character. In other words, "sport builds character". Building character contribute an importance part in building nation civilization since parents along with teachers can help developing children sportive and passion. Sport may not only effective in maintaining healthiness, particularly when it is performed and taught properly, but also in building a fine character for children. Passion and sportiveness will bond children. Thus, parents, teachers and coaches role is required in this sport activity. Furthermore, sport also means a competition. Teachers as well as parents should understand the meaning of competition appropriately. Therefore, both of them will be able to teach their children properly of how to behave and what to do in competition.*

**Keywords :** Sport, Character and Children

### INTRODUCTION

As we all know that sport activities live in the most exclusive position of our community's heart. Sport has always been taken an important part in any level society including children, teenagers and adults, both socially and culturally. By doing sport people not only may able to maintain vigorous and health, but also may able to control stress management, to get interact with others, to have relaxation etc. One of other important reason is character development. In other words, "sport builds character". Many evidences prove that sport keeps our body fit and healthy, furthermore sport will also shape a fine character for children when it is performed and taught properly. Passion and sportiveness will bond children and eventually will become one of their characters.

Based on these descriptions above, then how exercise is one of several efforts to build a child's character ?

### DISCUSSION

Though sport can be determined as a tool to build child's character however it can be accomplished without parents, teachers and coaches enrollment. Sport is also synonymous with competition. A teacher, parents should be able to interpret the meaning of true competition.

Education in Indonesia seems immature character to pursue education as a cultural performance and religious in public life. Habit of critical thinking through the logic of a strong grounding in every argument has not become a habit. Teachers only teach what should be memorized. They make the students become " parrot " that in every exam just repeating what teachers do . Foerster





initiated character education does not remove the importance of the role and relevance of the experimental methodology pedagogy Rousseau naturalist who noticed spontaneity in children's education. Human character education through entrust himself to the world value. The value is the driving force of historical change. The ability to self-actualize and ethical values essential are characteristics of humans.

Child is determined as a student of 6 – 12 years old. At this time the child entered a period of learning in and outside school. Children learn in and out school environment. Children learn from society through practicing sport as well that capable to support their learning outcomes in schools. Many aspects of behavior established through verbal reinforcement, exemplary, identification and sports . Children in this age undergo developmental task, for instance : learning physical skills to regular games, including sports ; forming healthy attitudes about themselves as well as learning to get along.

### **Hints For Parents and teachers**

If exercise or sport activities that are considered penting for the life of all people , including children and adolescents . In addition to the reasons for fitness, health, and recreation. It is often said that sport can be used as a instrument for children and adolescents is to build character. The word "Sportif" is often associated with the character of leadership, for example, recognizes excellence opponent, accept

defeat, no cheating, and so on. But many argue that sports activities are deemed to be able to kill the character. For example, it is often reported some violence / fighting related deng sporting events, cheating players / referees, use of illegal drugs (doping, and other un-respected behaviors which commonly be done by athletes.

Sports activities that do not have a clear vision and mission can also be a vehicle to undermine teenage characters. For example, the purpose of sport is only intended to be a champion, so segala way can be used to achieve the goal . As dikatan by Thomas Lickona that youth sport activities can negatively because of the " winning oriented " this. Things like this can increase the level of aggression or anger if lost, regret, stress or burden for adolescents, excessive expectations, dishonest behavior, and even attacks on opponents. Besides it according to Kohn (1986), sports can foster a culture of unfair competition. In Indonesia often we see conflict among communities which caused by sports activities. Whether exercise can shape the character? Indeed, the sport itself can not form the character, but through sport we can add a positive character in the students. So, whether positive character can be formed through sports ? certainly can. This however did not materialize So also alone. There should be awareness and a strong commitment from the teachers, coaches and parents to realize. Positive character formation should be the goal of the sport or the sport itself. The following characters can





be accomplished through sport, and some

negative traits that can be avoided.

Potential characters that can be encouraged	Negative attitudes that can be avoided
<ul style="list-style-type: none"> <li>▪ Physical strength</li> <li>▪ Confidence</li> <li>▪ Team Work</li> <li>▪ Dedication</li> <li>▪ Honesty</li> <li>▪ Discipline</li> <li>▪ Mental Toughness</li> </ul>	<ul style="list-style-type: none"> <li>▪ Selfish</li> <li>▪ Unfair competition</li> <li>▪ Underestimate People</li> <li>▪ Cheating</li> <li>▪ Aggressive</li> <li>▪ Can not accept defeat</li> <li>▪ Arrogance</li> </ul>

**An example of the teacher / coach with character**

Course for sporting purposes to form the character of students can be realized , teachers or coaches should be role models first. If the students get a coach who truly respected and pleases, it will add character to younger students learning conditions. After elaborating variable learning methods , although very common , now is the time to describe, ie variables that affect the use of variable method. Therefore, our concern is to prescribe methods of learning . Therefore, our concern is to prescribe methods of learning , then variael conditions that must interact with less methods, and also beyond the control of the learning designer. The most important purpose of this discussion , learning conditions ykani identify variables that have a major influence on the three variables methods that have been described above. On this basis, Reigeluth and Merrill (1077) classify learning conditions variable into 3 groups :

1. Objectives and characteristics of the field study.

Learning objectives is a statement about what learning outcomes are expected. This goal can be very general, very specific or continuous anywhere in particular.

2. Constraints and characteristics of the field study.

Character fields of study are aspects that can sauatu bidang study membrikan useful grounding in mempresipsikan pembaelajaran strategy . Constraint is the limited resources, such as time , media , personnel and money

3. Characteristics of student.

Student characteristics are aspects / quality of individual students as talent, motivation and learning outcomes that have been owned.

Objectives and characteristics of this field of study usually have hypothesized main peparuh on election strategy, pengorganisaian learning constraint (and





characteristic areas of study) on the selection and delivery strategies on student characteristics election management strategies However, at some level perhaps seklai a variable condition affects every

variable methods (eg , student characteristics can influence the selection strategies and delivery organization strategies), in addition of the main influence on learning management strategies.

Objectives and characteristics of the field study	Constraints and characteristics of the field study	Characteristics of the student
<ul style="list-style-type: none"> <li>• Organization and education strategy</li> <li>• Macro strategy</li> <li>• Micro Strategy</li> </ul>	Education delivery strategy	Education management strategy
Effectiveness, Efficiency and Appeal		

Figure 1. Taxonomy of Variable Teaching

### Learning Outcomes

Variables such as methods and learning conditions, learning outcome variables can also be classified in the same way. At a very general level once, learning outcomes can be classified into the following 3, namely :

#### 1. Effectiveness

Learning effectiveness is usually measured by the achievement of learning tingfkat. There are four aspects pentingyang memperskripsikan can be used for learning effectiveness, namely (1) the precision control of a learned behavior or often called the " error rate ", 2 ) speed performance , 3 ) tingkat over learning, and 4) the level of references of what is learned.

#### 2. Efficiency

Learning efficiency is usually measured by the ratio antara effectiveness and the amount of time spent studying and total cost of learning used.

#### 3. Appeal

The appeal of learning is usually measured by observing the tendency of students to keep learning. The appeal of learning intimately relation to the attraction field of study, which will affect the quality of learning is usually both. That is why, measuring the tendency of students to continue or not continue to learn can be attributed to the learning process itself or the field of study.





Classification variables have been described as a whole learning, as addressed in the above diagram. The correlation between these variabel in the development of lesson plans will look pad application of instructional design.

## CONCLUSION

With learning management strategy that takes into account the future development of sport and with children through sports activities we can instill positive character traits, such as physical toughness, self-confidence, team work, dedication, honesty, discipline, and hard work. Sports and the character requires awareness and a strong commitment from parents, teachers / coaches.

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## THE IMPLEMENTATION OF ARCS EXERCISE MODEL TO INCREASE EXERCISE MOTIVATION OF JOGJAKARTA ARCHERY PUSLATDA ATHLETES

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### Abstract

*The main goal of this research is to create exercise process design which is then used to increase and to repair (improvement and therapy) exercise motivation problems of national sport athletes in province. The research uses the design of sport action research which is improved from class action research by Kemmis and Mc. Taggart (1998). There are 3 cycles for observed and each cycle consists of 4 surveys and 4 activities: planning, action, observation, and reflection. There are 12 ARCS model actions for coaches and archery athletes. The subject of research is an archery coach who implements ARCS exercise model, and the object of research are 18 archery athletes of puslatda PON XVIII with that model. The instruments of research are athlete observation sheet, coach, and questioner before and after use the ARCS exercise model. Based on the analysis and data interpretation and also the general discussion, it is concluded that ARCS exercise model can increase exercise motivation of athletes in DIY. The indicator of this increasing could be seen from the changes of athletes' behavior in aspects: attention, enthusiasm, concentration, and discipline. The score of final test in archery is also increase. In cycle I, there are still cannot be seen some ARCS components in exercise like relevance, confidence and satisfaction. In cycle II, two ARCS components which are not show up are attention and confidence. In cycle III, all ARCS components implemented by coach. Therefore all ARCS components have been implemented by coach and it could change athletes' behavior so they have more attention, more passion, more concentration, and more discipline.*

**Key Words:** Implementation, ARCS exercise model, motivation, archery athlete.

### INTRODUCTION

Sports as strength development is closely related to the formation of the whole person productive, competitive, and have a competitive advantage, is expected to contribute to the achievement of peak performance in sports nationally and internationally. Success or decline of sporting achievement in a country can not be separated from the role of coaching achievements in the area / province. With regard to the attention of the coaching sports

achievements should be directed to the pockets of regional development. Weak resource athletes, coaches, facilities, and systems training faced by the current provincial government must be overcome by making systematic planning, regular, with clear parameters.

It is undeniable that the mastery of science and technology (Science and Technology) was instrumental in the advancement of the sport. The role of science and technology in improving the





athlete's performance is believed to be able to overcome the adversity of national sporting achievements. It is listed in Article 20, paragraph 3, Article 27, paragraph 3 and Article 74 Section 1,2,3,4,5 Sistem Keolahragaan Nasional Act 3 of 2005. Indonesia's sports achievements in the event the SEA Games, Asian Games, Olympic Games over the years have ups and downs. However, the condition of national sports achievement is accelerating slower than other countries such as China, Japan, Korea, and even Thailand, so the condition of sports in Indonesia, particularly sports coaching achievements are still far from what we expect ( Muthohir , 2004: 47 - 48 ). If it is not immediate professional efforts in handling, the Indonesian sporting achievements will be far behind the sporting achievements in other countries. Efforts to improve performance in sports need to be implemented in order to compete with other countries. The Government has outlined that in order to build or having an outstanding athlete takes a long-term development that require a treatment in a systematic, purposeful, planned and carried out consistently and at an early age. At least it is starting to look a little on the achievements of Indonesia to become the overall champion for the 26th SEA Games in Jakarta and Palembang.

Special Region of Yogyakarta (DIY) in 2009-2012 has set a 5 (five) national sport featured in the developed regions in the level of achievement in Asia. Fifth, among other

sports; Archery, Beach Volleyball, Cycling, Tae Kwon Do, and Wushu.

DIY for fifth makes the sport as a sport has been proven superior than his achievement is also due to the availability of the carrying capacity of the human resources, the support of educational institutions that provide facilities and infrastructure, which is regularly held event match, and geographical location support. Besides the PPLP and PPLM some sports that are managed by the Department of Education and Sport DIY, stub classes in junior high and high school sports to give the feel of a healthy competitive for national flagship sports coaching achievements in the area. In fact, there are concerns with the amount of carrying capacity that has not been functioning optimally. The indicator is the emergence of coordination problems between the board, the less optimal training, lack of motivation from coaches to athletes, less than optimal performance of athletes during training, the low quality of the implementation of exercise programs, and a lack of process and outcome evaluation tool training.

Based on preliminary studies that the researchers did on 3 to 10 April 2011 through field observations and interviews with leading sports coaches nationwide in DIY, it is known that the problem of motivation in the following practice Puslatda PON XVIII is a serious problem faced by the coach on the field. Archery coach who is one of the leading national sport, athletes reveal about the motivation to practice is still low. Proven







achievement but even during the training process is not carried out in accordance with the values of discipline and seriousness. Facts on the ground indicate there is still the athlete came late, less serious, and tend to be lazy at practice. This situation is also carried in the daily lifestyle of the hedonistic athletes.

The results McClelland (1997) showed that people who excel (managed with superior predicate) has profiles/characteristics, among others: (1) In general avoid achievement goals are easy and difficult, they actually prefer a moderate goals that they think will can be realized or achieved, (2) More like immediate feedback and can be relied on how they perform, (3) liked responsibility in solving the problem. In education, the results of research among students McClelland proved that achievement motivation contributes up to 64% on student achievement. Results for archery team try out the DIY contingent on some event before the execution of PON, as in Popnas X in 2011 that most of his athletes prepared for PON 2012, failed to meet the target of the gold medal. Recognized by trainers that defeat the DIY contingent fault of athletes is related to the factor of experience playing and competing athletes mentally weak.

The results of Hadinata (in Adisasmito, 2007) states that (1) the general Indonesian athletes have less confidence in the ability, (2) lack strong motivation to become champion, (3) fear losing and tense, (4) fear not can play well, (5) lack the

motivation to become champion in the exercise so that it looks less vibrant and less discipline, and (6) a lot of athletes who are satisfied have become part of the national team or feel the ultimate goal has been reached. Based on the opinion of the above can be said that the lack of self-confidence (self-efficacy) on the ability and achievement motivation to be the main cause of decreased performance athletes. Many efforts are directed to improve the motivation of athletes with the aim that the athlete can be motivated to excel. Currently the impact of motivators are still yet to be seen or felt. This may also be due to the formulation itself is less clear motivation for some people. Many people assume that by raising morale alone is enough to raise achievement motivation, but not enough.

In this regard, the findings with respect to some of the problems faced by the coach on the field, this research will try to apply a training model called the ARCS model of training in the national flagship sports in the area. ARCS model (Attention, Relevance, Confidence, Satisfaction), developed by Keller and Kopp (1987: 2-9) as the answer to the question how to design a training process that can influence motivation to practice and achievement. "The ARCS Model focuses on the conditions Necessary to be sustained to keep the learner interested in the topic" (Fernandez, 1999). Therefore, this research is very important to provide empirical findings in the form of an increase or improvement (improvement and Therapy)





on the performance of athletes during training or the training process especially in a sport Archery is one of the national sports featured in DIY.

## METHODS

This study uses action research design exercise developed from classroom action research by Kemmis and Mc. Taggart (1998). Implementation is planned as much as 3 cycles, each cycle consisting of 4 times face to face. Each cycle consists of four activities, namely: Planning; action; observation, and reflection. This is a research subject is 1 archery coach as the coach who apply ARCS training model, and the object of study is 18 male and female athletes archery Puslatda PON XVIII are subject to the training model.

## RESULT

Observations on the implementation of archery exercises that took place in three cycles with 12 meetings referred to above shows that the model is applied to the ARCS training materials archery training can improve attention, spirit, concentration, and discipline. Measurements with a Likert scale questionnaire done to all the athletes who were 18 people concerned about their attitudes in archery training process before being given the ARCS model of training and after the training given ARCS models. The tenth item questionnaire revealed the following matters : (1) I gained the confidence to follow the archery range, (2) I am interested in following the archery range, (3) I am satisfied in the following archery range, (4

) I get clear goals and objectives in practice archery ; (5) I was given feedback on the work done, (6) I was assessed by objective and fair in during the archery range, (7) I was given the opportunity to evaluate the exercise friends, (8) I was given the opportunity to evaluate their own, (9) I discovered the benefits of practicing archery for athletes of life for both present and future, (10) I believe archery is a branch that could contribute medals in the 2012 PON Riau.

Based on the calculation above shows that there is a difference in attitude or response to exercise archery athletes before and after exercise were given ARCS models. The difference is very significant because the  $t_{count} = 9648$  is greater than  $t_{table} = 2.110$  at the 0.05 significance level. This result implies that the attitude or response of the better athletes on the archery range, after being given the ARCS model of practice. Meaning they gain the confidence to follow the practice of archery; those interested in following the archery range, they are satisfied in the following archery range, they get a clear goals and targets in archery practice, they were given feedback on the work done; their assessed by objective and fair in during the archery range; their friends were given the opportunity to evaluate the training, they were given the opportunity to evaluate their own, they find the benefits of practicing archery for athletes of life for both present and future, and they believe that archery is a branch could contribute medals in PON Riau 2012.





Further data analysis to compare the response of athletes are categorized as good, fairly good, poor, or both before and after the archery range with ARCS model of

training, the athlete respondent data were analyzed with SPSS 19 series and obtained the results as shown below:

**Table 1.** Criteria categorization of athlete answers

Skor Mean Ideal	Skor Maks Ideal	Skor Rata-rata	SD Ideal	Rentang Skor	Klasifikasi
10	40	25	7.5	33 - 40	Baik
				25 - 32	Cukup Baik
				17 - 24	Kurang Baik
				10 - 16	Tidak Baik

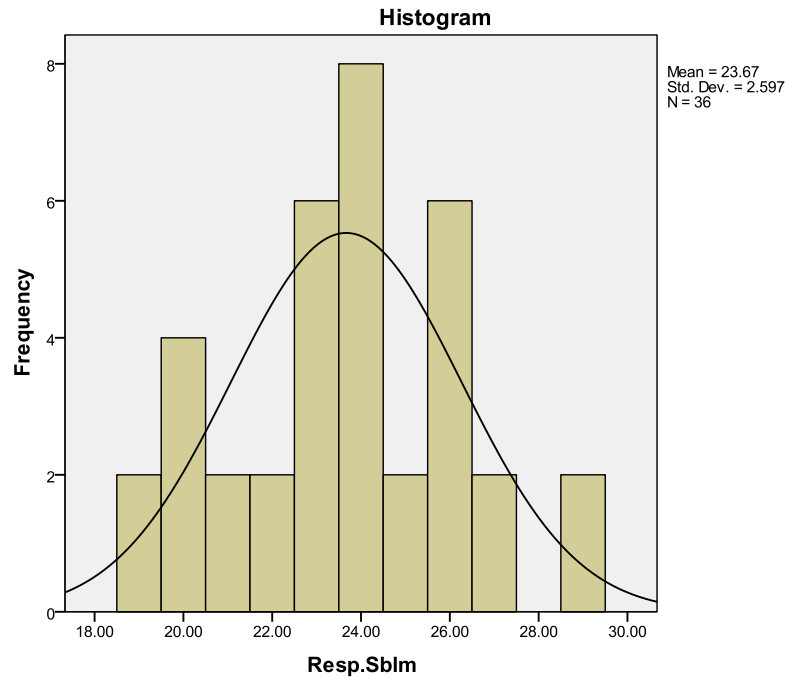
**Table 2.** Results of the analysis of the attitude / response to exercise archery athletes before and after exercise ARCS model

Sikap/Respon Atlet Terhadap Latihan Panahan	Frekuensi Jawaban Responden	Persentase ( % )
Sebelum menggunakan model ARCS :		
Kurang Baik	8	44.3
Cukup Baik	10	55.4
Sesudah menggunakan model ARCS :		
Cukup Baik	12	67
Baik	6	33

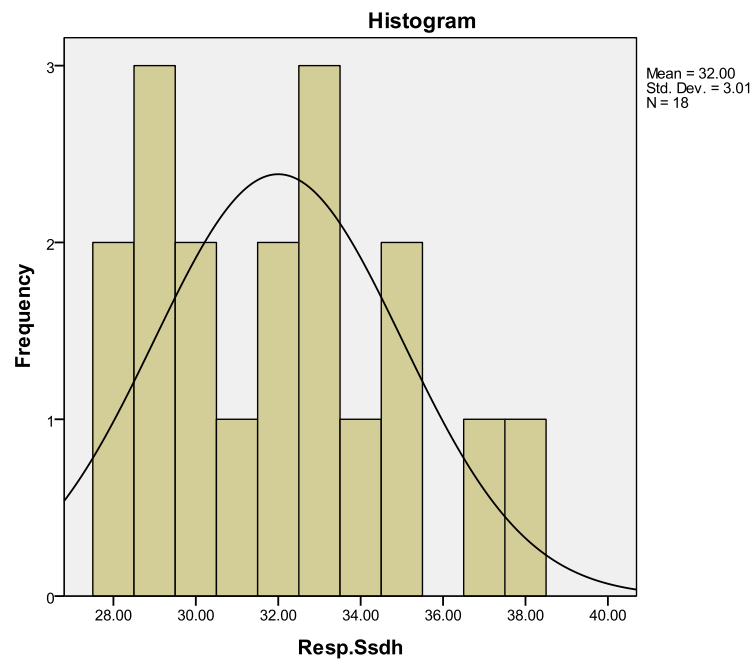
Based on the results of the data analysis showed that the attitude or response of no change in athletes before and after using the ARCS model of training in archery practice. This means that after using the ARCS model of training athletes have a positive attitude or response. Indicator after

exercise ARCS model response is pretty good athlete and a good 67% 33%. While athletes who have a poor response and no one, not good. Graphical comparison of the attitude or response of the athletes listed on the histogram chart below





Picture 1. Histogram athlete response to the archery range before using the ARCS model



Picture 2. Histogram athlete response to the archery range after the ARCS model





## DISCUSSION

Based on the description of the observations and quantitative analysis of activity when training coaches and athletes during training activities during the 12 meetings were classified into 3 cycles showed that the application of the ARCS model of practice archery training process, can increase the motivation of athletes to participate in the exercise. Indicator of increased motivation it can be seen from the changes in the behavior of athletes on aspects of attention, spirit, concentration, and discipline which was higher than before using the ARCS model of practice. The observation is corroborated by the results of a quantitative analysis which shows that there are significant differences in attitude or response to exercise archery athletes before and after exercise were given ARCS models. Better athlete response to the archery range after being given ARCS models. Further data analysis results show the attitude or response of no change in athletes before and after exercise ARCS model in following materials archery range. This means that after using the ARCS model of training athletes have a positive attitude or response to the archery range. Indicator after exercise ARCS model response obtained athletes score good enough category = good = 76.6 % and 34.4 %, while athletes who respond less well and no one, are not good.

The result is in line with the theory of the ARCS model of practice that apply in the process of training a sport, can improve motivation and performance athletes. ARCS model (Attention, Relevance, Confidence, Satisfaction), developed by Keller and Knop (1987: 2-9) as the answer to the question how to design exercises that can influence motivation to practice and perform. "The ARCS Model focuses on the conditions Necessary to be sustained to keep the learner interested in the topic" (Fernandez, 1999). Through collaborative action between lecturers and trainers, ARCS exercise as models that have resulted from this research can be used as a basis for implementing coach credible form of archery training well. This result is also significant as an alternative to overcome the problem of low motivation of athletes training especially archery practice greetings

Success in improving the ARCS model of motivational training athletes at the archery range, can not be separated from the coach seriousness in applying ARCS components in accordance with the provisions that have been agreed. It appears at the time of exercise. Training program as a handle (guidelines) and their coach other materials have been well prepared. Grip exercise program as a coach has been structured such that the exercise program containing ARCS components that include attention, relevance, confidence, satisfaction.





All of it has been applied by the coach to arouse the attention of athletes (assurance), conduct relevant activities (relevance), instilling confidence athlete (confidence), and ownership valued in athletes (satisfaction). Coach has done all of these components with the strategy or training methods used, along with equipment used exercise facilities.

In more concrete practical applications ARCS model of the components in the archery range has been implemented, for example in applying the first component of attention (attention), the coach told me something interesting before practice begins to attract the attention of athletes during training process. At this component tells the story of a successful coach Lance Armstrong, cycling world champion who at first it had testicular cancer. However, due to the determination and God's miracle he managed to recover and succeed as a bike rider. The coach also has to pay attention to the athletes to participate actively in the discussion invites athletes to choose the training materials will be made. At this stage the proposed training athletes focusing, which is one of the mental training exercises to practice concentration. One form of exercise is an exercise focusing watching the clock face. During this exercise, athletes are always controlled to determine the success of the practice of concentration. For athletes who have succeeded in the exercise coupled with a more difficult level is to listen to music, to listen to the news, or by talking with the coach. Implementation of this exercise is that

athletes can gain the attention of the coach by choosing what training is needed to overcome its shortcomings.

On other activities, coaches give attention to a variety of styles to train athletes. At this stage the coach teaches imagery exercise. Exercise imagery (mental imagery) is a form of mental exercise in the form of self imagery and movement in mind. Benefits than exercise imagery, among others, is to learn new movements or repeat; rectify a wrong move or rudimentary; simulation exercise in mind; exercises for the moderate rehabilitation of injured athletes. This imagery exercise is often equated with visualization exercises because the same conduct movement imagery in the mind. However, in the imagery of the athlete not only 'see' the movement itself but also sense of hearing function, touch, smell and taste. To be able to master the imagery exercise, an athlete must be proficient in performing relaxation exercises first. This implementation is intended to be an athlete can solve the given problems related to motivational trainer workout.

In the second component of relevance (relevant), which relate to the life experiences athletes either now or who have owned or related to current career or future, has been applied correctly. Coach suggested objectives that must be achieved before training athletes. At this stage the coach to set goals such as diaphragmatic exercise (zen breathing). Good breathing is a fundamental factor in shaping concentration.





Good breathing is not only a source of relaxation, but it can facilitate the appearance and increase the amount of oxygen in the blood is useful for cleaning the remnants of disposal. One good method of breathing is done for archers zen breathing method. This method emphasizes breathing exercises diaphragmatic breathing method diaphragma is slow and relaxed than the upper chest breathing. Breathing in diaphragma will reduce blood pressure and pulse rate drop that produces anxiety. Another activity, coach gives concrete examples during training came in the form of rehearsal early, helping prepare archery equipment to be used, do apersepsi before exercise, and provide an evaluation after the workout. On one occasion the coach also shot on target. It is intended to motivate athletes and demonstrate the skill being trained.

Coach also convey a message or story about rewards to be gained if the athletes perform in events such as PON, SEA games, Asian Games, or the Olympics. Athletes not only earn the bonus money from the government but it is also possible to obtain a home or a job as a civil servant. In addition to the athletes who can achieve high performance is very likely to obtain rewards of sponsorship or advertising. The achievement will be obtained if the athlete earnest and consistent in training and attending various archery events at the regional and national levels. This expression has been delivered, both before and after exercise.

The third component of confidence (confident), the coach gave a difficult task but it is quite realistic for athletes. In general practice performed archery Puslatda athletes practice archery by practicing archery is the national round of individual events such as the distance of 30 meters, 50 meters, 60 meters and 70 meters. This exercise is done with a horizontal position or standing. In one of the component elements of this attention that can be given is a variety of exercises. Researchers with the coach and athlete representatives held discussions to provide a variety of exercises related to the material that is archery anchor points in a traditional style or seated position. This practice is still focused on the material accuracy of archery. The goal is still the same as the national round of archery practice. The coach also showed video tapes or portrait sportsman who has been successful. However, this activity is carried out directly in conjunction with the implementation of the National Student Sports Week (Popnas) XI in Pekanbaru Riau. Opportunity was used to study the profile athletes who competed. In this activity DIY sending 12 athletes who fell in various numbers.

Trainers also bring someone famous in a field as a speaker. According to the agreement between the researcher and trainer in the third cycle, then are brought senior DIY archery coach, Mr Sukarto quite have the "name" , both in Yogyakarta province and national arena. He is a coach, mentor, and lecturer, and former chairman of





Perpani DIY experience of playing and organization. The coach was introduced to the athletes before the practice begins to then share their experiences as well as motivate the athlete to have a positive attitude and self-confidence. The coach was given a good opportunity to motivate athletes during exercise routine especially when athletes nearing the match.

The fourth component of satisfaction (feeling rewarded), which is related to the feedback given to the athlete or coach instead of athletes to other athletes, also operate correctly. This method has been carried out with the coach paid tribute to athletes if it succeeds in doing certain techniques. Coaches give praise to the athletes if successful in doing certain techniques. This activity is carried out to provide reinforcement for athletes to feel appreciated. Simple sentence phrase used is "good" , "amazing", "great", "nice", "keep ", "excellent" .

## CONCLUSION

Based on the analysis and interpretation of data as well as the general discussion can be concluded that the ARCS model of exercise can increase the motivation of athletes practice archery DIY. Indicator of increased motivation it can be seen from the changes in the behavior of athletes in the following aspects: attention, spirit, concentration, and discipline which was higher than before using the ARCS model of practice. Study the application of the ARCS

model of practice is limited to archery athletes. So that their emergence can be felt more widely researched need to be applied to other sports athletes that have different characteristics both psychological and physical aspects of archery athletes.

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## The Effect of Sport Recreation Activities toward Physical Fitness and Social Attitudes of Urban Society

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*Key words: Sport Recreation, Physical Fitness Profile, Social, Society, Urban.*

### 1. Introduction

#### 1.1. Background of the Problem

Recreation is a human right for every individual, so that recreation became an integral part of life and the life of every individual who grows and develops unceasing. While recreation education is an integral part of the responsibilities of national, state, and society for state officials, executive education, society, and other education stakeholders.

Law No. 3 of 2005 on the national system divides sports Sport on 3 types: (1) Sports, (2) Sports Achievement, (3) Sports Recreation. Why is sport recreation important for society? , because it can be used as a recreational sport lifestyle (life style), can strike a balance between physical and spiritual needs, improve the physical, mental and social. Restoration of balance through sport recreation activities continues to develop into a sport recreation called "Sport for all" / in Europe "trim Actie" whose benefits are physical, mental, and social. According to the WHO healthy is not just freedom from disease, but complete physical, mental, and

social (Panduan Olahraga Rekreasi; 2011; 2).

In sport recreation, there are three categories: (1) mass Sports, (2) a traditional sport, (3) special Sports / rehabilitation. Besides, in the society there are also sports recreation / life style sports (Aerobic Gymnastics and manifold, weight training, spa, massage, fitness).

While the results of the author's observation, especially in the city of Semarang sport recreation conducted at various places in the city of Semarang particularly in the open space like in Simpang Lima, Pemuda Street, Pandanaran, Pahlawan Street (Free Day Care) and sport recreation activities such as: walking, cycling, jogging, gymnastics of healthy heart, aerobics, rollerblading, etc. While in Graha Padma Residence, the activities performed include: gymnastics of healthy heart, walking, jogging, cycling, football, and futsal.

#### 1.2. Statement of the Problems

Based on the description and initial observations, the literature study and previous research results, it can be





formulated some problems that arise with regard to the theme. They are:

1.2.1. Why does Sport Recreation become an urban society's option as a weekends / holidays activity?

1.2.2. What are the forms of sport recreation activities that can be facilitating urban societies for activities on weekend/ holiday?

1.2.3. How is the effect of sport recreation activities for physical fitness condition?

1.2.4. How is the effect of sport recreation activities to the social attitudes of the actors of such activities?

1.3. Objectives of the Research

1.3.1. To identify and assess the sport recreation activities chosen by the urban society as a weekend/holiday activities.

1.3.2. To identify and assess the forms of sport recreation activities which can be facilitating the urban society in weekends / holidays activities.

1.3.3. To assess and inform physical fitness condition of the actors of such activities.

1.3.4. To identify and assess the effect of sport recreation to the social attitudes of the actors of such activities.

1.4. Significance of the Research

The benefits of this research theoretically, is expected to obtain an explanation based on empirical facts about the role of the sport recreation toward fitness condition and social attitudes of the urban society, which is used as a strategy to maintain continuity in culture and sport with its various forms, and is used as a

development issue needs assessment of physical fitness, and social society.

Practically, the results of this research would be useful as an empirical input for FORMI institutions, KEMNEGORA, DIKSPORA, FIK, and stakeholders to work together as a builder and user that is driven sport recreation activities in growing, reflecting the physical aspects (physical fitness ), social values of urban society.

## 2. Review of Related Literature

2.1. Survey results of Aerobic Gymnastics Event

Survey conducted Teachers' Training College FPOK BANDUNG (th 2000) of 1,195 women and 576 men comprising members of society who diligently practicing aerobics and manifold, the results tend to support the validity of socioemotional functioning sport stems on the image improving the health and physical fitness, in addition to the profit of psycho-social nature as increasingly unable to control themselves, cope with stress and focus, getting a good night's sleep, and a growing social relations. (Rusli Lutan, et al: 2000; 7).

2.2 Sport Recreation

Sport recreation is a sport that is done by people with a penchant and ability to grow and develop in accordance with the condition and value of local culture to health, fitness and excitement. Besides, port recreation is to build social relationships between perpetrators and preserve and increase the wealth of the national culture (Paper: 2011; 10).





Sport recreation is one of the sports that are important in order to increase the degree of health and fitness community, but also important in building national unity, peace and harmony, brotherhood and friendship, as well as improve the well-being, resilience and productivity of the people of Indonesia. (Seminar paper FORMI: 2011; 2).

2.3. Socio-Cultural Dimension In Sports

Sports are not growing up in a vacuum, because of the implementation and development based on the value of the community as the reference value. Sport coaching behaviors are influenced by a belief system (belief system) and the value of role models. Sport has the potential to spur social change surrounding communities, as well as through participation in sport socialization process takes place as well. (Rusli Lutan, et al: 2000; 49).

2.4. Social Function of Society Sports

Framework of (Nixson and Stevenson 25 years ago) looking at sport as a social institution that contains the potential to perform several functions, namely: social emotional, socialization function, integrative functions, political functions, and functions of social mobility. Some of these functions can be called a sport instrumental functions that stem from participation in the activity. In addition to the meaning of the instrumental function, also appointed another meaning, for example the meaning of social interaction, symbolic meaning, and the meaning of expressive (Rusli Lutan, et al: 2000; 5), statements themselves are depicted in the following chart:

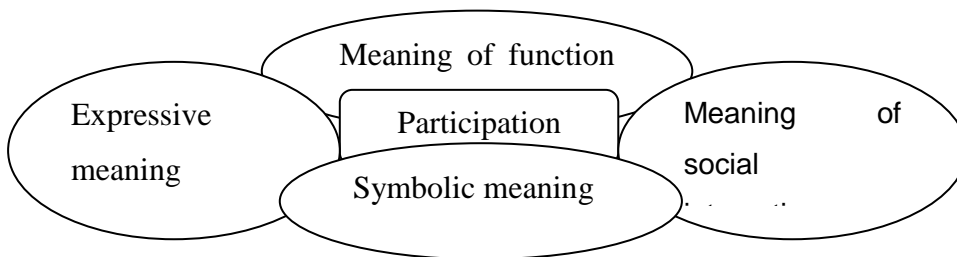


Figure 1: The social significance of sport participation (Rusli Lutan, et al: 2000; 6)

Instrumental function: the function of the socio-emotional needs of individual sports include to maintain the socio-psychological stability includes three mechanisms: (1) a mechanism to manage the tensions and conflicts in individuals through catharsis and aestetis channel, (2) providing an opportunity to evoke feelings in the community , recognized as one of the forms of the ritual to

maintain the existence of cultural and social status, (3) an opportunity to vent their aggressive behavior that is safe and approved, a delay in the emotional reaction cheerfulness success, satisfaction as a member of a group or community, and a rare opportunity to express themselves in collective behavior of sports spectators. (Rusli Lutan, et al: 2000; 6).





## 3. Research Methodology

### 3.1 Subjects of the Research

In this research, the subjects were healthy heart gymnastics group, aerobics groups, cycling groups of urban society urban residents who do recreational sports activity on weekends / public holidays in Graha Padma Residence West Semarang.

### 3.2. Object and Location of the Research

The objects of the research in accordance with the problems that have been raised in the research are (1) why the sport recreation is a choice for the urban society, (2) forms of sport recreation can be facilitating for the urban society in weekends / holidays activities, (3) the impact of activities sport recreation for physical fitness condition, (4) the effect of sport recreation to the social attitudes of the actors of such activities.

The location of the research in accordance with the problems and research objectives was in Graha Padma Residence West Semarang. The location was considered in accordance with the interests of research because: (1) participants of the sport recreation activities are many and varied, ranging from children, adults, the elderly, men and women both individually, or in groups, (2) area / open space large enough and representative has access as a green sports area, (3) the region from conflict-free, safe, convenient for control system security.

### 3.3 Method of Data Collection

Based on the research problems and approaches, the researcher acts as a data

collector (human instrument), with a focused physical examination technique is to test the fitness condition of the offender, observations about the shape of sport recreation participation made by the offender, in-depth interviews activity impact on social attitudes offender and search for documents to administrative records about the data perpetrator.

### 3.4 Data Validation

The validation of the data was through triangulation of data and triangulation informant compare / confirm similar data acquisition on the condition of physical fitness and social attitudes from various sources / actors sport recreation activities: Tera Gymnastics, aerobics, bike groups.

### 3.5 Source of Data

Mostly in the form of data source descriptions are expressed through (1) events: the implementation process of urban recreational sports activities in the area of urban housing complex environment Graha Padma, (2) actors: the members of urban society of sport recreation activities with all forms and manifold is Tera Gymnastics, Seman aerobics, and cycling groups, (3) data sources in the form documents / written information in the form of sport recreation activity implementation.

### 3.6 Steps of Data Analysis

All data / information obtained inductively analyzed using an interactive cycle by Miles and Huberman, and data reduction steps / processes reduces





unnecessary things, simplify, are focus, sort, select and sharpen the data obtained.

## 4. Research Results

### 4.1. Physical Fitness Conditions

4.1.1. Tera Gymnastics group: 20% very poor condition category, 40% less condition category, 40% condition medium category.

4.1.2. Aerobic Gymnastics group: 10% very poor condition category, 20% less condition category, and 70% were category conditions.

4.1.3. Cycling groups: approximately 10% less condition category, 80% condition medium category, 10% good condition categories.

4.2. Form of the chosen sport recreation activities: Healthy Heart Gymnastics (Gymnastics Tera), aerobic gymnastics, cycling, walking, jogging, etc.

4.3. The effect on the overall social attitude description is: a. Guidance in behavior: in the form of mutual respect, obey the agreed commitments, concerns and values of obedience in regular life, b Maintaining the integrity and integration of society: in the form of togetherness in activity, kinship, acceptable in the community, obeying social norms, avoiding conflict, c. social control: in the form communities to avoid conflict, agree to the same purpose, in a broader perspective.

## 5. Conclusion

The effect of weekend/ holiday sport recreation activities on the condition of physical fitness of the actors for a group gymnastics is very less because almost all

are in the age group of elderly. In this age it occurs physiologically degenerative processes that optimize the activation of the organs less runs as it should, and even had to face several problems related to blood circulation, metabolism, and muscle stiffness in the organs.

For the gymnastics aerobics and cycling groups the effect is substantial because the culprit relatively young age under 50 years, so the physiological ability of the organ to be driven a maximum body of work load still qualified, supported by 3 times a week activity so the activity effect allowing the body (heart) can still work normally.

The effect on social attitudes description includes: behavior, maintaining the integrity and community integration, and social control, weekends / holidays sport recreation here acts as a medium in community activities as a group, its existence must adapt to the environment, does not violate societal norms values, nuanced wide, away conflicts and uphold social attitudes in daily behave well for others and the environment.

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## PROMOTING FITNESS CENTER AS A MEANS OF OBTAINING HEALTH AND PHYSICAL FITNESS

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### Abstract

*Fitness centre is one of sport medium to get health and physical fitness. The development of fitness centre in Indonesia is very positively responded by Indonesian people in common. The positive response is proven by the increasing number of people who love physical activity such as weight exercise at this place. Weight exercise begins to be popular as it can be done easily either morning, afternoon, evening or even night. In addition, there are many fitness centres founded by entrepreneurs by offering various fitness exercise programs.*

*The fitness centres popularity cannot be separated from marketing process conducted by the management. The promotion factors have a very important role to promote fitness centre. The things to consider in promoting fitness centres are: (1) there needs to be a salesman (personal selling) who has special skills to offer benefits to someone to be interested becoming a member. (2) the advertising related to public service seems necessary to promote a fitness centre through web site, television, radio, newspapers, and sports magazines. (3) the sales promotion is also an alternative that is quite effective in promoting fitness centre by making billboards, banners, flyer, posters, leaflets, booklets, stickers, bulletin board, and exhibitions. Along with the popularity of the fitness centre, it is automatically many people will use the facility. Therefore, it can help the government's program to improve health and physical fitness of the people of Indonesia successfully.*

**Keywords:** *promotion, fitness centre, health, physical fitness*

### INTRODUCTION

Along with the times, the person's needs will be increasing. In the process of fulfilling the needs, someone has to be able to compete healthily in order to meet the needs of his or her life. One must work hard to meet each of those needs, so he or she adds the workload of each individual. Human extraordinary activities in fulfilling the material needs are often uncontrolled, so they forget the fulfilment of the other requirements. As for other necessities which are often forgotten is

the need for health and physical fitness. Aspects of physical health and fitness have a huge influence to the survival of human beings to reach happiness.

Physically, if a person is able of carrying out an excessive activity or employment without feeling exhaustion that means, then it can be said that the person physical is fit. As said by Djoko ( 2004: 2 ) that physical fitness is the person's ability to do everyday work in an inefficient manner without arising excessive fatigue, so he still







can enjoy his spare time. The most appropriate way to gain physical health and fitness is by exercising. Hence, someone in fulfilling the needs of physical health and fitness must have high awareness to do exercises in order to achieve physical health and fitness.

Measurable and regular exercise in accordance with the training program is one of the keys to be successful for obtaining health and physical fitness. To meet the needs of a person in sports activities, there are now widely growing fitness centers. Fitness center is one of the means of exercise to gain health and physical fitness. A fitness center development in Indonesia is responded positively by the community at large. The positive response is proven by the increasing number of people who like physical activity such as weight training at this place.

Weight training at the gym is starting to be favoured by the people because it can be done easily. Exercise at the fitness center can be carried out in accordance with one's own free time either morning, afternoon, evening or night. In addition, many fitness centers are established by the employer to offer a variety of training programs to help a person in getting health and physical fitness. Thus, it can be said that the existence of the fitness center can respond and provide the most appropriate solution to someone who has particularly high workload to be able to do sports activities.

Popularity of fitness centers cannot be separated from marketing process conducted by the management. The right strategies are needed in marketing a fitness center in order to attract prospective members. One of the ways is to do promotions. Promotion is often done by a company to introduce the products to be accepted by the society. Therefore, promotion is also needed in order to make fitness center be recognized by public. Promotion factor plays an important role in marketing a fitness center. Thus, a fitness center should have a specific strategy in promoting services products. Besides, the advantages of the fitness centers can also help a person to improve health and physical fitness. Improvement of health and physical fitness is certainly obtainable if someone uses fitness center for exercise. Success in doing exercises can help promoting the fitness center as a means to obtain health and physical fitness.

## DISCUSSION

Healthy is a condition which is highly desirable by every human being. A person is categorized as healthy if he or she can enjoy life activities such as eating, sleeping, working, thinking, and moving. The enjoyment will diminish and even disappear when a person's health impaired. Healthy is a concept that cannot easily be perceived and interpreted though the observed situation. This happens because every human being has a different view of the concept of healthy. Therefore, it can be said that the factor of





subjectivity and culture influence on comprehension and understanding of the concept of healthy people. As a reference to understand the concept of "healthy", the World Health Organization (WHO) defines widely the concept of healthy that is the perfect condition of physical, mental and social, and not merely absence of disease or infirmity (disability). Health represents a dynamic state of positive well-being, where positive habits are practiced, making the risk of premature disease and death less likely (Nieman, 1993: 4).

A healthy condition has the opposite, which is ill. According to Calhoun cited by Moeljono (2001: 4), divides specifically the definition of ill into three dimensional views, namely:

1. The biological dimension disease is a deviation that its symptom can be known through the diagnosis. The disease is still there without being influenced by other people's beliefs or the community against it.
2. Psychological dimension illness is the psychological concept that refers to the feelings, perceptions, or the subjective experience of one's unhealthy or uncomfortable body condition. A person who is infected with the disease does not necessarily feel the pain but can be felt by others.
3. The sociological dimension sickness is a sociological concept which means as a social acceptance to a person who is experiencing a pain. The pain in this

concept is in accordance to the special role that is done in connection with a feeling of pain and responsibilities to find a cure.

The definition above has provided an understanding of the healthy and the sick in a very broad scope. Therefore, it can be concluded that health is coveted by a person where he has a condition which is balanced between biological, psychological and sociological so as to obtain physical, mental and social perfection.

The human condition in this life is not always in good health. At one time people would have impaired physiological functions of the body's physiology. If the function of the body is disturbed, health automatically be disturbed also, so one can easily attacked by diseases. Maintaining and improving health is absolutely necessary in order to avoid someone from disease attack. Therefore we need a way to be able to keep the physiology parts of the body to function normally so that health can be maintained and improved. One right way to maintain and improve the health degree is by doing physical activity or exercise, because with regular, scalable, and programmable exercise will assist metabolic processes in the body so that the organs can function normally.

The description above explains the importance of exercise for health purposes. But not all people aware of the importance of exercise for health. The purpose of sport health as said by Santosa (2007: 27) is to maintain health and improve the health status





dynamically, so that people do not only healthy when they are keeping silent (static health) but also healthy and able to support any motion activity in daily activities (dynamic health) that are routine, as well as for recreational purposes and or tackle emergencies. When a person can do regular, measurable, orderly, and well programmed exercises, it is not only health but also physical fitness obtained.

Physical fitness according to Arma (1994: 146) is the ability to carry out daily tasks with vigor without excessive fatigue and energetically performing and enjoying leisure time activities and could face an emergency when it comes. It can be said that physical fitness is the ability of an individual to perform any heavy work in everyday life with no experience of excessive fatigue. Hence, it still has the power or energy to fill the spare time and is still capable of doing the work suddenly.

According to Iskandar (1999: 4), physical fitness related to health includes: (1) heart-lung endurance (cardio respiratory), (2) muscular strength, (3) muscular endurance, (4) flexibility, and (5) body composition. Components of physical fitness related to health are very necessary for every person to do the activity or work in daily life and health. If someone has a good physical fitness, he would be able to do the activity or work effectively with a sense of fun and energetic without feeling fatigue.

Factors that affect physical fitness according to Joko(2000: 15) are:

## 1. Healthy living habits

Healthy habits to consider is regular sleep, keeping the body and the environment, and do not perform actions that can be detrimental to personal health, such as smoking, drinking alcohol, staying up late, and doing work on the ability of working hours that has been determined.

## 2. Periodic checks

Periodic health examinations are highly recommended for every individual human being, especially those whose age over 40 years.

## 3. Food composition

The composition of food consumed should be balanced between carbohydrates, proteins, and fats as well as guided by four of five perfectly healthy, so that the body necessary nutrients can be optimally met.

## 4. Exercise

Physical fitness can be achieved if someone doing the exercise in the right way.

Exercise is one important factor in improving physical fitness. According Sukadiyanto (2008:10), training is an improvement process of exercise capacity which contains materials and practice theory, using methods and rules of engagement with the scientific approach, the principle of a planned and regular education, so the purpose of the exercise can be achieved on time. Therefore, it can be said that the exercise is a systematic, planned,





programmed, measured and orderly process which have the goal to improve the ability, skill, and physical appearance in doing exercise and also improve physical fitness.

According Sadoso (1992: 23) exercise should contains four factors, namely: (1) the intensity of exercise, (2) the length of training, (3) the frequency of exercise, and (4) types of training activities. In order to get meaningful exercise quality, it is necessary to perform appropriate exercises in a proper dosage. Proper training is expected to give a good effect on the heart fitness and pulmonary circulation. So there is a good influence on the heart fitness and pulmonary circulation during exercise that should preferably be in the exercise zone. In doing exercises to improve physical fitness, training frequency should be carried out at least three times a week. Exercise involving the entire body, such as walking, jogging, running, swimming, cycling, and aerobic exercises can also improve physical fitness.

The importance of exercise for maintaining and improving health and physical fitness has been already realized by each individual. Training process is performed to obtain health and physical fitness certainly goes a support facility. As it is now widely grown sports facilities in the form of a popular community services such as tennis, futsal, football, basketball, and a weight training exercise in fitness centers. Fitness center is one of the favourites in doing sport by the society as at the fitness center has a variety of tools and facilities that

have been designed to be used as a tool to train the right physical exercise. In addition to comprehensive facilities, a fitness center is also very easy to find because it's been a lot of entrepreneurs who invest in the fitness centers. Many entrepreneurs are glanced to manage business in this sport because so many people aware of the importance of exercise to gain health and fitness.

Current popularity of the fitness center is not out of the marketing process conducted by the management. Marketing is an activity that plays an important role in the business world, especially this health services and fitness. A fitness center can be categorized as success in business competition when the fitness center is able to analyze the needs of consumers of the importance of health and physical fitness. In addition it should be able to define opportunities and create opportunities for consumers who have not been reached by the competitors and be able to manage the marketing function properly. In order to simplify the marketing process, a fitness center should have a standard program and sufficient facilities. Fitness center should have a training program that is offered to consumers as a product. The exercise program that can be offered at the fitness center is a program of physical fitness exercise , weight loss exercise program (lose fat), weight gain workout program (weigh gain), shaping exercise program ( body shaping ) , the establishment of training programs (body building ) and therapeutic





exercise and rehabilitation program of post-injury .

Facilities and infrastructure to support a fitness center should also have minimum standards in order to function optimally. Fitness center should have several rooms that can support the exercise to achieve health and physical fitness. The room is cardio respiratory space, weight training room complete with measurement space measuring instrument, jogging area, and gyms. Other supporting facilities such as tools that can support such training programs : treadmill, bike race, race step, cross trainer, chest press, vertical traction, butterfly, lower back, abdominal machine, leg press, bench press, hip flexor, back arch, multi gym, biceps curl, triceps extension, arm curl, leg curl, leg extension, side bench, dumbbell, barbell, cross-over, shoulder press, rowing, and pull down . Besides, there are other necessary supporting facilities in the form of space that is equipped with air conditioning, dressing room, locker, shower, toilet, and a large parking lot as well as secure. Completeness of facilities and infrastructure will be able to help facilitating the process of marketing a fitness center.

The word “marketing” comes from the word “market” in English, which means the market or mechanism that brings supply and demand. Marketing is one of the main activities undertaken by the company in order to survive. A lot of marketing are put forward by the experts despite different but essentially the same. According to Kotler (2000: 9)

marketing is a social process in which individuals and groups obtain what they want by creating, offering, and freely exchanging products of value with others. Marketing means managing markets to generate and exchange relationships by creating value and satisfying needs and wants.

Fitness center marketing includes all activities of the company that began by identifying consumer needs, including the needs of the importance of exercise to improve health and physical fitness. Determine which services products in the form of training programs to help people in improving the health and physical fitness. Pricing services products activity is confirmed by facilities and training programs provided to consumers. Determine proper ways of promotion with efficient cost as possible.

Promotion is a part of the marketing strategy. Promotion is a one-way information flow that is made to direct a person or organization to creates marketing exchange (Basu, 1984: 237). Promoting sport products involves implementing a mix of activities that will best (1) communicate the desired image of the product to the targeted audiences, (2) educate and inform the targeted audiences about the product and its benefits, and (3) persuade the targets audiences to buy the product (Parks, 2007:210). Therefore, in promoting sports facilities such as fitness center, marketing sales should be able to explain a product overview of services provided to prospective members / customers, explain the advantages of





exercise to improve health and fitness, so with the explanation applicant members interested in using such services products.

The primary vehicles used to promote a service or product is advertising, publicity, public relations (Fried, 2005: 190). According to Marwan (1991:359) says that the promotion activities can be grouped into three types, namely personal selling, advertising, and sales promotion. In fitness center promoting activities will also be necessary personal selling activities. Personal selling is an activity undertaken by a person to offer goods / services, in this case is in the form of health and fitness services through physical sport. The process of offering product needs a sales ability to provide a clear and interesting product overview. The essence of this personal selling is communications ability, where a sales representative is required to communicate in the best way in offering services products. This is an effective way to promote fitness center because sales representative directly meet with prospective members so it will be easy to convince prospective members to join the fitness center as a means of right exercise to achieve the health and physical fitness objectives.

Advertising has a crucial role in promoting fitness center. This activity is an effective way to offer services in the fitness center. The process can be done through various advertising media. Media is now often used to promote the fitness center is through web sites, television, radio, newspapers,

magazines, and sports. Promotion through the website is considered as the most effective way because of the manufacturing process requires only a short time and low cost. In addition, over the current era, most people often use the website to find information quickly to the required needs. Website development should be done with the best design especially made as attractive as possible to be easy to read and interesting. Besides, it can also be done through the promotion of television, but these activities need quite expensive cost. A media campaign using radio is less effective because now people rarely take the time to listen to the radio. A person tends to prefer lingering in front of computer using social networking technologies. Newspaper is still pretty good as a media campaign, because there are many people who want to read the newspaper. Meanwhile, the promotion through sports magazines is also felt necessary because of any fitness center facility is closely related to the sporting activity, so when doing promotion through sport magazines, automatically, sport lovers can easily read and get information.

Promoting sales is a way to promote a product goods / services that are carried out actively by the service seller. This promotional activity is usually done by creating billboards, banners, flyers, posters, leaflets, booklets, stickers, bulletin boards, and exhibitions. Promotion in this way has almost the same characteristics, so that the level of effectiveness is also closer to the





previous one. The most important thing in making promoting sales is keeping simple but easily understood by consumers. In preparation he should explain the price, product, and place. Price must include the prices offered for membership in accordance with the services rendered. While the product includes all product services that can be obtained by consumers when becoming a member, such as a variety of training programs to improve health and physical fitness. In connection with the place, in it should clearly explain where the location of the fitness center. It also needs to convey other advantages of facilities / support tools that can be utilized by the member at the time of exercise.

## CONCLUSION

Health and physical fitness will only be held by someone who is willing to do physical activity or sport. Exercises should be done regularly, scalable, and programmable. The exercises can be done anywhere and anytime, the currently popular sport is in fitness center. A fitness center is a means of working out the form of weight training to maintain and improve health and physical fitness. In order to promote the fitness center as a means of improving health and physical fitness, it is necessary to process the proper promotion. The promotion factors have a very important role to promote fitness center. The things to consider in promoting fitness centers are :(1) there needs to be a salesman (personal selling) who has skills to offer

special benefits to someone to be interested becoming a member. (2) the advertising related to public service seems necessary to promote a fitness center through websites , television , radio , newspapers , magazines and sports. (3) the sales promotion is also an alternative that is quite effective in promoting fitness center by making billboards, banners, flyers, posters, leaflets, booklets, stickers, bulletin boards, and exhibitions . Along with the popularity of the fitness center, it automatically can make many people to use the facility.

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## The Measurement and Foremetric Analysis and Myoline of PPLM Athletes State University of Makassar

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### ABSTRACT

*This study is a descriptive type of posture that reveals the state of the spine of an athlete PPLM State University of Makassar . Data collection was performed on 15 athletes PPLM using Diers Foremetric tools at the Faculty of Sport Science Laboratory , State University of Makassar .*

*Results of this study revealed that from the 15 athletes there was 1 athletes are Expressed kyphosis, scoliosis 6 athletes declared , and there were no lordosis. Analysis reveals that it is caused by the movement patterns of exercise and the addition of a one- dimensional loads. Repositioning so that the body will form a suitable pattern of activity that is Often done.*

*The analysis of the data is the materials that will be continued to reposition spine abnormalities that have Occurred. Further research is expected to produce models of movement and exercise program's to reposition spine abnormalities that occur.*

**Keywords :** *vertebrae , kyphosis , Lordosis , Scoliosis*

### Introduction

Indonesia Gold Program (PRIMA) is a national program designed and implemented by the government to boost the national sporting achievements. Given the high ideals to be achieved, efforts to improve the athlete's performance should be filled with innovation and quality. Approach is needed for the sport sciencedengan adopting High Performance Programme. Basic principles of the program include sport sciences lies in the application, the integration of physical training, technique, tactics and mental preparation champion, as well as the enactment of athlete selection system strictly.

To increase national sports achievement is not only dominated by the

central government , but also the responsibility of the district/city. This is in accordance with Act No. 3 of 2005 Article 34, paragraph 1, that the district/city governments implement planning, coaching, development, implementation, standardization, and resource mobilization sports excellence based locally, and in article 34, paragraph 2 states that the district/city must manage at least one class sport flagship National and or International. For that all the elements are related in terms of district/city governments must collaborate well and give their duties and responsibilities are intended masing. These elements are KONI, Diaspora, Academics Sport in this case represented by the Faculty of Sport Sciences (FIK UNM), and ISORI. Those four





elements must each have a role that has the task independently without interference from each element.

KONI is as a forum for community sport organizations that have a role in organizing this sport scope of the city district government. While the Diaspora is of a institution of the district/city to play a role in terms of sports policy in the sphere of sport education, achievement, and sports tradisional. ISORI a control tool in the implementation of sports in the district/city.

Academics is an educational institution based on the sport science and technology. So the development of sports science would only be expected based on the results of UNM FIK studies in canoes increased athletic performance in sports can be contributed and implemented in the organization of sport in particular in the province of South Sulawesi.

In addition to the above duties, FIK UNM also has the responsibility to developing athletes who are sitting in college Centre for Education And Training Students (PPLM).

UNM authority to conduct a feasibility PPLM caused by fostering support for athletes in the college environment. Supporting factors such as dormitories owned by athletes, facilities and infrastructure facilities every sport is a leading South Sulawesi achievement, qualified human resources in terms of science and even experienced. Besides the most important thing is FIK UNM has a measurement tool of physical condition and exercise super

sophisticated. This will make the training process more accurate and reliable. The equipment is Kemenpora and assistance of these types of equipment is Formetric And Myoline. This tool can measure the state of posture and physical abilities of athletes begin the selection process, rekrutmen, exercise programming, monitoring and evaluation.

Analysis formetric/myoline result should be a recommendation in the form of training programs to improve the physical abilities that match the target sports abilities of each athlete. Thus the results of this analysis are expected to be the handle of a coach in preparing training programs, monitoring and evaluation more accurate.

The use of this powerful tool can perform precise measurements at all stages of athlete training programs, ranging from selection, training, monitoring and evaluation of training. If at the beginning of coaching athletes do not do exact measurements, will lead to failure due to inaccuracies athletes training provided by the respective coaches. It is the most fatal cause lifelong injuries in athletes. For it through the government program to provide assistance in the form of advanced tools in order to get a coaching intervention, especially in terms of sporting achievement in PPLM and the development of therapeutic efforts for those who need assistance due to exercise is too strenuous. Because the spine is the foundation of human life to be able to perform the activity. Therefore, damage to the spinal cord would





surely affect an athlete's performance, especially in athletes PPLM UNM.

Action through the study of scientific development is an attempt to use science and technology in order to obtain accurate data and intervention training program and even evaluation of programs related to the achievement and even for those who know the athletes later if there are injuries due to the lack of appropriate training patterns. Reality on the ground in terms of sporting achievement in the coaching environment PPLM for this is still not optimally utilize foremetrik tool in improving performance in sports for students. For that we take this opportunity to do research in connection with sports performance coaching PPLM foremetrik relating to the use of tools.

This study will analyze the condition of the body related to body posture of an athlete is seen from the state of the spine and balance an athlete in terms of supporting the corresponding branches athlete's

performance. In addition to the tool through foremetrik will see how the intervention program resulting from the measurement foremetrc that will be useful for the improvement of internal therapy for athletes concerned if known to have problems of measurement results of foremetric.

## METHOD

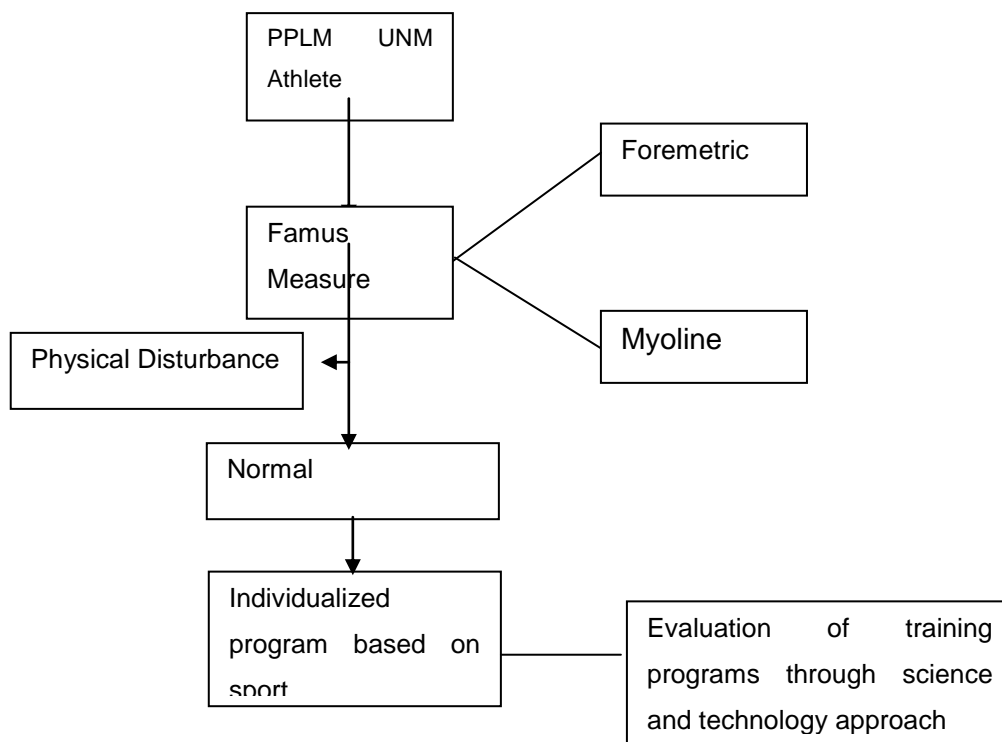
### A. Types of Research

The type of this research is a descriptive study that reveals how the spine of athletes was measured using a computer system through a famus program.

### B. Research Design

This research is a kind of action research studies by measuring the PPLM UNM athletes . The design of this study are as follows :





### C. Scope

This study focuses on the assessment of posture and motion forces the body parts and describe forms of physical exercise interventions required in accordance with their respective sport athlete.

For that, the variables that will be examined are:

a. Body posture

b. Strength of body motion

Operational definition of each variable is:

a. Postur body; was the state of a linear arrangement of the spine (vertebral columna) which can be normal / straight, kyphosis, lordosis and scoliosis.

b. Moving force of the body; was kekuatan each movement of the body, including leg flexor/extensor, abduction/adduction, inner/out shoulder rotation, arm flexor/extensor, trunk extension/flexion, left/right trunk rotation, and left/right lateral flexion.

### D. subjects of the Research

A total of 15 athletes who are students PPLM FIK UNM . They were selected based on previous achievements and criteria of PPLM UNM athletes .

### E. Research Instruments

Variable posture and gestures capabilities athletes will be measured using tools and Myoline Formetric. The measurement results will be through a



software program Dier Famus that will digitally record the results of the measurement tool . The measurement results will be analyzed with thecaline program that will issue a recommendation sheet that needs diintervensikan physical exercise .

## F. Data Collection

1 . Measures and data collection techniques

UNM athletes of PPLM measured using formetric and myoline to obtain data about the state of your posture and body motion strength.

2 . Type of data collected is 3 ( three ) main study variables

3 . Measuring the number and qualifications :

Data collector or assessor are 2 people who have been trained by the team Famus Dier .

4 . Timetable of data collection :

Time of inspection/measurement is from May to June 2012, and intervention training will be conducted during the month of August.

## G. Data Analysis Techniques

Data analysis was performed with a computerized software program DiCAM 2.2 is already available as part of the instrument used in the measurement FAMUS formetric and myoline .

Data that has been entered in accordance with the study variables will be analyzed to get a diagnosis of body shapes and abilities muscles which then issued a physical exercise program based on the results of physical ability to achieve the same target to be achieved . Then , it will be analyzed and improved muscle strength and increase motion in accordance with the needs of each sport athlete.



**RESULTS**

**Sample Data**

		Kyposis		Lordosis		Skoliosis		
1	Bernad	35	Normal	22	Normal	6	Abnormal	Atletik
2	Anugerah Alamsyah	41	Normal	22	Normal	10	Abnormal	Atletik
3	Askar	29	Normal	35	Normal	8	Abnormal	Sepak Takraw
4	Dina	47	Normal	31	Normal	5	Normal	Sepak Takraw
5	Muh. Sulfikar Wahab	36	Normal	25	Normal	2	Normal	Sepak Takraw
6	Rizal	50	Normal	48	Normal	5	Normal	Sepak Takraw
7	Supiani	45	Normal	42	Normal	2	Normal	Sepak Takraw
8	Suhartiwi	36	Normal	38	Normal	6	Abnormal	Sepak Takraw
9	Syafar Syafaruddin	40	Normal	31	Normal	6	Abnormal	Sepak Takraw
10	Nur Andini Arina	40	Normal	37	Normal	2	Normal	Anggar
11	Retno Aprilia	45	Normal	30	Normal	4	Normal	Anggar
12	Andi Oki Setia	51	Abnormal	26	Normal	3	Normal	Anggar
13	Andika K. Seto	47	Normal	31	Normal	3	Normal	Anggar
14	Chaeruddin	39	Normal	38	Normal	8	Abnormal	Anggar
15	Muhammad Hamgari	50	Normal	41	Normal	3	Normal	Renang

Table 1 . Measurement data of spine

Data results obtained 1 athletes netted abnormal kyphosis , scoliosis 6 athletes had abnormalities , and there are athletes who have disorders Lordosis. The results obtained after converted on the following norms :

- 1 . Kyposis > 50
- 2 . Lordosis > 42
- 3 . Scoliosis > 5

Athletes who have abnormal kyphosis only 1 person and comes from Fencing athletes.





The measurement results are kyphosis 51 athletes (abnormal), Lordosis 26 (normal) and Scoliosis and 3 (normal), while for the 6 athletes who have abnormalities in the name of the **first** scoliosis Bernad athlete has kyphosis measuring 35 (normal), lordosis 22 (normal) , and 6 Scoliosis (abnormal). **The second**, Anugrah Alam athlete Measurement results kyphosis 41 (normal), Lordosis 22 (normal), and 10 scoliosis (abnormal). **Third**, Askar athletes sepaktakraw , kyphosis measurements obtained 29 (normal), Lordosis 35 (normal), 8 scoliosis (abnormal). **Fourth**, athletes Suhartiwi sepaktakraw measurement results obtained Khyphosis 36 (normal), Lordosis 38 (normal), 6 scoliosis (abnormal). **Fifth**, Syafar Syfruddin sepaktakraw athletes earned kyphosis 40 (normal), Lordosis 31 (normal), 6 scoliosis (abnormal). **Sixth**, Chaeruddin Fencing athletes, kyphosis measurements obtained 39 (normal), Lordosis 38 (normal), 8 scoliosis (abnormal).

The results of the above data reveals that of the 15 athletes PPLM there are 7 athletes who suffered spinal abnormalities that 1 abnormal kyphosis Athletics athletes, and 6 people who have scoliosis which is a disorder athlete Athletics, Sepaktakraw, and Fencing. Results of the data obtained can be expected as a material consideration and analysis for the development of training programs for athletes who suffered spinal abnormalities and evaluate the exercise program had no impact on spinal disorders. Spinal deformity greatly affect an athlete's

performance and even indirectly affect performance in sports that was involved .

## Conclusion

The results obtained that 7 athletes have spine bone abnormalities. 1 person experiencing abnormal kyphosis, and 6 athletes Skoliosis. Hasil disorders such data are considered for the evaluation of recovery balancing exercise program or repositioning spinal origin and develop an exercise program that does not have an impact on spinal disorders. Results of this study are expected to be followed up by conducting advanced research involving other variables that can affect the spinal deformity. The final results are expected to obtain an accurate model of exercise to reposition spinal disorders both kyphosis, lordosis and scolios

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i







## THE EFFECT OF PALM SUGAR CONCENTRATION CONSUMED 30 MINUTES PRIOR TO EXERCISE ON AEROBIC ENDURANCE

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### Abstract

*The purpose of this research is to find out whether or not consuming palm sugar concentration 30 minutes before doing exercise has significant effect on aerobic endurance. Employing a pre-test post-test control group design, the subject of the study is the students of Department of Physical, Health, and Recreational Education at the Faculty of Teacher's Training and Education Halu Oleo University Kendari. The results of the study show that consuming palm sugar concentration 30 minutes prior to exercise has significant effect on the aerobic endurance of the research subjects. It was indicated by the results of the first treatment in which the  $F_{count} = 16,32$ , gaining a significant score of  $0,02 < \alpha 0,05$ , and in the second treatment the  $F_{count} = 18,50$ , gaining a score of  $0,011 < \alpha 0,05$ , which is also significant. Palm sugar concentrated solution with 80% shown a better result, with an average aerobic endurance of 177,83 recorded in the first treatment, and 183 in the second one. As with the 60% palm sugar concentrated solution, an average of 167,77 was scored in the first treatment and 169,30 in the second. The control group gained an average score of 157,75 the first treatment, and 159,33 in the second.*

**Keywords:** Palm Sugar Concentration, 30 minutes prior to exercise, aerobic endurance

One of the most important factors in doing sports, or moreover achieving a top performance in sport, is whether or not energy is sufficiently available, since energy can considerably influence the physical activity itself. In a highly intense sport, the performance of our muscle is instrumental, it affects how well we can get involved in it. To perform well, human muscles need sources of energy, such as carbohydrate, fat, protein, vitamin, and mineral.

The process of forming our energy, and how long it takes, can have considerably significant effects on the human's physical activities. In addition, the amount of energy

formed can also be influenced by other factors, such as the substrate concentration as the main source of energy and the intensity of the sporting activity. According to *Wolinsky* (1994), through proper food consumption, energy can be sufficiently formed and thereby it can result in not only optimal power for physical activities but also faster recovery from fatigue since nutrient backups can be re-used to return our body into a state of homeostatic.

In doing different kinds of sport, be it constant or explosive in nature, our muscles receive energy only from the fragmentation of *adenosine triphosphate* (ATP) molecule (Fox, 1994). To produce ATP, the metabolism of





energy can undergo a process either aerobically or anaerobically, and these two processes can run simultaneously in our body during a sporting activity. When getting involved in highly-intense sports which require quick supply of a lot of energy, an anaerobic process is at work, through a *phosphocreatine* (PCr) hydrolysis and through a glycolysis process of muscles glucose/glycogen. In contrast, an aerobic process goes on when we are doing any sports which has the component of high aerobic, such as jogging, marathon, triathlon, and long-distance bicycling. When doing this type of low-to-medium intensity sports, the metabolism of energy in our body runs aerobically, in which oxygen is produced through the burning of our cache of carbohydrate, fat, and protein (Mc Ardle, 1988).

Amongst all forms of energy cache in our body, carbohydrate and fat constitute the main sources of nutrition needed to produce energy for our muscles contraction. As such, they become the main source of energy for our body when we are doing sport, although the percentage of their contribution towards the production of energy is subject to the intensity and the duration of the sporting activity.

Our carbohydrate cache, which is now one of the crucial factors affecting our sporting performance, is processed to generate ATP through two channels of metabolism: the burning of glucose/glycogen (aerobic process) and the burning of

glycolysis of glucose/glycogen (anaerobic process). The fat cache in our body, in contrast, can only be processed aerobically, and the process of burning the fat itself can run optimally if sufficient carbohydrate is available (Litwak, 2003).

Being the main source of energy for our muscles, ATP can be obtained from foods that contains rich carbohydrate, fat, and protein. Of these three substances, carbohydrate constitutes the basic source of energy which enables our muscles to work. This is one reason why an athlete needs to consume 60-70% carbohydrate of the total food intake. The biggest portion of carbohydrate in food is complex carbohydrate, whereas the smallest portion, which is less than 10%, is the simple one (William,1991).

To optimize the performance of our muscles performance and cardio-respiration system, our body also needs vitamin and minerals since they play important roles as the co-enzyme and the co-factor that regulate and assist the chemical reaction of nutrition that produces energy. In the event when one or both of these substances is (are) deficient, training capacity can be negatively affected. The needs for vitamins, particularly the water soluble ones (vitamin B and C), arise along with the increase of needs for energy. Research shows that training performance declines as a result of iron depletion at moderate level. To enable an athlete to achieve his or her peak performance in sport, the athlete need to consume various kinds of





vitamins, such as A, B, C, D, E dan K, and minerals, such as Ca, Fe, Na, K, P, Mg, Cu, Zn, Mn, J, Cr, Se and F (Clark, 1996).

In order to fulfill the needs for energy and minerals that can optimize their performance in aerobic-type sports, it is now common for athletes to consume supplementary food or drink before doing sports, in order to delay fatigue. In this regard, we need to consider palm sugar as one source of energy cache. Palm sugar contains complex carbohydrate and minerals needed to optimize the work of our muscles, heart, and lungs. Indeed, palm sugar has a low IG (Index Glycemic) and the process of its solution into our body liquid runs gradually, resulting in the production energy that can last longer ([Bandrek & Bajiqur Legiit :2010](#)).

A study by the *Philippine Food and Nutrition Research Institute* found, among others, that palm sugar contains more macro nutrient than do honey and cane sugar. In fact, it is rich of nitrogen, chloride (Cl), sulfur, and boron – all of which are not found in other sweeteners. Another special quality of palm sugar is that because it is dissolve in our body liquid gradually, the energy that it generates can last longer than what other foods can (Muhamad Nur, 2012)

Palm sugar has so far been used only in home industry, where it becomes an ingredient of making cookies, food or drink sweetener, or health-supplement drink, such as *gentong mas* (Sukirman, 2012). There has been no research to date that specifically studies how much beneficial is palm sugar as

food supplement to be consumed by people doing high-intensity sports.

Therefore, it is deemed important to conduct this experiment in order to seek answer to the aforementioned question.

The questions below are then formulated to guide this research:

- a. Can palm sugar concentration consumed 30 minutes prior to training athletes improve their aerobic endurance?
- b. Which one of the following compositions of palm sugar solution yields in best athlete performance: 80% of palm sugar + 20% of mineral water, 70% of *palm sugar* + 30% of mineral water, or 60% of *palm sugar* + 40% of mineral water?

## RESEARCH METHOD

This experimental study employed a *randomized pre-tes post-test control group design* (Zainuddin, 1999), in which both independent and dependent variables were involved. The independent variables were *palm sugar* with 80%, 70%, and 60% concentration, as well as the control group that received mineral water rather than palm sugar. The dependent variable was aerobic endurance.

The population of this study was the year 2009 and 2010 students of Department of Physical, Health, and Recreational Education at the Faculty of Teacher's Training and Education, Halu Oleo University, totaling 157 orang. Of this population, 48 students were taken as the sample, through a *random sampling*





technique which was applied by a simple randomization.

The research was conducted through the following stages:

- a. The sample was randomly selected through a pre-test adopted from “Harvard Test” (Kirkendall: 1984), designed to measure the students aerobic endurance by requiring them to step on and off a chair.
- b. A *matched ordinal pairing* was then applied to the results of the aerobic endurance test. The purpose of the technique was to split all samples into four groups, where each group comprised students with similar test results, thereby all students were grouped according to the level of their physical fitness before receiving treatment.
- c. *Palm sugar* concentration was applied to the first three groups 30 minutes before training session. The implementation procedure was as follows:
  - a) Group 1 and group 2 did a one-time consumption of the palm sugar concentration with 80% and 70% composition, respectively. On the other day, group 3 received palm sugar with 60% concentration, while group 4 did not consume the same drink at all.
  - b) Thirty minutes after consuming the palm sugar concentration, each group was asked to take the Harvard Test, by stepping up and

down on a platform, to measure the student’s aerobic endurance.

- c) Each group received the treatments twice, which were given one full week after the administration of the pre-test.

**RESULTS**

The students’ aerobic endurance is measured in three different conditions, and three kinds of description is made accordingly. They are: (1) the description of the students’ aerobic endurance prior to receiving treatment; (2) the description of the students’ aerobic endurance after they received the first treatment; (3) the description of the students’ aerobic endurance after receiving the second treatment. Table 1 shows those three descriptions.

TABEL 1.

Summary of the Description of Student’s Aerobic Endurance Before Treatment, After the First Treatment, and After the Second Treatment.

Group of Subjects	N	Min	Max	Mean	StDev	Var
<b>Aerobic Endurance Before Treatment</b>						
Group1 – Pre-test	12	104	254	167,25	51,94	2698,02
Group2 – Pre-test	12	105	251	166,58	49,19	2420,08
Group3 – Pre-test	12	107	250	166,50	49,38	2438,64
Group4 – Pre-test	12	105	256	167,33	50,04	2504,24
<b>Aerobic Endurance After the First Treatment</b>						
80%- Treatment I	12	134	264	187,75	49,60	2459,84
70%- Treatment I	12	120	259	177,83	51,59	2661,61
60%- Treatment I	12	109	254	167,67	51,42	2643,70
Control- Treatment I	12	102	246	157,75	49,48	2448,57
<b>Aerobic Endurance After the Second Treatment</b>						
80%- Treatment II	12	129	260	197,58	51,19	2620,27
70%- Treatment II	12	122	257	183,00	53,47	2859,09
60%- Treatment II	12	114	254	169,33	49,22	2422,42
Control- Treatment I	12	105	245	159,33	50,94	2595,33

n = number of samples

Min = Minimum Score





Max = Maximum Score

Mean = Mean Score

StDev= standard of deviation

Var = Varians

It can be seen from Table 1 that on average the aerobic endurance of the subjects before receiving treatments falls within the score range of 166-167. As such, the subjects' aerobic endurance prior to treatment was relatively at similar level, thereby it was deemed quantitatively acceptable to give treatment to the samples.

After receiving the first treatment, the subjects showed an increase in their aerobic endurance, with variations between groups. The group that consumed 80% concentration of palm sugar recorded a higher increase of endurance, compared to the other two groups that received 70% and 60% palm sugar concentration respectively. This suggests that the higher the percentage of palm sugar concentration, the greater the increase of aerobic endurance achieved by the subjects.

A similar tendency was apparent after the subjects received the second treatment, where the 80% concentration of palm sugar resulted in better endurance than what was effected by the 70% and 60% concentration. In other words, the second treatment yielded an increased level of endurance, in comparison to the level gained after the first treatment.

Table 2 presents the hypothesis testing.

**Tabel 2**

**Results of Hypothesis testing**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
PRE	Between Groups	6,833	3	2,278	,001	1,000
	Within Groups	110670,8	44	2515,246		
	Total	110677,7	47			
EKSP1	Between Groups	62350,83	3	20783,61	16,32	,020
	Within Groups	56020,17	44	1273,19		
	Total	118371,0	47			
EKSP2	Between Groups	69962,06	3	23320,69	18,50	,011
	Within Groups	55468,25	44	1260,64		
	Total	125430,31	47			

As is shown in Tabel 2, the subjects were pre-tested to measure their initial condition, resulting in  $F_{count} = 0,001$  and a significant score = 1,000. The score is higher than the significant level of  $\alpha = 0,05$  or it was deemed insignificant, indicating that there was no significant difference of aerobic endurance experienced by all the four groups under investigation. Conclusively, prior to the treatments all the subjects were at relatively the same level of endurance, which meant they have fulfilled a fundamental requirement of an experimental study.

During the first treatment, all of the experimental groups consumed palm sugar with varying concentration; group 1 with 80% concentration, group 2 with 70%, and group 3 with 60%. Group 4, as the control group, did not consume palm sugar at all.

After the first treatment, all the groups were then tested again. The result was  $F_{count} = 16,32$ , with a score of significance = 0,02, which was lower than the significance level of  $\alpha = 0,05$ , thereby suggesting a significant result. This result indicated that after receiving the first treatment there was a significant difference of





aerobic endurance amongst the subjects of the current research.

In the second treatment, Group 1 was supplied with 80% palm sugar concentration, group 2 with 70% concentration, and group 3 with 60% concentration. As treated previously, group 4 did not consume the palm sugar. The result of another test administered to the subjects shown that  $F_{\text{count}} = 18,50$ , with the score of significance = 0,011. This score was lower than the significance level of  $\alpha = 0,05$ . It can thus be confidently claimed that the testing bore a significant result. This indicated that significantly different levels of aerobic endurance were apparent to the subjects of the research.

Based on the average score of aerobic endurance gained by each group, both in the first and second treatment, it was clearly indicative that the group that consumed 80% concentration of palm sugar scored higher than other groups. The group with 70% concentration scored higher than the one with 60% concentration. Yet, the group with 60% concentration still performed better than the control group which received no palm sugar.

It can therefore be safely concluded that the higher the composition of concentrated palm sugar applied to the subjects 30 minutes prior to training session, the more significant the effect of those application on the subject's aerobic endurance.

## DISCUSSION

After the data were analysed through the ANOVA (analysis varian) statistical approach to test the two hypotheses suggested at the outset, it is revealed that both hypotheses are true. It is, however, necessary to provide further explanations for the findings of this study, in particular as to why both hypotheses were accepted. Based on the results of the hypothesis testing, the following points are suggested:

1. Consuming palm sugar concentration 30 minutes prior to training can improve aerobic endurance.

The result of post-test 1 taken by the four groups indicated a significant difference by  $0,02 < 0,05$ , suggesting that there was a significant difference in the aerobic endurance performed by each group.

The same case was shown in the result of post-test 2, with a significant difference by  $0011 < 0,05$ , also suggesting as above.

2. To find out which group performed best, the average score of each group can be consulted.

The first experimental group, that consumed palm sugar with 80% concentration, scored an average of 187,75, in post-test 1, and 197,58 in post-test 2. The second group, that took palm sugar with 70% concentration, scored an average of 177,83, in post-test 1, and 183,00 in post-test 2. The average score of





students in the third group, who consumed *palm sugar with 60% concentration*, was 167,67 on post-test 1, and 169,3 on post-test 2. As with the subjects in the control group (group 4), their average score was 157,75 in post-test 1, and 159,33 in post-test 2.

Based on the average scores of each group, it is clearly indicated that the first group, with 80% of palm sugar concentration, recorded higher results than were shown by the second and the third group, which respectively received a treatment with 70% and 60% concentration of palm sugar. This suggests that the higher the concentration of *palm sugar* given, provided the same volume, the more positive the effect of that consumption on the aerobic endurance.

The beneficial effect of palm sugar on aerobic might be caused by the nutrient substances contained in *palm sugar*, particularly complex carbohydrate, which is a type of long-chained carbohydrate formed by the combination of three or more molecules of glucose. The complex carbohydrate found in *palm sugar*, is indeed the source of energy cache, which can be converted into glycogen, the main source of energy that enables our muscles to work optimally. In addition, since it is low-sugar, *palm sugar* also contains other good substances, such as thiamine,

riboflavin, ascorbic acid, protein, and vitamin C. Those substances are needed to optimize the system of how our muscles and our cardio-respiration, as well as our body endurance. The vitamins contained in palm sugar are also very good for our body, since our body cannot produce vitamins itself and they therefore need to be supplied.

Given that *palm sugar* has a low glycemic index and it takes some times to convert glucose into glycogen, it is best consumed 30 minutes prior to training. The conversion of *palm sugar* into glukosa takes about 3-5 minutes, and glucose into energy also takes 3-5 minutes. When consumed 30 minutes before doing exercise, palm sugar does not make our stomach work hard during our physical activity, because the food has been converted into ATP and cached in our muscles.

## CONCLUSION AND SUGGESTION

### Conclusion

*First:* Consuming palm sugar concentration 30 minutes prior to physical exercise has beneficial effect on aerobic endurance.

*Second:* A mixture consisting of 80% of palm sugar concentration and 20% of mineral water can result in a better impact on the aerobic endurance than what can be





affected by a mixture of 70% of palm sugar with 30% of mineral water, or 60% of palm sugar with 40% of mineral water.

## Suggestion

Based on the aforementioned conclusions, the following suggestions are made:

**First**, this research has proved that consuming *palm sugar* concentration 30 minutes before doing exercise or sport can significantly increase our aerobic endurance. It is suggested that, to improve their aerobic endurance, athletes, coach, trainers, and those involved in sporting activities consume this excellent source of energy.

**Second**, as has been found in this study, a composition of 80% palm sugar and 20% mineral water generates better result the other compositions, 70% and 30% or 60% and 40%. It is therefore suggested that 250 ml *palm sugar* with 80% concentration be consumed prior to physical exercise, to improve both our aerobic and cardiorespiratory endurance.

**Third**, further research might be done to find out the effect of adding other variables into the area, with a view of obtaining the best concentration *palm sugar* which can be produced as supplemental energy drink.

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## Can Strenuous Exercise Disturb Women Menstrual Cycle ?

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### Abstract

*Background :* Strenuous exercise could result in delayed menarche and disruption of menstrual cyclicity. Strenuous exercise could result in disturbance on women menstrual cycle. This study was aimed to know the effect of Strenuous exercise on female physical education student's menstrual cycle.

*Methods :* This was an observational cross-sectional study, using 35 female physical education student Sriwijaya University Physical education Study Program semester 6,7 and 8 in Palembang who has fulfilled questionnaire during March 2013 to May 2013 as sample. The information about the menstruation was obtained by an interview with questionnaire that special made for this study. The data was described by table and picture. *Result :* Prevalence of menstrual irregularity in female athlete was 28.57% (10samples) from 35 samples and 71.43 % still have normal period .

*Conclusion :* From this study can be concluded that strenuous exercise can change the menstrual cycle.

**Keyword :** female physical education student , menstrual cycle, strenuous exercise

### INTRODUCTION

The menstrual cycle can be described by the ovarian or uterine cycle. The ovarian cycle describes changes that occur in the follicles of the ovary whereas the uterine cycle describes changes in the endometrial

lining of the uterus. Both cycles can be divided into three phases. The ovarian cycle consists of the follicular phase, ovulation, and the luteal phase whereas the uterine cycle consists of menstruation, proliferative phase, and secretory phase.<sup>[1]</sup>

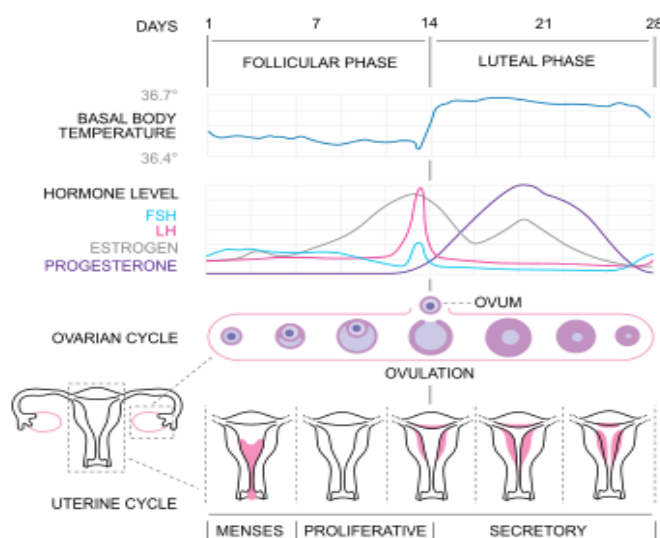


Fig.1 Cycles and phases of menstrual cycle





## Affect of Strenuous Exercise

Female athletes often experience irregular menstrual cycles due to loss of body fat. Too much exercise can adversely affect the menstrual cycle causing dramatic irregularity. Female athletes often experience irregular menstrual cycles due to loss of body fat. The body may also interpret very heavy exercise as an abnormality, which may stop a menstrual cycle entirely. [1,2,3] Rather than regulating fat or producing hormones like estrogen normally, the kidneys, heart and immune system mistakenly work to save the body as it interprets excessive exercise and secrete adrenaline. Overproduction of adrenaline causes more problems and affecting the menstrual cycle. Exercise can affects body's hormone levels and throw hormones off temporarily. Exercise stresses the body, and prolonged or intense periods of exercise may result in a short-term loss of the period due to significant hormone changes. [4,5,6]

Athletes may begin having a menstrual cycle later than their non-athlete counterparts or may always have problems with the regularity of menstrual cycles due to low fat stores in the body and the hormone changes associated with athletic training. [7,8,9] Female physical education's students during their study had to follow curriculum from semester I to semester V to have strenuous exercise 4 times a week for almost

two hours with almost similar as an athlete. In this study we want to know wether strenuous exercise have similar affect between female athlete with female physical education's students.

## SUBJECTS AND METHODS

This is a cross sectional descriptive study of menstrual cyle of 35 female physical education student Sriwijaya University Physical education Study Program semester 6 ,7 and 8 in Palembang.

This study was aimed to know the effect of Strenuous exercise on female physical education student's menstrual cycle.

The questionnaire was given to all female physical education student from March 2013 till May 2013 concerning the menstrual cycle and the irregularity, the length of the cycle, time of menarch and others abnormalities if happened. Data collected analysed with simple statistic.

## RESULTS

All the 35 students completed questionnaires had stated their ages and dates of birth

in response to the first question on the questionnaire.

Their ages ranged from 20-22 years. Table 1 shows frequency distribution of ages of the respondents in this study as at last birthday





**Table 1. Age distribution of respondents**

Age in years	Frequency	Percentage (%)
20	14	40
21	10	28,59
22	11	31,41

The mean age at menarche was 13 ±2,16 years. The age at menarche was 10 until 16 years old with the largest percentage at 17 years old (48,57%). Only 3 (8,57%) of

the female students had their menarche before 12 years and 1 of the female students had their menarche at the of 16 years old.

**Table 2. Age at menarche of respondents**

Age at menarche in years	Frequency	Percentage (%)
10	2	5,71
11	1	2,86
12	7	20,00
13	4	11,43
14	17	48,57
15	3	8,57
16	1	3
Total	35	100

The shortest menstrual cycle length was 3 days and the longest was 20 days.

female students had regular menses and 28,57% had irregular menses.

Table 3 shows the frequency distribution of the durations of menstrual cycle with nearly two third (71.43%) of the

**Table 3 Duration of menstruation of respondents in the study**

Duration of menses in days	Frequency	Percentage (%)
Less than 2	0	0
3-8	25	71,43





<b>8-20</b>	<b>10</b>	<b>28,57</b>
<b>Total</b>	<b>35</b>	<b>100</b>

**DISCUSSION**

**Irregular menstruation** is a menstrual disorder whose manifestations include irregular cycle lengths as well as metrorrhagia (vaginal bleeding between expected periods).<sup>[10,11]</sup> **Irregular cycles** or **irregular periods** is an abnormal variation in length of menstrual cycles in a female. A female usually experiences cycle length variations of up to eight days between the shortest and longest cycle lengths. Length variation between eight and 20 days is considered as moderately irregular cycles.<sup>[12,13,14]</sup> Variation of 21 days or more is considered very irregular.<sup>[15]</sup>

The mean age at menarche in this study was 13 ±2,16 years which is about 0.5 years later than Gumangga study in Ghana in 2012 (12.5±1.28years) but about 1 years earlier than

the mean menarcheal age of 13.98 ±1.42years in Ghanaian school girls in a study done about two

decades ago and about 4 months earlier than the mean age at menarche of 13.4 ±1.4years in a study of menstrual patterns of adolescents at the Obafemi Owolowo University Ile-Ife, Nigeria.<sup>[16,17,18]</sup>

The age at menarche found in this study is however similar to 12.78 years observed among girls in Yaoundé attending privileged schools<sup>15</sup>. The mean duration of menstrual

flow in this study was 4.5 days which similar with the mean duration 4.5 days that was found in Nigeria and 4.0 days in a Ethiopia.<sup>[19,20,21]</sup>

In this study about 71.43% had regular menses and 28.57% still had irregular menses.

**CONCLUSION**

In conclusion, strenous exercise can affect menstrual cycle of the 35 female physical students around 28,57% with nearly one third and 71.43% of the female students still had regular cycle. The shortest menstrual cycle length was 3 days and the longest was 20 days.

The age at menarche observed in this study are similar to adolescent menstrual characteristics described by some studies in other populations in the world.

A limitation of this study is that it was done in only one physical study program.

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## APPLIED TECHNOLOGY SPORTS EQUIPMENT FOR MEASURING EXHAUSTION MUSCLE HAND AND FEET BEFORE GAME

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### Abstrak

*Technological developments in the particular sports world has reached a very high level. From one exercise alone can have diverse patterns of exercise, it can be ascertained due to the latest technologies that are found will be immediately applied. With so the existing research, will remain continue and be further developed following the progress of time. For the involvement of the researcher / scientist in the sports world that still lay, sometimes just changing the practice to other exercise programs that are not much different. Whereas the development of training patterns is not based on the instructions the coach practice patterns. But can from mechanisms equipment used exercise for help athletes and team official. Functions this tool be used to facilitate test the performance of athletes.*

*So hope the training will be increased step by step 'and not glued to the training program, but it can also be accompanied by a sports technologies that exist today and that are in the development stage. development stage. Moreover, we know the involvement of sports scientists, especially in our country arguably still very minimal. in Generally sports scientists are still rarely involved in applied technology sports. because, in fact we know that Indonesia is a archipelago country. So not all of sports institutions have the same facilities as the center*

### Introduction

The lack of research in Indonesia , particularly in the field of sports , Causing problems related to sports that is Often experienced by athletes and coaches and people was behind sometimes there is no solution and completion . Moreover , it could be an internal conflict that could have an adverse impact on a team . So the research on sports must be improved in order to find a

### solution and solving.

Moreover of the technologies used in the field of sports the current. Especially in technology the physical test, everything

having the effect and function are very large. However, the effectiveness in its use I think is not maximized because some physical tests and exercises can not be carried. Because of the limitations of the tools taken

### B. problems

Based on the selection of the above problems, can be linked to the formulation of the problem, namely: "How to make a muscle strength test equipment with hands and feet using a form of presentation of digital data?"

### C. destination

This study aims to:

1. Determining player worth or not be competed.







2. coaches can easily see the condition of the athlete in person.
3. Of manufacturing equipment is expected to increase student creativity to make sports equipment that can be useful for many people.

## D. Ideas and Review instrument

### 1. Technology To Measure Hand Strength

Technology specific hand strength to determine the readiness of the body parts, arms up to shoulder. So the calculation in determining the magnitude is by way of using this tool in the hands and arms. So how it works is to straighten your arms and push tool use flexi movement

Process and how it works is a revolution that follows the movement of the hands of the elbow joint shaft, the mechanism of which is to encourage the load in the direction of the inside hand. This process is often known to the medical world as flexi. While the workings of the instrument itself is a load on the tool motion during flexion is possible to calculate the strength of the muscles that are in the hands.

Mechanism of the appliance itself is lactic acid in the muscles most likely can not be measured but kemungkinan muscle fatigue can be calculated through the encouragement of joint motion. Because of the large measure of muscle strength we can take into account the possibility of an athlete's physical readiness ahead of the game.

### 2. Technology To Measure Strength Feet

This technology determines the amount of leg power and readiness, so that the leg strength can be observed at the time of the match. This tool is used to measure the level of leg muscle fatigue from the influence of excessive lactic acid.

#### A. Theoretical framework

##### 1 Muscle fatigue

Muscle fatigue is a condition that occurs after a strong muscle contraction and long , in which the muscle can no longer contract within a specified period . Muscle fatigue refers to a process of approaching the actual definition of the reduced physiological responses to the same stimulation . Muscle fatigue can generally be assessed by the percentage decrease in muscle strength , muscle fatigue recovery time , as well as the time needed to happen exhaustion . Fatigue can be classified into fatigue which is located in the central nervous system known as central fatigue and exhaustion are located outside the central nervous system known as peripheral fatigue

##### a) Fatigue Center

Central fatigue caused by the failure of the central nervous system to recruit and activate the motor unit number are involved in muscle contraction . Though both of these things play a role in the magnitude of the resulting potential for muscle contraction . Thus, the reduction in the number and frequency of the motor unit activation of the motor unit causes





muscle contraction berkurang capabilities  
b)PeripheralFatigue

Peripheral fatigue is fatigue caused by factors outside the central nervous system . Peripheral fatigue is caused by the inability of the muscle to perform contraction with maximum caused by several factors such as interference with the ability of nerve , muscle contraction mechanical ability , and the willingness of energy for contraction . Fatigue in neurological disorders is a neuromuscular junction disorders , inability to maintain concentration sarcolemma  $Na^+$  and  $K^+$  depolarization of the cell and thus lowering the amplitude of the action potential . Disruption in the nerve will have an impact on impulse propagation and reducing the ability of muscle membrane inability to conducts action potentials . Impulse propagation interference so that tin demand stimulus frequency

## 2. Technology To Measure Strength Feet

This technology determines the amount of leg power and readiness, so that the leg strength can be observed at the time of the match. This tool is used to measure the level of leg muscle fatigue from the influence of excessive lactic acid.

### B. Thinking framework

From these studies, I can conclude that by utilizing the movement of joints when muscles do not get pressure then the calculation will be obtained according to the ability of the muscle to resist the load device. Product Testing is a series of prototype

artificial with a simulation example patterned on the fulcrum of a body with 180 degrees of motion revolution. The movement is called in the medical world familiar with the name flexi. Its function is to measure muscle strength just before the game, the main target is the muscle fatigue. While the injury is physical damage so that if in the test would actually terlihat. Alat Muscle Testing is my own design tool based on the observations of an object system of the human body. I think this Equipment requires the formula for in use.

## D. CONCLUSION

### 1) The idea of the proposed

I am doing research to get a new method, as well as theoretical studies that can support other studies in order to continue. So the program must be in accordance with the analysis of usability and functionality, so that the tools of technology really function optimally in accordance with the research.

### 2) the implementation techniques required

- a. Specify the object or the issues subject
- b. Determine a measurement of data
- c. Collect data or information
- d. Process the data and draw conclusions
- e. Formulated and report the results
- f. Presents the implications of the investigation

### 3) prediction results to be obtained

This process can not be executed as quickly depending on the role of the people





who support and help the realization of this program . So anyway ,

predictions can only be seen from the program is running . So it needs the support of various parties is important , as well as criticism from other researchers , which will be used for comparison and additional considerations . Because of the need for research is support - support that way .

Cooperation of various parties have a major influence determining the success or failure of research .

4) The End

Support role in the sports world needs help from various parties, especially on the issue of supporting facilities that support the achievement of athletes performance and

players. So the most important process is the individual who acts as a provider of facilities and providers of support to athletes and players, always move together and interconnected.



## THE PHYSICAL FITNESS OF S1 PGSD

### FKIP UNSRI STUDENT FOR ACADEMIC YEAR 2012/2013

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#### Abstract

*The need for physical fitness for each individual is different. This difference is usually influenced by the job type of each individual. For post secondary students, physical fitness is important to support learning, attending classes, or doing other activities. That is why every student is expected to have a good fitness in order support their learning related activities. An individual has a good physical fitness if he or she meets good level according to certain parameter. One of the parameter is Asian Committee on the Standardization of Physical Fitness Test (A.C.S.P.F.T) for University students which include seven type of test.*

*The result showed that the fitness status of students at S1 Elementary School Teacher Education were mostly fitness (98,12%) and only small number of them are not physically fitness (1,88%). In details, their physical fitness could be categorized as follow : very good (26,42%), good (45,28%), medium (26,42%) and low (1,82%). When this description was characterized by gender, the categorized would be as follow : male students were very good (26,19%), good (27,27%), good(31,82%), medium (36,36%) and low (4,55%). Most of the students's body mass index were normal (83,02%) and only a small number of the students were not normal (16,98%). In more details, the body mass index were fat (6,60%), normal (83,02%), lack of nutrition I (8,50%), lack of nutrition II (0,94%) and lack of nutrition III (0,94%). Based on the gender, body mass index of male students were (3,57%), normal (86,90%), lack of nutrition I (9,57%), none of them in the category of lack of nutrition II and III. While body mass index female students were fat (18,18%), normal (68,17%), lack of nutrition I (4,55%), lack of nutrition II (4,55%), and lack of nutrition III (4,55%).*

**Key words:** *Physical Fitness, Body Mass Index*

#### INTRODUCTION

The demand for physical fitness of each person is different. Differences are usually affects the type of each work. For students, physical fitness is required to study, lecture or activities that support the lectures. Therefore, each student should have good physical fitness in order to support and facilitate the activities of lecture.

Students of each faculty, physical fitness guidelines will be different anyway. Especially for students S1 PGSD Prodi, but must have good talents and interests, are also required to have adequate

physical fitness, but it is also required to have good health. Physical fitness and health is needed to enhance student learning and complete the other tasks. In addition to good physical fitness of a student should have to test the ideal body mass index, body mass index as a possible ideal person will have good health. Body mass index is used as an indicator of nutritional status and to present an index that is responsive and insensitive to changes in nutritional status and work productivity. (Fasli Jalal, 2001; Husaini, 2006).

Health and physical fitness is influenced by various changes, which are sometimes difficult to analyze. the exercise factor or physical activity if done





with programmed is dominant factor that affects a person's fitness and health. Lifestyles including adequate diet, nutrition and setting a good rest is another factor that is not less important to create a health and physical fitness. A hygienic environment is also greatly affect one's health condition. The routine of students to perform of regular exercise is a personal responsibility. This means that The institution of FKIP is not do special monitoring, for students considered to have understood the requirements and physical demands that must be held as a student. Similarly regulate eating habits (diet food) and some students are able to live it well. Data that describes the level of physical fitness and body mass index S1 PGSD FKIP no study, therefore this study aimed to examine in depth, about the state of physical fitness and body mass index of S1 PGSD Student.

## LITERATURE REVIEW

Physical fitness is the ability to perform daily tasks easily, without getting tired of excessive, and have a reserve power to enjoy their leisure time and for unexpected needs (Sumosardjuno, 1989). According to Suharjana (2004:5), that physical fitness is the ability to perform daily activities according to the work without excessive fatigue that arise can still enjoy leisure time. According to Howley and Franks (2002: 24) *Physical Fitenss: Streving for Optimal Physical Quality of Life, Including Obtaining Critterion Levels of Physical Fitness Test Scores and Low Risk of Developing Health Problems*. Based on the opinions of experts can be concluded that physical fitness is the quality of a person to conduct activities in accordance with his work optimally without causing health problems of excessive fatigue.

Physical fitness consists of several components as proposed by Rusli Lutan dan Adang Suherman (2000: 176), that includes the components of physical fitness: muscle strength, general endurance, muscular endurance and flexibility. According to Len Kravitz and Sadoso Sumosardjuno (2001: 5-7) that there are five elements of physical fitness components: cardiorespiratory endurance / aerobic condition, muscle strength, muscle endurance, flexibility and body composition. Rusli Lutan (2001: 8) states that the components of physical fitness consisted of physical fitness related to health, which contain of the four principal elements are muscular strength, muscular endurance, aerobic endurance, and flexibility, as well as physical fitness is related to performance, containing of elements are coordination, agility, speed of motion, balance.

According to Giam cited by Suharjana and Margono (2003: 18), the components of physical fitness consists of two kinds fitness components to health include: cardiorespiratory, body composition, muscular endurance, flexibility and fitness components associated with the appearance that includes agility, speed, explosive power, coordination, and agility of a person can be said to have good physical fitness status if a person meets a good degree of fitness. According to certain parameters. One of the parameter that can be used to determine a person's degree of physical fitness is *Asian Comitee on The Standarization of Physical Fitness Test (A.C.S.P.F.T)* for students consisting of a series of seven types of tests. To get the health and good physical fitness, a person must be living a healthy life (*Quality of Life*). According to Sharkey (2003: 30), to achieve the *quality of life* there are three aspects that must met, namely, set the food, set break, and do the activity (exercise). Arrange of





food for human daily activity is requires energy. The energy obtained from food consumed every day. A good proportion of food: carbohydrates 60%, fat 25% and 15% protein, setting a rest. Rest is necessary to provide recovery of human physiological activity of the body so the body can do the daily work well. Rest the body uses to dispose of lactic acid, so the body can be revived. Activity (exercise). With exercise, a person will reach a good level of physical fitness. If a person's physical fitness is good, then hope that person will also have a good health status as well.

A good degree of physical fitness, health status indicators of a person also can be seen from ideal body weight. Someone said to have ideal size if body shape is not too thin nor too fat and look mismatched between weight and height. Normal fat content in the body of a young adult males 20-25%. This proportion will increase in accordance with 30% of body weight and the male of older adults increased to 27% of body weight. Excess weight (overweight) is something the state of the accumulation of fat in excess, which causes weight gain. An overweight person if weighing 10-20% above ideal body weight. Someone who is overweight will often run out of breath, the body feels heavy, often too hot, often pain in the waist, hips, thighs and knees. This is a reminder that one must be aware of starts and dimulai make dietary and physical exercise and fit enough to stay healthy and fit. This is a reminder that one must be aware of dietary and start doing physical exercise and fit enough to stay healthy and fit.

Body mass index is the determination of a healthy body weight is now widely used and also applies to adults over the age of 18 years. Body mass index is determined based on body weight (kg) divided by height squared (meters). The full formula is

exemplified by Emma (2003:11) as follows  $BMI = \text{weight (kg)} / (\text{height})^2 \text{ (m)}$ . BMI is a measurement result antropometric konfersi of BB and TB, a person's nutritional status can be determined whether classified as too thin or otherwise. According to Husaini (2006) of adults > 25.0 categorized as fat, 18.5 to 25.0 categorized normal between 17.0 to 18.4 categorized as lack of nutrition I, between 16.0 to 16.9 categorized as lack of nutrition II, and 16.0 > categorized as lack of nutrition III.

Education in study program of PGSD FKIP UNSRI include prioritizing the anticipation of all students and educational efforts that form the active healthy habits along the life. Regarding the efforts to achieve a healthy quality of life, then the educational curriculum, as well as a variety of curricular activities are directed to include four aspects: physical fitness, emotional, social, and intellectual (Holley: 1992). However, the achievement of the various aspects related to healthy lifestyle is completely dependent bersengkutan students can take advantage of facilities, expertise or opportunities that exist in the institution

## RESEARCH METHODS

The way research is to use the survey method of physical fitness and body mass index in the study program of S1 PGSD FKIP UNSRI Students, with test techniques (Zainudin, 1998). The population in this study were students of S1 PGSD, sample used a total of 106 students. Techniques to take samples are multistage random sampling technique (Nasir, 2003). To find out the physical fitness of S1 PGSD students, use of the *Asian Committee On The Standardization of Physical Fitness Test (A.C.S P.F.T.)*, which is a series (Battery) test consists of seven types





(grain) test, namely: (a) sprint 50-meter (dash / sprint) to measure the speed of the run (b) the long jump without a prefix (Standing Broad Jump) to measure body motion explosive (c) dependent body lift (Pull-up) for male students to measure endurance strength of arm and shoulder muscles, (d) depend on the elbow bend (Flexed arm Heng) for women students to measure the static strength and power of the hand arm and shoulder (e) running back and forth (shuttle run) 4 x 10 meter to measure the agility (f) lying sitting (sit-up) for measuring endurance of the abdominal muscles (h) togok pliable to face (Forward flexion of trunk) to measure the flexibility togok to face, and (i) 1000 meter run for man's student or 800 meters for women to measure the

durability of the heart, circulatory and respiratory, and (j) to determine body mass index was measured with a height test (m) and weight (kg).

Statistical data were analyzed with descriptive analysis of the percentage. To find out the physical fitness performed by means of the data coarse grains each test (seven kinds of grain test) confirmed the T-Score Tables for Physical Tests of A.C.S.P.F.T. Freshness then from the seven-point test values are summed, the result is confirmed by the Physical Fitness Norms for men or women student into five groups such as the following table:

**Table 1. Physical Fitness Norms for Women Students**

Number of values – T	Group	
441 – up	Very Good	(V.G)
361 – 440	Good	(G)
281 – 360	Medium	(M)
201 – 280	Low	(L)
Down – 200	Very Low	(V.L)

**Table 2. Physical Fitness Norms for Men Students**

Number of values – T	Group	
441 – up	Very Good	(V.G)
376 – 430	Good	(G)
311 – 375	Medium	(M)
251 – 310	Low	(L)
Down – 200	Very Low	(V.L)





But for body mass index conducted by dividing the weight with height. The formula is BMI = weight (kg)

/ (height)<sup>2</sup> (m). The results of calculations are then matched with the following categories:

**Table 3. Physical Fitness Norms for Adults**

Number of values – T	Group
25 – up	Fat
18,5 – 24,9	Normal
17,0 – 18,4	Lack of nutrition I
16,1 – 16,9	Lack of nutrition II
Down – 16,0	Lack of nutrition III

**RESULTS OF RESEARCH**

The data of Physical Fitness Study Program of S1 PGSD Students

The Physical Fitness of Students Study Program S1 PGSD FKIP University of Sriwijaya can be presented in table 4 as follows:

**Table. 4 Tabulation of Student Physical Fitness Data Study Program S1 PGSD FKIP UNSRI**

CATEGORY	GENDER				Total	
	MEN		WOMEN			
		%		%		%
Very Good	2	26,19		27,27	8	26,42
Good	1	48,81		31,82	8	45,28
Medium	0	23,81		36,36	8	26,42
Low		1,19		4,55		1,88
Very Low		0,00		0,00		0,00
Total	4		2		06	100







The table shows that of 106 students participating in physical fitness test, 28 people (26.42%) physical fitness including the category of "very good", 48 people (45.28%) categorized as "good", 28 people (26.42%) categorized "medium", 2 persons (1.88%) categorized as "low", and no (0%) students categorized as "very low". Table 4 also shows that the men of 84 students participants physical fitness test are 22 people (26.19%), physical fitness including the category

of "very good", 41 people (48.81%) categorized as "good" 20 people (23.81%) categorized as "medium". 1 person (1.19%) categorized as "low" and no (0%) students categorized as "very low". The results of physical fitness levels of Study Program Students "very low" University of Sriwijaya can be grouped into two groups is the status of fitness as much as 98.22%, and that status does not fit as much as 1.88%.

**The Data Body Mass Index of Study Program S1 PGSD Students**

**Table. 5. Tabulation of Student Body Mass Index Data  
Study Program S1 PGSD FKIP Unsri**

CATEGORY	GENDER				TOTAL	
	MEN		WOMEN			
	F	%		%		%
Fat	3	3,57		18,18		6,60
Normal	73	86,90	5	68,17	8	63,02
Lack of Nutrition I	8	9,53		4,55		8,50
Lack of Nutrition II	0	0,00		4,55		0,94
Lack of Nutrition III	0	0,00		4,55		0,94
Total	84		2		06	100

Table 5 shows that of 106 students participating in the nutritional status of the test, 7 (6.60%) nutritional status including group "fat", 88 people (83.02%) belong to this group "normal", 9 persons (8.50%) belong to this group " Lack of Nutrition I" and one person (0.94%) belong to this group "Lack of

Nutrition II" and one person (0.94%) of students who belong to this group " Lack of Nutrition III ". Table 5 also shows that of 84 students belonging to the men of nutrition status tests, 3 persons (3.57%) nutritional status including group "fat", 73 people (86.90%) belong to this group "normal", 8 people (9, 53%) belong to this





group "Lack of Nutrition I "and no (0%) the nutritional status including "Lack of Nutrition II" and Lack of Nutrition III ". Table 5 shows also that of the 22 students women nutritional status of participants, 4 (18.18%) nutritional status including group "fat", 15 people (68.17%) belong to this group "Normal" 1 person (4.55%) belong to this group " Lack of Nutrition I", 1 person (4.55) belong to this group "Lack of Nutrition II ", and 1 person (4.55%) belong to this group "Lack of Nutrition III".

## DISCUSSION

### Physical Fitness

The results showed that the majority of physical fitness status of students Study Program S1 PGSD FKIP University of Sriwijaya Palembang (98.22%) including the fit and only 1.88% did not fit. Such conditions are quite encouraging, and if the scrutiny is rational. The curriculum of Study Program S1 PGSD in University of Sriwijaya consisted of students are required to follow the course enough practice, let alone the amount of time face to face practice time twice that of the theory. Added to a lot of students from S1 PGSD who participate in other sports activities outside the campus. Based on the results of physical fitness status suggests that the students of Study Program S1 PGSD in terms of physical fitness, they really ready to be a teacher, demanded it must have excellent physical fitness because his job does involve a lot of physical activity. Thus, the learning they are expected to provide will not be hampered by not physically fit

### Body Mass Index

The results also showed that body mass index of Study Program S1 PGSD Students in University of

Sriwijaya as much as 83.02% had normal body mass index, whereas as many as 16.93 % had normal body mass index less, consists of students who are fat as much as 6.60% and Lack of Nutrition as much as 10.38%. This shows also that in terms of body mass index, the overall normal, so hopefully they are so ready after pass the job to prospective teachers in primary schools. Student of the men or women as a whole is not problematic, but there are also some problems of students, especially women who are overweight or underweight, so the need for improvements to the pattern of his life. Observing the results of physical fitness and body mass index. Shows that institutions in this regard Study Program of S1 PGSD FKIP University of Sriwijaya in one side has been successful in implementing programs to improve and promote physical fitness and health of the students. In addition the students themselves with the knowledge and awareness has been able to carry out the correct pattern of living that way there are still a small fraction of students who have physical fitness and body mass index are not good, so after finding out their shortcomings are expected to be aware and try to set up their own pattern of life.

## CONCLUSION

Based on the results of research and the limitations of this study, it can be concluded that: (1) In most student of Study Program S1 PGSD FKIP University of Sriwijaya Palembang has a good level of physical fitness or fit, whereas only a small portion that has a bad level of physical fitness or unfit, (2) most of the students from study program S1 PGSD FKIP University of Sriwijaya has a normal body mass index, and only a small portion that has a body mass index of less normal. This study has succeeded in revealing the





level of physical fitness and body mass index of Study Program S1 PGSD FKIP Student in University of Sriwijaya Palembang, but there are still weaknesses. Weaknesses that can be referred to the research team did not perform physical checks, greatly affect a person's achievement and test execution time are not all equal, there are early morning and some afternoons.

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## Effect Modification Sanbon Kumite with Interval Training To increase VO<sub>2</sub>max

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### Abstrak

*Sanbon kumite modifications performed aerobically , or anaerobically in addition to improving skills karateka and other physical components also can increase maximal aerobic capacity or VO<sub>2</sub>Max. Thus, one fundamental thing in this study is to apply the method of interval training in Sanbon kumite drills , because until now there has been obtained as to what specific training activities that can increase maximal aerobic capacity or VO<sub>2</sub>Max in sport karate . The general objective in the study was to study the effect modification Sanbon Kumite , the interval method 1:1 and the method of interval 1:2. to increase VO<sub>2</sub>Max , velocity . This type of research is experimental research , using a pretest - posttest design Randomized Control Group Design . This design has a control group with the treatment group were randomly allocated to be able to cope with extrinsic factors that could. Populatio selection bias in this study is a beginner karate UNG which has the following characteristics sexes Male , 19-21 years old , able-bodied numbered 73 Karateka . Researchers conducted the screening. Inclusion Criteria Karateka , Body Weight , Height , Body Fit , then the population to 26 karateka . Set the number of samples 24 . The results showed that VO<sub>2</sub>Max data obtained from the test results , showing an increase after a given treatment interval method Sanbon committee with 1:1 . It can be seen from the mean final test is greater than the average initial test , the interval method is also 1:2 . It can be seen from the mean final test is greater than the average initial tests .*

**Keywords:** Interval Training, Sambon Kumite, VO<sub>2</sub>Max

Knowledge of karate-do coach in Indonesia is severely limited on physical techniques that include Kihon, Kata and Kumite. Resources with the level of "mediocre" is compounded by the absence of their dominance at all the knowledge of the techniques of karate, Japanese culture is full of value discipline, the concept of the meaning of KATA, this will slow down the optimization karate achievements in national and international arena.

Karate martial arts is perceived as a compact as regularity concept jerky movements together. In learning karate

needed physical and mental condition of readiness that will be formed by itself when studying karate regularly and correctly. Physical and mental potential to effective motion the synergism basic motion functions karate structured to face the opponent.

Physical exercise in sport karate integrated into all elements of karate, ie before exercise Kihon, Kata, Kumite must begin with Taiso or known stretching exercises / stretching or warming, to prepare for the rest of the body as optimal as possible, for the next exercise, because taiso function, avoid injury, because the muscles,





bones, joints, nerves, already stretching. Form the composition of muscle mass and bone strong and flexible for long-term exercise. General stamina gauge, which can regulate the rhythm of breathing and heart rate, the speed and strength in a short-term training process. and Strengthening mental. Next will practice Kihon. As the smallest element on which the establishment of a technique. Kihon is more meaningful as the reference standard forms the basis of all techniques / movement in the Kata and Kumite done.

Current observations karate trainers do not utilize specific elements of karate movements in karate where it is integrated with one another, as the element in order to improve the physical condition of the karateka, in general this time karate trainers in providing physical exercise are still using common training program implemented by various sports, such as running away for around a building or around a road with bare feet (no shoes) in a typical karate dojo, this method is not effective and efficient.

This causes low VO<sub>2</sub>max capability of reaction velocity decreases karateka it will affect the performance in the match with high intensity, which uses eksplosif like doing blow Gyaku Tsuki, Mawasigeri, or at the time of canter blows from the opponent, karateka lost cause reaction speed points for opponents. The incident occurred when the match-up, because almost all karateka who play the game to win in the beginning. When the

second game karateka energy decreases at them as if did not have the power anymore.

Besides causing low VO<sub>2</sub>Max training process that rendered optimally develop the potential of such systems in the body karateka energy metabolism, such as muscle energy system is one in which muscle tissue that requires ATP. The energy used for muscle contraction, causing movements as physical activity. Understanding of the energy system training predominantly in sport karate training is essential to determine the proper form to improve performance karateka.

In order to optimize the training referred to above must be in the crutch by appropriate training methods. According to Lynn (2009) that the method of interval training can help improve cardiovascular fitness, increase speed, improve VO<sub>2</sub>Max as a whole. Interval training is that training is done with high intensity and low intensity exercise periods alternated with periods of rest.

Sanbon Kumite training in order to get optimal results, it is necessary systematic training through interval training methods. Implementation of interval training course must be based on the principles of training. In this regard, the activities in interval training is not implemented in the form of running as practiced by athletes sprinters or other athletes in endurance interval training program. Activities undertaken in interval training is a type of sport specific training karate, which Sanbon kumite which is a method with three different techniques such





as jodan attack, chudan and mae-geri or jodan, chudan and kekomi. While karateka who survive have to do defense (uke) is true to the technique used attack and counterattack after three rebuttal.

Sanbon kumite training is generally done to look at the forms of Karate Basic Techniques (Kihon) which Tsuki, Geri, Uke by karateka what is in conformity with the basic techniques of karate as chudan is at the regional, cross straight to the liver where the fingers clenched with exertion measured also by the end of the whole hand, and also applies kick (Geri) and defense (Uke) as well as the speed of the reaction and improve attack techniques and techniques to survive.

Through specific physical training in sport karate will provide a response to specific physiological adaptations anyway. Hojat Hassan Mir Mousavi and Farhadi (2012) concluded that exercise should be done specifically, with emphasis on the element of knowledge of anatomy and physiology to olahraga that in practice and the characteristics of movement is needed at the time of the match itself. Thus, to determine and identify a variety of factors such as energy systems, the efficiency of body movement and durability, with specific training will be able to save time and costs. Specific concept exercise is very important for physiological adaptation, that the maximum benefit will be obtained from a similar training stimulus or a replication of movements performed in the sport, including

in terms of methods and forms of training physical condition.

Of opinion on the writers interested in making modifications Sanbon Kumite, Sanbon kumite exercises are often done by karateka but not yet programmed with good views of the training methods were performed. Because the karateka assume that Sanbon kumite exercise was done to improve stroke technique and kick it. With specific exercises diharapkan with Sanbon kumite training through the problems of physical condition especially  $VO_2Max$  dan reaction rates can be overcome with good karateka. in addition to the physical presence of these findings may also alleviate the karate coach in the formulation place is very limited exercise using only the narrow spaces such as office space or school bansal front yard.

Sanbon kumite modifications performed aerobically, or anaerobically in addition to improving skills karateka and other physical components also can increase maximal aerobic capacity or  $VO_2Max$ . Thus, one fundamental thing in this study is to apply the method of interval training in Sanbon kumite drills, because until now there has been obtained as to what specific training activities that can increase maximal aerobic capacity or  $VO_2Max$  is in sport karate.

Based on Background and Problem Identification, then the problem formulation in this paper is as follows: Is there any effect modification by the method Sanbon kumite long Interval Training method of 1:1 and 1:2 Training Interval are to increase  $VO_2Max$ . Are





there differences in the influence of training method interval length 1:1 and 1:2 are interval training methods to increase  $VO_2Max$ . Is there any interaction between the type of exercises with training methods to increase  $VO_2Max$ .

Sanbon kumite training is fundamental to the practice to jiyu kumite or free fight by Sujoto. BJ (2006) Sanbon kumite was attacked by three rare technique of attack and defense three times. Furthermore, in the said by Rudianto. D (2010) that the Sanbon Kumite is a method with three different techniques such as jodan attack, chudan and mae-geri or jodan, chudan and kekomi. Karateka who survive must do the proper defense against an attack technique used and the counter-attack after three rebuttal.

Kumite training is an exercise in which mutual defense and attack using karate techniques. (Sujoto. B.J, 2006) was added by Rudianto. D (2010) Kumite is an advanced piece of kihon and words. According home he said, is the depiction of the hands and feet crossed each other (collide). Kumite karate as part of the exercise that teaches the karateka to practice techniques such tarungan strike, parry, dodge, hit back is a regular expression with a hassle-free security to avoid injury.

From the above it can be concluded that the Sanbon kumite is a technique to fight or compete with three survived the attack and defense three times. At Sanbon kumite drills, a take on the role as the other attackers and

survive. Attacker uses the same technique three times in attack and defense rebuttal did the same technique. On defense the last third parties launched a counterattack.

Judging from the shape of motion exercises Sanbon kumite is a specific exercise of sport karate and is a replication of the form of the motion at the time of the match. According to David Nunan (2006) that each branch should be given specific training, and techniques that are directly involved in the physical movement of a skeleton, which muscles in motion a desire to provide movement. Training should be selected specifically for the basic engineering mechanics and structural movement in accordance with the chosen sport. Artificial training will be useful for the improvement of physical and karate techniques.

Harsono (2004) says that the maximum benefit can be derived from a similar training stimulus or a replication of movements performed in the sport, including in terms of methods and forms of physical exercise conditions. Specializes in issues regarding this training, Ozolin in Bompa (1983) suggested that training more emphasis on the first two aspects are in accordance with the field of sports training specialization and the second is the use of training to develop the skills biomotorik required by the sport. So it is said by (Kusnanik, Nasution and Hartono 2011). that, according to the principle of specificity of training should be focused on the





physiological systems in sport specific training in order to achieve the optimum.

In connection with this study, the specific purpose of training is the application of Sanbon kumite training is expected to improve the physical condition, especially in terms of the durability of the maximal aerobic capacity (VO<sub>2</sub>Max). Therefore Sanbon kumite training should be based on the principles of training and the intensity of training that can give emphasis on the cardiovascular system, thus physiologically, the heart and lungs can adapt as a result of Sanbon kumite training, so that maximal aerobic capacity (VO<sub>2</sub>Max) sportsmen can be increased, which in turn can be more efficient athlete in the use of oxygen and determine the physical performance of athletes and skill during the match.

Interval training is basically divided into 3 forms, which forms a short interval training, interval training shapes and forms of interval training are long. Noting the existence of any form or kind of interval training on the implementation of the main principles of training is influenced by the intensity and duration as well as the purpose of energy systems that will be developed (Fox and Mathews, 1988, Rushall and Pyke, 1990). Associated with the energy system will be developed, shape or form short interval training are training with high intensity and short duration is more suitable for the development of anaerobic energy system, while the long form of interval training with low intensity and long duration is more

suitable for developing the aerobic system. Additionally interval training can be used to develop speed, strength, and durability (Bompa, 1994).

Interval training can be the best for sport karate, karate is a sport because it is intermittent with intermittent rest periods, as well as interval training activities interspersed with rest intervals. On this basis, it is more work or activity can be completed in a relatively higher intensity than the type of continuous training.

Maximal aerobic capacity (VO<sub>2</sub>Max) shows the maximum capacity in the aerobic ATP meresintesa (Kusnanik, Nasution and Hartono, 2011). While Astrand and Rodhal (1986), gives the definition of maximal aerobic power as the ability to breathe oxygen highest attainable along a sportsman athlete perform certain physical. Rowell in Roesdiyanto and Budiwanto (2008) states that the maximal oxygen uptake were measured to determine system capacity kariovaskular. Work capacity under aerobic conditions is a blend or combination of capacity respiration and the cardiovascular system to deliver oxygen ke jaringan muscles are contracted, maximal oxygen uptake is the maximum capacity of one's energy on aerobic work.

## Metode

This study aims to determine the effect of the difference between training Sanbon Kumite with 1:1 interval method, and







Sanbon Kumite training with 1:2 interval methods to increase  $VO_2\text{Max}$  Karateka Beginners UNG. This type of research is experimental research, using a pretest-posttest design Randomized Control Group Design (Kuntoro, 2011:187). This design has a control group with the treatment group were randomly allocated to be able to overcome the selection bias that extrinsic factors can be minimized.

The population in this study is the UNG karateka who has the following characteristics gender Male, 19-21 years old, able-bodied totaled 73 Karateka. Researchers conducted the screening menguna Inclusion Criteria Karateka, Body Weight, Height, Body Fit, then the population to 26 karateka. Set the number of samples in this study by using the formula Kuntoro (2010:213)

The sample size required is  $2 * 12 = 24$ . Researchers took samples of 24 out of a population of 26 by using simple random sampling because the population is assumed to be homogeneous, after obtaining the sample by 24 then researchers conducted random allocation to the treatment group and the control group. Furthermore, each group was given symbols to facilitate statistical analysis.

This study took place in the sports laboratorium FIKK and Shutter Mission Hall Dormitory, State University of Gorontalo. The timing of the study for 8 weeks. Measuring  $VO_2\text{max}$  with pro Cosmed-Fitmate treadmill for measuring  $VO_2\text{Max}$  with standard Run.

## Results

The results obtained in this study is a collection of empirical facts to describe the experimental comparison of the influence of group I and group II experimental and control groups to increase  $VO_2\text{Max}$ . To achieve the research objectives have been formulated, based on the design and implementation of this study variables.

The data will be described in general from each of the baseline variables (pre-test) of the data measured before the samples are given treatment and final data (post-test) of the data measured after the samples are given treatment, and post-test data is the difference the pre-test (delta).

Test results and measurements of the dependent variable, then analyzed using descriptive and inferential statistical tests. Before testing the hypothesis, first tested the requirement analysis is to test the normality of the data using the test Kolmogorove-Smirnov Test at the 5% significance level, and homogeneity of variance test, using a test technique Levane's Test Statistic significant at the 5% level. To test the first research hypothesis and the second used the t test in SPSS 18 is known as paired test Sarwono (2009), subsequent to the third research hypothesis used One Way Anova statistical analysis. Rejection decision of the three hypotheses using a significant level of 5%.





Testing normality of the data was conducted to determine whether the normal distribution of the data or in other words to look up the normal distribution of the data obtained or not by reference to Sarwono, (2009); Wijaya, (2010) and Sujianto (2009). To test the normality of the data used to test the One-Sample.

Based on the obtained data normality test statistic test values as listed on the information value of F table in SPSS with significance level  $\alpha = 0.05$  or 5%, Based on the data information, it can be seen that the value of the three variables has a significant (probability value)  $P > 0.05$  Thus, the null hypothesis ( $H_0$ ) is accepted, which means it has a meaning that each of the data on these three variables are normally distributed.

Date  $VO_2$ Max test results include descriptive statistical tests and inferential statistical tests. Descriptive statistics, namely the calculation of the average (mean), variance ( $S^2$ ), the standard deviation, (SD), tests of normality and homogeneity of variance. While the inferential statistical test that is testing the difference between pre-test and post-test with the t test and between groups with different test one way ANOVA statistical test of the dependent variable  $VO_2$ Max.

### Discussions

Physical exercise can increase the value of  $VO_2$ Max. Exercise should pay attention to physical preparation, technique, tactics and psychological. Increased physical exercise for the purpose of  $VO_2$ Max, the

speed of reaction and recovery should be done regularly (Bompa, 1999).

Sanbon Kumite bout is a 3 step, one form of exercise in sport karate movements with the aim of improving harmonization Kihon (Basic Karate). In this paper Sanbon kumite has been modified by the method of interval training implementation 1:1. Way of implementation begins with Taiso / Strassing followed by a dynamic warm up with kihon move, where the exertions began slowly move further to 100% power *karateka*.

Karateka take positions in pairs to do the exercises *Sanbon Kumite* modifications, beginning with respect for fellow *karateka* then make a move forward *Jodan* 3 times, while doing *soto uke* steps back (on defense) after it is doing *Jodan* punches do changing defense *soto uke* while the backward *Jodan uke* will blow, after it changed its position again with different models at the 3 times that in at *chudan* then parry with *soto uce*. Two *karateka* to perform the same movement, after the position start by doing 3 times *geri* (kick) after the 2 *karateka* doing the same movement.

With a 90% maximal exercise intensity with a duration of 3 minutes, 3 minute intervals, and repetition 3-10 times, subject monitored his pulse by means of polar whether the exercises included in the training zone. Sample pulse during exercise in on the exercise zone.

Based on the analysis of the increase in  $VO_2$ max between groups with group method of interval 1:1 1:2 at 2.61250 and  $p =$





0.274. This shows that there is no significant difference between the increase in  $VO_2\max$  both study groups. This is because the better the lung diffusion capacity, the greater the volume of gas that diffuses the improved ability to perform load cardiorespiratory *karateka* without experiencing significant fatigue. So trained *karateka* will breathe more slowly and deeply, and oxygen in the muscles need to work on reduced ventilasipun process (Ratno WA 1999). Sanbon Kumite drills are conducted regularly for 8 weeks can improve  $VO_2\max$  *karateka*.

From the above results can be determined more dominant group training to improve  $VO_2\max$ , namely: (a) The first is the dominant experimental group with the treatment I Sanbon training committee with 1:1 interval method is better in improving  $VO_2\max$ , compared with the experimental group II with treatment Sanbon committee training with interval methods 1: 2. It can be seen from the average difference between the experimental group II and group I, which shows the number of experimental mines or - 2.61250. Further treatment may be explained also that the committee Sanbon training with 1:1 interval method is better in improving  $VO_2\max$ , compared with the control group. It can be seen from the average difference between the control group and the experimental group I, which shows the number of mines or -7.73750.

(b) Dominant second experimental group II with treatment Sanbon training committee with 1:2 interval method is better

in improving  $VO_2\max$ , compared with the control group with conventional treatment. It can be seen from the average difference between the control group and experimental group II which shows the number of mines or -5.12500. (c) Dominant third was a control group treated with conventional training.

## Conclusions

1. Exercise modifications Sanbon Kumite with 1:1 interval training method is better and most effective way to increase  $VO_2\max$ .
2. Modification Sanbon Kumite training with interval training method 1:1 and 1:2 Interval training is better and more effective for improving  $VO_2\max$ .
3. Sanbon Kumite modification is still better used for training to improve  $VO_2\max$ , rather than standard Sanbon kumite.
4. The interaction between type of exercise Modifications Sanbon Kumite training and interval training method 1:1 and 1:2 interval training occurs on improving  $VO_2\max$ . than the standard Sanbon kumite.

## Suggestions

1. Need to be similar to the writing of the conditions subject asramakan trained and in control to be carried out strictly.
2. Similar to the writing needs to involve a larger sample and with varying age groups
3. To get better results writing, it is necessary for the extended writing *karateka* who trained in accordance with the weight or class matches

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## Correlation Between The Arm Muscle Strength With Hockey Shooting Accuracy

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### Abstract

*This study aims to determine the correlation between arm muscle strength with hockey shooting accuracy at hockey sport club at Jakarta State University in 2011. The method used in this study is a quantitative method with correlation and descriptive techniques with a sample of 30 hockeyman students who is taken by purposive sampling. Results of the study showed, there is a positive relationship between arm muscle strength and the accuracy shooting hockey. Linear regression is  $Y = -3.29 + 0.21X_1$  with a correlation coefficient of 0.4238. This means that the arm muscle strength to hockey shooting accuracy was 42%. The results of this study found that the higher of the power better arm muscles in a hockey game shooting accuracy.*

**Keywords:** Arm Muscle Strength, Accuracy Shooting, Hockey

### PRELIMINARY

The game of hockey is a sport similar to soccer, both the rules and the way to do it. Hockey is a sport with a style of play quickly, the technique puts the ball, with the ball, sprint towards the opponent's goal, and tried to enter the ball into the opposing goal. Played with sticks and a ball that is small, in a way pushed or beaten.

Developments in the sport of hockey is so rapid that requires the athlete or athlete to produce the best passing performance of the maximum. High achievement through sport certainly did not come easily. Hockey is a sport that requires a lot of energy, so that the athletes are required to have a good level of

physical condition for the achievement of optimum performance.

Other conditions that are not less important to achieve a sporting achievement is the ability of the athletes themselves. Capability is comprised of four main aspects i.e. (1) physical preparation, (2) preparation techniques, (3) preparation tactics, and (4) the Setup psychological. The same thing was also stated that there are four important aspects to be considered a sport i.e. (1) physical, (2) engineering, (3) tactics, and (4) mental.

A hockey player is required to master the basic techniques of playing hockey , according to DJ Glencross basic techniques that must be mastered include :





- 1 .Moving with the ball (dribble), either by using close dribble, loose dribble, indianadribble.
- 2 . Receive and control the ball which includes : dismiss the ball from in front of the right side, from the left side, or from behind.
- 3 . Split the cover to push the ball, hitting the ball, flicking Ball, lifted the ball, hit reverse and reverse push.
- 4 .Grab the ball, stick skills against opponents done from the front, from the left side and right side.
- 5 .Special skills, such goalkeeper skills, rebounding, a penalty corner and penalty stroke, and other special skills.

A hockey player must master the basic techniques, from the five basic techniques it is clear that the technique with other techniques inter related and inseparable. Looking at the progress of the hockey game that uses the techniques of both regulation and high techniques play naturally know how to develop these techniques.

Based on the above basic techniques in the game of hockey, shooting skills is one particular skill that must be mastered by every hockey player in either training or matches. Good shooting correctly and efficiently is the final target of each play, the success of anyteam in the game is always determined by its success in the shots so

thata player can score a goal and give the victory for his team.

Efforts to improve the hockey shooting can be carried out with a variety of activities to the maximum through the process of programmed exercise, both in terms of physical, technical, tactical and psychological. A hockey player in movement should pay attention to hockey shooting arm muscle strength as a factor in physical condition to attract researchers to conduct a study primarily on improving the results of precision shooting hockey. As well as the other factors associated with the motion of the knowledge of the position of the body to meet or feel a movement , better known kinesthetic perception in favor of a hockey shooting technique right movement .

This is because if an athlete does not have the arm muscle strength and perception kinesthetic directed the ball into the goal will not be moving well towards the goal . Based on the limitation issue, is there a relationship between arm muscle strength with precision shooting game hockey club hockey at the State University of Jakarta in 2011

## THEORY

### Hockey Shooting Accuracy

Shooting accuracy in terms of the classification of motor tasks based on the stability of the environment, including the skills into the open, where the motion





generated is always changing direction a result of environmental influences, especially from the opposite movement can't be determined in advance depending on the response of the opponent's movement.

While operationally that the accuracy of the research is intended to put the ball into field goal specified that goal. This course is based on mechanical motion system that is completely powered by the movement of units, smooth motion, motion relations that have been processed through the control of movement during practice that has been done over and over again so as to create motion automation .

Automatically through the capabilities that have been trained repeatedly consciously have gained an accuracy in terms of the process so that the accuracy in terms of getting the end result that is targeted with the aim of creating a goal, therefore, to get the required precision in targeting an effective and efficient movement.

Based on the above, the opinion of a hockey player must master the basic skills of hockey and developed a technique of shooting and has an element of precision shots (shooting ) because by placing the ball on the right target it will generate a good shot that resulted in a goal .

To support the accuracy of the shooting is good at hockey games requires a

combination of several physical and psychological conditions between strength, speed and concentration. So precision shooting describe a person's ability to perform a variety of sports movements quickly, easily and precisely so that performance can be achieved optimally exercise.

## Shooting Games Hockey

Shooting or shooting in a hockey game is one technique to enter the ball into the opposing goal as much as possible. In the game of hockey is a very important technique for scoring and decisive victory in the match, because it is determined by the number of wins the ball into the opposing goal.

Each team who controlled the ball is always looking for opportunities to be able to make shoot on goal therefore the element of fire is to learn the basic techniques properly and enhanced his skills by practice.

In the sport hockey, shooting is one particular skill that must be mastered by every player. One of these is the use of skill to control the ball then shot toward the goal with the right. Elizabeth Anders and Sue Field Hockey Mayers in his book Step to Success reveals shooting is fired rapidly, surprise or trick shots and shot placement.

### 1. Pushing Ball

Pushing the ball is one of the basic techniques in the sport of hockey. One of the usefulness of the technique is to divide the ball or pass the ball as proposed by Carl







Warldas "if you can't pass the ball then you can't play hockey".

Pushing the ball can be used as a powerful weapon to score goals, it is appropriate that proposed by Glencross that passing is one of the basic skills that must be mastered completely, because hockey is basically passing game.

Based on some opinions can be seen that the shooting was a development of the basic techniques of pushing the ball. Motion carried by hand to push the ball in front. The movement of the push by Whitakennamely:

- a. The position of the ball  
The ball is placed at the front between the legs, not too far away or close to the body.
- b. Stick position  
The position of the stick makes an angle of 350-450 and sticks placed against the surface of the ball.
- c. Hand position or grip.  
Left hand holding the stick the top and right hand holding mid stick.
- d. Stance leg  
Attitude feet shoulder-width apart, knees slightly bent is not strained, body position slightly leaning forward.
- e. Movement  
At the time of moving arm to push the ball followed by continued motion

## 2. Revers Stick Push

In addition to the movement of the ball by pushing a forehand push, in the sport of

hockey unisex push the ball movement by using revers stick push. This skill is rather difficult, but specific to the skills that are very important to pass the ball. Giving the ball and deceive opponents.

Mild J. Barnes said that revers push stick is very useful for punch that can be deceiving in a difficult situation, the ball can be pushed toward the players free from the opponent, also is used to boost turned operands short or backwards to a player in a better position.

Skills using a stick to push the ball with the reverse can also be used as a powerful weapon attacks as well as the skills to push the ball forehand. The other side that these skills can be developed as a shooting skills.

## 3. Flick

Flick is an encouraging move, shoot and pass the ball in a way lifted into the air. This technique is used in field hockey with distance to lift the ball from long range, medium and short, with low and high altitude. On indoor hockey, flick should only be used when they want to do a shot. Because in the regulation of indoor hockey, encourage and pass the ball should not be up to the surface of the floor.

Position in the book flick Step To Success Field Hockey stick surface is open, the shoulders should always be low, the ball is in the left leg and stick follow the movement continued. Stick grip left hand is always on top of the right hand in front of body position between the parallel line with





the ball, the parallels are very profitable and good for the movement.

Flick skills are skills that are very important and must be controlled by a particular indoor hockey player, because in this flick is used to shoot on goal.

#### 4 . Scoop

Shooting to goal skills is by lifting the ball (scoop). Lifting the ball (scoop) is itself a hockey playing skills which belong to the section pass the ball. D.J. Glencross said that the scoop is used to lift the ball off the floor. Scoop commonly used in the game of field hockey, which is to pass the ball far into the future with low and high altitude. Often scoop used to lift the ball over the opponent's stick for a quick short passing.

## METHOD

The research was conducted at the State University of Jakarta hockey club is located at Rawamangun, East Jakarta. Research time is divided into two phases: The first phase of the research instrument trials conducted in October 2011, the second phase of the research conducted in November 2011.

Based on the study of the problems to be studied and the objectives to be achieved, then the method used in this study is a quantitative method with correlation and descriptive techniques. In this study, data analysis techniques were used: (1) Testing requirements analysis, and (2) hypothesis testing techniques.

Target population in this study were all athletes club hockey State University of Jakarta , while the population of accessible population set were 30 and the entire study population to be sampled. Data collection techniques using research instruments. The research instrument used to collect data actually, must first be tested in order to obtain valid and reliable. Research instruments are explained as follows:

#### 1 . Precision instruments Shooting Games Hockey

Aspect measured in precision shooting skills using Test Accuracy Shooting Hockey test using Van Rooy and Measurement modified by the researcher.

#### 2 . Instrument Arm Muscle Strength

Arm muscle strength data obtained by direct measurement on the entire sample, using gauges muscle strength, namely Pull and Push dynamometer.

## RESULT

Results of hypothesis testing can be concluded that there is a positive relationship between muscle strength with precision shooting arm. The conclusion suggests that the higher arm muscle strength, the better the accuracy shooting.

Squared correlation coefficient between the two variables (  $r^2_{y1}$  ) of 0.4238 can be interpreted that when not controlling for perceptions KINESTHETIC , then 42 % the proportion of variance shooting accuracy





can be explained by the level of arm muscle strength .

While the form of the relationship between muscle strength arm (X1) with precision shooting (Y) is shown by the regression line equation  $y = -3.29 + 0.21 X$ . The regression line shows a significant influence on the significance level of 5%. The equation can be interpreted that the change of one unit of shooting accuracy score will be followed by changes in arm muscle strength score by 0.21 units in the same direction with a constant of -3.29.

The correlation between muscle strength with precision shooting arm shows his influence, either through product moment correlation and partial correlation. The results of this analysis provide evidence that arm muscle strength is one of the main factors that contribute to the accuracy of shooting. From the results it can also be interpreted that the increase in arm muscle strength will contribute significantly to precision shooting

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## MODEL DEVELOPMENT OF BUYAN LAKE AREA EMPOWERMENT AS SPORT TOURISM ICON BULELENG-BALI

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### Abstract

*As a tourist destination, Bali still have many natural potentials to develop, one of them is the natural resource of Lake in Buleleng. Bali has 4 (four) lakes spread over 3 (three) districts. Currently, the four is generally functioned as sport and recreation attractions and/or natural parks. 3 (three) of 4 (four) lakes are located in the tourist area of Bedugul-Bali. One lake in the tourist area of Bedugul is Buyan Lake which is located in Buleleng Regency, Sukasada District, Pancasari Village.*

*Buyan Lake is the largest lake located in the northern part of Bali precisely in Buleleng Regency, Sukasada District, Pancasari Village. For long it has been filled with tourist activities and development of various sectors such as tourism, agriculture (vegetables), education, fisheries (aquaculture), residential (hotels) and restaurants. The development of various sectors has not seemed giving significant economy contribution to the people yet. This may be seen in the tourism sector, there is no increasing number of visits both for local and foreign tourists to Buyan Lake from year to year. Special tourist attractions offered by the owners have not seemed to be interesting for tourists. From fisheries, local fish pond management system is still seemed individually and packaging technique is not professional yet, as well as other sectors are not growing significantly due to improper management and empowerment of Buyan Lake area. This can lead to acute frustration down (public resignation to accept the situation for what it is), and economy circulation does not give meaningful financial contribution.*

*Basically Pancasari people fully realize the potential of Buyan Lake Area. They also realize that the development of Buyan Lake area as a tourist destination is very likely to provide benefits to the local people, the labor empowerment and recruitment is their expectations to improve holistic condition of Buyan Lake.*

*Related to the issue of Buyan Lake Buleleng mentioned above, to overcome, in the future it is necessary for the existence of an empowerment model of Buyan Lake area so that the potential can be financially beneficial for Buleleng people and set the area as a sport tourism icon. This model is expected to serve as an action pattern in reforming management and development potential sector of Buyan Lake for significant improvement change of tourism object. This model can only be realized by comprehensive study and involving the local community and all stakeholders interested in the potential of Buyan Lake Buleleng-Bali.*

### Introduction

Hearing the name of Bali Island is familiar for those who pond on travelling. Bali as a famous tourist destination in Indonesia

and around the World with its Kuta Beach, Sanur, and the beautiful and charming white sand and friendly people and unique variety of customs received various nicknames





including “The Island of The God”, for its uniqueness influenced by culture and religion, “The Last Paradise of the World”,

## 1. Sport Tourism

Basically sport activities cannot be separated from other activities as well as everyday life of people. Sport activities nowadays have become significant need for people to provide more fit body. Sport will give positive impact to the sport performer because the movement during various sport activities will provide physical fitness and spiritual satisfaction to the body. The physical fitness mentioned is a better changing of physical condition, especially in the heart, lungs, and blood vessels, while spiritual satisfaction emphasizes on personal pleasure.

In RI Law No. 3 of 2005, it is explained that sport is “any systematic activity to encourage, support and develop physical, spiritual and social potential”.

Based on the theory above, it can be concluded that sport is physical activity performed by a person or group of people which is programmed, systematic, and sustained in order to get physical and spiritual fitness. Sport activities performed regularly and in programmed way can create a person as a whole, feel more comfortable and peaceful life. This makes nowadays sport becomes part of human life who aware of the importance of physical fitness and spiritual satisfaction developed in society.

“Paradise Island”, “The Island with Thousand Temples”, “Cultural Tourism”.

Science Discipline Committee (2000) describes general identification of sport characteristics as following.

1. Sport is a subsystem play: practice voluntarily without coercion.
2. Sport is oriented in physical dimensions: the activity is a demonstration of physical skill.
3. Sport is a real activity, not an illusion or imagination.
4. Sport, especially competitive type, emphasizes on performance and achievement aspect that involving an element of struggle, determination, and surprise factor, as the opposite of speculative factor that performance is achieved with personal effort.
5. Sport takes place in social and humanitarian atmosphere, does not emerge disgracing, but solidarity.
6. Sports should lead to efforts of improving and maintaining total wellness (KDI, 2000).

Modern human activity has undergone many changes in progress that is not enough on sports aimed at only physical fitness, but a recreational sport is also very rapidly developed. Almost in all parts around the world, included in Indonesia, sport tourism is increasingly advanced so many sport fields become object and attraction for tourists, especially sports with natural





facilities such as mountains, lakes, rivers, and oceans.

Sport tourism is tourism activities undertaken by doing a fun sport activity, without any coercion and is generally done in object tourism area (Danasaputra, 2009). It is also said that the Sport Tourism is one of the tourist activities which is quite rapidly developed in Indonesia, because it has large area of mountains, oceans, rivers and lakes. Because each region has different geographic characteristics, the development of sport tourism is very likely to become alternative sport recreation for sport lovers such as mountain sports (climbing, camping, jungle hiking, cycling, tracking, etc.), water sports (diving, canoing, snorkeling, surfing, etc.) (Danasaputra 2009).

According to Fandeli (2001), the type of outdoor sports has its own sensation when the challenge can end up with success. Doing outdoor sport today is one tourism commodity that can make a visitor feels comfortable in a tourist destination. This is because natural condition is still fresh and cool, besides supported by adequate infrastructures.

The relation between sport and tourism cannot be separated, because both can provide benefits to each other. Sport events can be organized in tourism area to provide additional entertainment for tourists, or otherwise it is only used specifically to attract local and foreign tourists (Danasaputra, 2009). Thus, in the end sport is able to trigger a new business such as

recreational entertainment, restaurant, hotel, small business development (development of local accessories, better known of local food and beverage, and ultimately open work fields.

As a product of the sport industry, sport tourism needs developed management to attract more foreign and local tourists as consumers. Buyan Lake as an asset of Bali and particularly Buleleng Regency should have got full attention of the government in programmable and integrated development. The management should be clinging and planned, this will be able to provide positive impact for the tourism development and eventually to encourage increase of local foreign exchange earnings.

Danasaputra (2009) explains that the development of sport tourism can directly provide great advantage to the government in terms of:

1. Increase economic sector surrounding the sport tourism area;
2. Increase potential tourist area;
3. Share information with people stimulating their active participation;
4. Increase cooperation between central and local governments in controlling tourism attraction and object;
5. Develop and discover new tourism attraction to enhance existing tourism objects;
6. Increase work opportunities;





7. Improve products and local marketing in all aspects of tourism;
8. Introduce various types of local culture and competitive sports lovers can be contested or sports attractions.

Bali as a tourist destination is expected to provide benefits to the government and local people because sport tourism is one favorite activity of local people or foreign tourists as it does in spare time to get physical and spiritual satisfaction. Hobby in doing regular, systematic and continuous sports will give physical fitness and spiritual health for the doer. While on the other side, tourism sector as one of constructive sector in economy field, if the management is done well and in accordance with the government program, should be able to provide a major contribution for areal advancement and local welfare.

## 2. Overview about Tourism Potential

Tourism potential is a model owned by a tourism destination exploited for economic interests without overriding socio-cultural aspects. Fennel (1999) in Pitana and Diarta Surya, (2009) suggests that natural resources which can be developed into tourism resources are as follow:

1. Geographical location. This involves spatial characteristics that determine conditions related with several other variables.

2. Climate and weather. Determined by latitude and elevation measured from sea, land, mountains, and so on. With geological factors, climate is the main determinant of the physical environment that affects vegetation, animal life, the wind, and so on.
3. Topography and landforms. The general form (topography) and the structure of the earth surface that form some geographical areas into unique landscape (landform).
4. Surface materials. Related to characteristic and variety of materials make up the earth surface.
5. Water. Water plays an important role in determining the type and level of outdoor recreation.
6. Vegetation. Vegetation refers to entire living plants cover a particular area.
7. Fauna. Various animals contribute significantly to tourist activity both in terms of consumptive (hunting and mincing tour) and non-consumptive (birdwatching).

A good tourist attraction must be able to bring tourists as many as possible, to give satisfaction during the visit or to become reminded after returning from the attractions, and to hold them in the places in a long time.

Efforts to develop the tourism sector is supported by Law No. 10 of 2009 which







states that the existence of tourist objects in an area would greatly benefit, among others, to increase revenue (PAD), standard living of the people and expand work opportunities given the increasing number of unemployed at this time, improve attention to environment and preserve the nature and culture. In line with the opinion of Pitana and Gayatri (2005), it stated that the main objective in tourism development is for economic benefit, both for the local people and regional (State).

Based on the statements and theories above, Tourism is one industry with an important role in economical, social, cultural, and environmental development. Tourism development planned and managed in a sustainable manner will be able to contribute in foreign exchange earnings, improving the local economy and create work fields.

The potential of natural resources and tourist attraction of Buyan Lake is surrounded by natural beauty and charming steep cliffs forest. This area has an attractive scenery, which can provide Buyan Lake area as a extensive sport tourist area

Vast Buyan Lake is surrounded by virgin and natural forests with steep lake cliffs makes this area has beautiful natural scenery. Calm lake waters with cool and comfortable mountain air provides opportunities for outdoor activities in the water of the lake. At the location with certain height is a strategic place to enjoy the lake view while resting. In some spots of lakeside, there are several temples (Hindu sacred place) built between huge and thick trees add

not only beautiful but also unique and distinctive panorama.

RI Law No. 10 of 2009 on tourism mandates that the tourism resources and capital optimally used through tourism operations intended to increase national income, expand and equalize opportunities and employment, stimulate regional development, introduce and empower tourism attractions and destinations in Indonesia as well as foster patriotism and strengthen friendship among nations (The Ministry, 2009).

## RESEARCH METHODS

This study focuses on the data of model development of Buyan Lake empowerment as Sport Tourism icon Buleleng-Bali, therefore the main data sources are the DPRD Buleleng, Regional Planning Agency (Bappeda) Buleleng, Department of Culture and Tourism Buleleng, KSDA of Bali Province, and as complementary informants are hotel and restaurant businesses, tourists, local figures, traditional and religious leaders who are members of the Village Council and Traditional Institute of Pancasari Village. The method used is accidental method, sampling data source used purposive sampling technique, and type of research is descriptive qualitative research with data collection techniques: 1). Observation Technique was used to observe the area directly by using instruments such as observation guide camera to take pictures and handy cam to





record Buyan Lake and the surrounding area to support the presentation of information. 2). Interview technique is primary data gathering mainly qualitative data through interviews with respondents using an interview guide instrument (Guide Interview). 3). Documentation Technique. Document assessing is the way of information collecting from documents, namely written heritage, archives, certificates, report cards, legislations, diaries, personal letters, biographical notes and the others that have relevance to the problem of the study (Pohan, 2007). 4). Participatory Technique is a method to involve public information, figures, traditional and religious leaders, tourists and hotel and restaurant managers in Buyan Lake area. 5). Data Analysis Technique. The data collected and successfully captured by data collection techniques (raw data) need to be processed to become findings of a study of scientific standard. Analyzing qualitative data in this study was conducted using data analysis design according to qualitative data interaction model of Miles and Huberman (1984) as follows: data collection, data reduction, data display, conclusions: drawing / verifying.

## RESULT AND DISCUSSION

Based on focus Proposition 1 (How is model of Buyan Lake empowerment that has been running? What factors do influence the formation of the model?)

It can be affirmed that Based on the Decree of the Minister of Forestry No. 144/Kpts-II/1996 dated April 4, 1996, on the establishment of Batukahu Forest area (RTK.4) located in Tabanan and Buleleng Regency, Bali Province, covering an area of 1,336.50 Ha as a Natural Park of Buyan and Tamblingan Lake (not included the water area). Revision of total area according to the Decree of the Head Office of the Department of Forestry No.140/Kwl-5/1997 dated January 22, 1997, then the area of Natural Park of Buyan and Tamblingan Lake is 1,703 Ha included the water area of both lakes. In accordance with Management Plan approved by the Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry established on August 19, 1996 states Utilization Block of TWA Forest of Buyan and Tamlingan Lake area is 607.5 Ha.

In the implementation of the Management Plan of TWA Buyan Tamlingan on the field especially in the Utilization Block as the development of tourism infrastructure as mandated under the Regulation No. 36 of 2010 and the Regulation of the Minister of Forestry No.48/Menhut-II/2010 on Development of Nature Tourism in Reservation Area, National Park, Forest and Natural Park. Central Government (Ministry of Forestry) in the management of Utilization Block is referring to the Regulation No. 5 of 1990 on Conservation of Natural Resources and Ecosystem in Article 34 paragraph 2 which states that in Utilization Block TWA,





tourism infrastructure can be constructed based on the Management Plan.

Guideline for tourism infrastructure construction refers to the Government Regulation No.18 of 1994 on Nature Tourism Development in National Park Utilization Zone, Forest and Nature Park as well as the Concession of the Minister of Forestry No.167/kpts-II/1994 on Infrastructure of Nature Tourism Development in Nature Conservation Area which had been renewed by the Regulation of the Government No. 36 of 2010 and the Regulation of the Minister of Forestry No.48/Menhut-II/2010 on Nature Tourism Development in Reservation Area, National Park, Forest and Natural Park.

There are two areal parts at TWA Buyan Tamblingan, namely the Nature Conservation Area under the responsibility of the Natural Resources Conservation (KSDA) Bali Province and Territory Region of Buleleng Regency so the permission process administratively involves two existing stakeholders. Permission process of Buyan Lake area is on the Regional Regulation no. 16 of 2009 that states Buyan Lake Area is a special tourism areal because there is local community of Pancasari people who believe that Buyan Lake Area is *huluning Jagat Bali* (holy water source of Bali Island) and Buyan Lake water is holy water so the managing system should get more special treatment.

The policy direction of the Regional Government of Buleleng on Buyan Lake Area, according to the Regional regulation No. 2 of 2012 Bali is under the Cultural

Tourism for its uniqueness in one place which is not owned by other places.

Based on focus Proposition II (How is the ideal model of Buyan Lake empowerment as Sport Tourism icon which is contextual with the local social and cultural conditions?). It can be affirmed that the Government of Buleleng Regency through Culture and Tourism Office has been carrying out synergic cooperation with Pancasari people every year in doing technology training for managing tourist attraction organized by Bali Tourism Office. The restructure of Buyan Lake area has done such as for *wantilan* (gazebo) facilities, small kiosks, parking areas, toilets, canoe house and floating bridge made of *botton* with length of 2 meters and width of 1.5 meters to get to the canoe, while equipments given are canoes, rows, and water bikes.

The Government of Buleleng Gecyng through the forestry department help in planting a thousand trees in random locations. The department of marine and fisheries donate fingerlings tilapia and carp. Through Bappeda, they do monitoring related to sustainable annually development mainly the supporting facilities such as restaurants and hotels (waste disposals), objects of tourist attraction (sanitation of the area, security for sheltering, toilet facilities and they have a macro planning such as developing crop through hygiene and agriculture department. Through environmental offices, they do monitoring the air and water quality.





Cleaning water hyacinth every 6 months, the local people with the Governments of Bali Province, is an annual program to do dredging around Buyan Lake.

Grants ever given by the Government of Buleleng Regency are boat, canoe, dragon boat. Real grant of Bali Province is the building of Ulun Danu Bulian Temple.

In the area of Buyan Lake is not allowed to use motorized boats for causing pollution that causes the death of biota in the lake and can pollute the environment around the lake. Therefore, the tourism development must be environmentally friendly so that the water area is continuously maintained.

Buyan Lake area has been promoted through IT ([buleleng.go.id](http://buleleng.go.id)), pamphlets, brochures, website (about the potential of sport tourism).

The campaign has already responded by some investors such as NBA (Nusa Bali Abadi) is special charge of sports tracking, TPA handles flying Fox, PT. Three TOP Indonesia organizes playing Gibben sport, but in its implementation always gets a reaction from the public as opposes to the local wisdom and destroys the natural environment.

Based on focus Proposition III (Can the ideal model of Buyan Lake empowerment operationally be done and provide positive impact for local community and receive positive response from the tourism entrepreneur?). It can be affirmed that Buyan Lake area is very likely to be developed as an environmentally friendly Sport Tourism

icon. Buyan Lake is a sacred area and there are many historical temples and worship places of Hindus in Pancasari Buleleng and Bali, by stakeholders' synchronization, it is very precise to be a Sport Tourism icon.

The empowerment Buyan Lake as Sport Tourism icon Buleleng Bali is very appropriate because Buleleng wants to develop especially in the area of Buyan Lake as border entrance to the Buleleng Regency, and as the first step of its establishment, Buleleng should dare to break forward for Buleleng development. If Buleleng is successful as Sport Tourism icon, it will be able to increase incomes and will be more widely known. In the development of Buyan Lake area as Sport Tourism icon, it is expected from all existing components the local community of Pancasari, the Government of Buleleng Regency, and Natural Resources Conservation (KSDA) of Bali Province to have one word in this mission.

In the development of Buyan Lake area, it needs attention on the concepts of sustainability, local wisdom and sustainable development. Buyan Lake area is in Utilization Zone, hence it can be developed by taking into account of local wisdom and environmental preservation, utilization of developed natural potential of Buyan, in order to improve the welfare of its society.

## **SUGGESTIONS AND CONCLUSION**

If the development of Buyan Lake area can run well with the arrangement of





sport tourism, the income of local community, the Government of Buleleng Regency, and the Natural Resources Conservation (KSDA) of Bali Province will get better because of extra income from tracking and camping, fishing, rowing boat, cultural tourism, castle, agro-tourism, spiritual tourism, and pre wedding.

Buyan Lake is a sacred area and there are many historical temples and worship places of Hindus in Pancasari Buleleng and Bali, Buyan Lake is also border entrance to the Buleleng Regency, by stakeholders' synchronization, it is very precise to be a Sport Tourism icon.

This study indicates that all three aspects of the focus are still need further research, in order to uncover deeper primarily about empowerment model of Buyan Lake area and the development of sport tourism, hence real utilization of empowerment model of Buyan Lake as sport tourism icon is really becomes a necessity and public consumption with a very high selling value.

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## The Effect of Healthy Heart Exercise Toward the Heart Rate, Blood Pressure, and Respiratory Capacity in Over Old Women of Omega Nursing House Manyaran Semarang

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### Abstract

*The goal of this research was to know the effect of healthy heart exercise during 4 weeks with 3 times a week toward the changing of heart rate, blood pressure and respiratory capacity in over old women.*

*This was Experimental research using by "pre test-post test group design" method. The population of this research was the over old women of Panti Wreda Omega Manyaran. While the sample was 30 over old women of Panti Wreda Omega Manyaran. Independent Variable of this research was the healthy heart exercise while the dependent variable was the heart rate, blood pressure, and respiratory capacity. Instrument of this research were the stethoscope to measure the heart rate per minute, tensimeter to measure blood pressure, and water was then analyzed using Normalitas Test and Multivariate Analysis of Variance.*

*Result of the research which had done during 4 weeks, in times a week in 30 minutes showed that: 1) F-test result of relationship between exercise and heart rate was 21,033 with significancy level  $0,000 < 0,05$ . It meant that there was difference of heart rate before and after doing the healthy heart exercise. 2) F-test result for the relationship between exercise and systole blood pressure was 5,275 with significancy level  $0,025 < 0,05$ , it meant that there was difference of systole blood pressure before and after doing the healthy heart exercise. 3) F-test result for the relationship between exercise and diastole blood pressure was 0,827 with significancy level  $0,367 > 0,05$ , it meant that there was no difference of diastole blood pressure before and after doing the healthy heart exercise. 4) F-test result for the relationship between exercise and respiratory capacity was 11,696 with significancy level  $0,001 < 0,05$ , it meant that there was difference of diastole blood pressure before and after doing the healthy heart exercise. From the result of testing among the samples group were provided the result that heart rate gives the were 26,6% influence, 8,3% systole blood pressure, 1,4% diastole blood pressure, and 16,8% respiratory capacity.*

*According to the result of the research could be concluded that healthy heart exercise which was done during 4 weeks with 3 times a week in 30 minutes duration had the influence toward the heart rate, blood pressure and respiratory capacity of over old women in Panti Wreda Omega Manyaran. It is suggested for over old women to do the exercise routinely minimal 3 times a week in 30 minutes in order to have cardiovascular and respiratory sistem better and healthy.*

**Keyword :** *Effect, Healthy Heart Exercise, Heart Rate, Blood Pressure, Respiratory Capacity, Over Old Women, Omega Nursing House Manyaran Semarang*

### FOREWORD

The Advances in medicine and health care has the main goal to health the people

of Indonesia that Indonesian people become productive and self-sufficient society physically and mentally healthy for all ages and health community exercise so as to give





an effect in increasing of Indonesia human life expectancy. In Indonesia the progress of field affects the human life expectancy is longer. Population projections by the Central Bureau of Statistics shows that between the years 2005-2010 the number of elderly will be equal to the number of children under five , which is about 19 million people or 8.5 % of the total population of Indonesia ( Siti Maryam , 2008:10 ) . Humans can survive up to more than 60 years. Man over the age of 60 years referred to as elderly. In Article 1 of Law No. 13 of 1998, quoted by Siti Maryam said on Health that ended up is someone who has reached the age of 60 years (2008:32) . Meanwhile, according to WHO aged between 60-70 years.

Number of life expectancy in elderly of women and elderly men have a significant comparison, as argued by Setiono that life expectancy for women on average 66 years and men 62 years (2004:9).

Nursing home is a place where the elderly people gather either voluntarily or submitted by the family to care off his needs at this place where there are government-run or private. State has a main duty to maintain and preserve every citizen as stated in Law No. 12 of 1996 (Directorate General of the Ministry of Justice and Human Rights).

In general, elderly will had an experience of change in the cardiovascular system and the respiration system. As stated by dr. Heriawan Soejono quoted by Siti Maryam (2008:3) one of the important

problems faced by the elderly is health. Respiratory and cardiovascular problems include blood pressure and heart rate was decreased in the elderly, due to the influence of age. Physical activities for the elderly in general are aerobic.

3-4 times a week Exercises with the frequency and intensity of the maximum pulse rate of about 60% -80% with DNM = 220-age (Siti Maryam, et al, 2008:143). Gymnastics is divided into six types namely gymnastics artistic gymnastics, rhythmic sportive gymnastics, acrobatic gymnastics, trampoline gymnastics, sports aerobics, general exercise one of them is a heart healthy exercise (Mahendra, 1999:13). One of Aerobics created specifically by the Healthy Heart Club, Indonesian Heart Foundation Healthy Heart Gymnastics named (SJS) (Dede Kusmana, 2006:165). Older women have a longer survival than in older men but still needs body exercise to maintain the cardiovascular system in heart rate and blood pressure.

Healthy heart Gymnastics have arranged for the elderly and expected give an affect of the ability in repairing and maintain the cardiovascular system in order to become independent and productive elderly. Healthy Heart Gymnastics is a part of the Healthy Heart Sports; it must fill the rules of sport in general, in the sense used for a long time with minimum time to exercise core exercise is 20 minutes, beside heating and cooling (Dede Kusmana, 2002:238)







Problem Restriction in this research is to determine how much is influence the healthy heart exercise on heart rate in women aged over 60 years?

Problem formulation in this study is:

Is there a heart-healthy exercises influence on heart rate, blood pressure and lung vital capacity in elderly women case in Omega nursing homes Manyaran Semarang in 2010?

The purpose of this study is:

Determine the effect of exercise on heart-healthy exercise heart rate, blood pressure and vital lung capacity in elderly women in Omega nursing homes Manyaran Semarang in 2010.

Benefits of Research

The evidence of the results of this study are expected to provide information on the effect of heart-healthy exercises and knowing the results of this study, the writer hopes it can provide a positive contribution to the community in knowing how big a heart-healthy exercises influence on heart rate, blood pressure and vital lung capacity in women elderly in nursing homes Omega Manyaran Semarang in 2010.

## REVIEW OF THE LITERATURE

Aging or the aging process is a process of eliminating the ability of the skin to improve and maintain the structure and function normally. Person Physical changes will be occurring in the aging process, these changes are less influenced by genetic

factors, physical activity, nutrition and disease (Emma S Wirakusumah, 2000:23).

Anatomical structure changes that occur are mikropis not makropis. For example if there is heart enlargement (kardomegali) in the elderly should be considered whether it is a secondary change connected with hypertension (high blood pressure), coronary heart disease and not because the age. (Dede Kusmana, 2002:132)

Function change, decreasing of resting heart rate slightly with getting older so that elder had slower heart rate. And the process of aging in cardiac output would decline by about 1% per year. (Dede Kusmana, 2006:103).

Exercise is a systematic exercise activity in the long time, improved progressively and individually, which leads to the characteristic physiological and psychological functions of man to achieve specific targets (Bompa, 1986:4).

In this study has important principles, namely the principle of exercise training on heart-healthy exercise for the elderly which consists of a warm up, exercises for muscles (core training) and cool-down (Dede Kusmana,2002:151-153)

Considered the Blood pressure before starting the exercise were: systolic blood pressure  $\leq 110$  mmHg or  $\leq 220$  mm Hg and  $\leq 110$  mm Hg or diastolic  $\leq 120$  mm Hg, and heart rate  $<100$  x / min or,  $80\%$  of  $(220-\text{age})$  x / min, given a long workout 30-45 minutes / day.





Given dose of exercise in the elderly should be adjusted to the condition of a person's body due to aging. Studies show, longer workouts between 20-30 minutes is sufficient to provide as much as 30% increase in capacity, if done 3 times a week within one and a half months (Dede Kusmana, 2002:24).

Gymnastics is a chosen body workout and created intentionally, knowingly conducted and planned, systematically organized with the aim of increasing vital lung capacity, develop skills and instill the values of mental and spiritual (Imam Hidayat, 1995 in Agus Mahendra, 1999:9). Gymnastics is a sport that is very popular in the community that is in high demand especially by women. Gymnastics Healthy Heart (GHH) is one of the exercises that were created specifically by the Healthy Heart Club (KJS). And gymnastics is organized complete, meaning the format heating, cooling and exercise together in one package (Dede Kusmana, 2002:121). Gymnastics Healthy Heart series but has some researchers choose Gymnastics Healthy Heart series 4 on the grounds that series 4 is consistent with the age of the participants. Implementations of the Healthy Heart Gymnastics are a set of time it took 15 minutes, 7 minutes core exercises and 3 minutes cooling. Standardized 7 minutes core exercises, because at least that would provide improved cardiovascular exercises if done at least 6 minutes. When do 2 sets, then the core to 14 minutes

The advantage of doing gymnastics especially in gymnastic healthy heart is specific largely to the power of the heart and lungs in other words, heart-healthy exercises to increase the strength of the heart with the aim of a stable circulation (Free Gymnastics, Ministry of Education, 2001)

The influence that exerted by aerobic exercises are organized to heart, namely: 1) Increase the heart pump as a result of adaptation to the load that is always facing the long-term exercises and programmed. This results hipertropy heart physiology, 2) the effect on blood pressure; Exercises will change the nature of the blood pressure, the systolic pressure will not increase, endurance exercise indicating that small changes in blood pressure to the level before the activity (Department of Education, 1982: 83)

Heart is a vital tool. The heart is as a pump for the human body during the life. The heart is like a pump to drain blood and the blood pumping through the lungs for oxygenation and from there flow throughout the body. (John F Knight, 1989:28) The size of the heart was about the size of a fist, located in the chest cavity, called the thorax.

Heart rate is a parameter that is simple and includes informative to measure the level of activity of a person's body (M.Sanjoto, 1995:125). Primary function is to supply oxygen to the heart throughout the body and cleanse the body from the metabolism (carbon dioxide). Cardiac function during pulsing, every space filled heart relaxes and blood (called diastole);





subsequent heart contracts and pumps blood out of the heart chambers (called systole).

Person's heart rate was normal, in the sense of not having the disorder; the average is 60-80 times per minute.

Blood pressure is the needed power for blood to flow and circulate in the blood vessels to reach all body tissue. Blood pressure according to Ronald is the power used by the blood flow that hit the walls of blood vessels. Each time the heart beats, the pressure increases and each time the heart relaxes, the pressure decreases. (2005:19). Blood pressure has two sizes and called systolic and diastolic blood. classified pressure normal if systolic blood pressure exceeds 140 mm Hg and diastolic blood pressure did not exceed 90 mm Hg at rest.

(Dede Kusmana, 2002:110). Normal human blood pressure measured indirectly by means tensimeter (sfigmo mercury manometer). Tensimeter tool consists of several main components, as follows: Cufflinks (Cuff) of rubber wrapped in cloth, mercury manometer scale 0-300mmHg mm, pump rubber, rubber tubing or hose, swivel ventiles.

Blood pressure measurement is done by placing a cuff on the upper arm in a sitting position for the sample, approximately 4 cm above the elbow crease. WHO (World Health Organization, 1992) determining the standard limits of human blood pressure to facilitate diagnosis and treatment or management of hypertension.

**Blood Pressure Limid According WHO**

Sistolic Pressure (mm-Hg)	Diastolic Pressure (mm-Hg)	Classification (mm-Hg)
< 140	< 90	Normotensive
141 – 159	91 – 94	Limit
> 160	> 95	Hipertension

**Exercise Guidelines Pulse for the Elderly**





Ages (years)	Maksimum (D2U) (Beats/Minutes)	Optimal (Maksimum-10)	Minimum (3/4Xd2U) (Beats/Minutes)
61	139	129	104
62	138	128	103
63	137	127	103
64	136	126	102
65	135	125	101
66	134	124	100
67	133	123	100
68	132	122	99
69	131	121	98
70	130	120	97
71	129	119	97
72	128	118	96
73	127	117	96
74	126	116	94
75	125	115	94
76	124	114	93
77	123	113	93
78	122	112	92
79	121	111	91
80	120	110	90

(Source: Dede Kusmana, 2002:168)

**Vital Lung Capacity**

The Capacity of vital lung is the largest air volume that can through from the lungs after maximal inspiration. A tool to

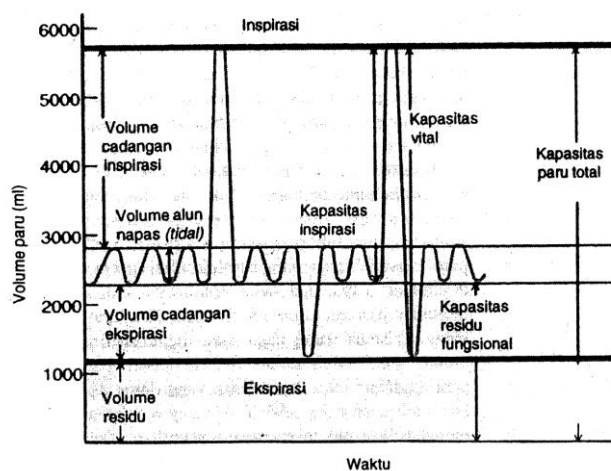


measure lung capacity is the spirometer milliliter unit. Spirometer is a device that can be used to record breathing movements as well as to record the amount of air out of the

lungs when a person's breathing. Spirometer used is made of some sort of metal with a scale of 500 to 7000 milliliters.

### Lung Volume

Gayton & Hall, 1997:604)



Spirogram image shows the changes in lung volume on a variety of respiratory conditions.

To elaborate on the events in the lung cycle, sometimes need to unite two or more volumes above. Such a combination is called lung capacity.

The entire lung volume and capacity in women is approximately 20% to 25% smaller than in men, and even more on his athleticism and big-bodied people than the smallish athletic.

### METHODS

Experimental studies conducted in this study is a treatment performed before (Pre Test) and after (Post Test) treatment in elderly women nursing Omega Manyaran Semarang in 2010.

Pre-test is a test in which retrieval of data samples taken, post-test is given after the test treatment taking measurements while the treatment itself is a gift treat a heart-healthy exercises that diberikan for 4 weeks as much as 12 meetings.





## DATA ANALYSIS

To determine whether there is influence of gymnastics as a third variable independent in Healthy Heart against the dependent variable resting heart rate, blood pressure, and vital lung capacity uses Multivariate Analysis of Variance (MANOVA).

Manova analysis test requires the assumption that the variance matrix of the dependent variable should be the same (not different) (Ghozali, 2005:76). And the variance of the dependent variable for all groups must also be equal (Ghozali, 2005:77).

### a. *Box tested dan levene's test*

Basis for decision making:

- 1) If the Sig > 0.05 then the variance of the dependent variable is equal
- 2) if the Sig > 0.05 then the variance of the dependent variable is different

## Hipotesis Result

Heart rate, the relationship of the value of F test for gymnastics with heart rate (DJ) is equal to 21.033 with a significance level of 0.000 < 0.05. This means that there is no differences in heart rate between the

Manova is an analysis of variance with the number more than one dependent variable (Ghozali, 2005:75).

## Assumptions Test

categories of gymnastics are gymnastics before and after exercise.

The result of Blood Pressure Hypothesis, the relationship of F test for gymnastics with systolic blood pressure (SYS) is equal to 5.275 with a significance level of 0.025 < 0.05. This means that there is a difference between the systolic blood pressure category before doing exercise and after exercise. The relation of F-test for gymnastics with diastolic blood pressure (DIS) is equal to 0.827 with a significance level of 0.367 > 0.05. This means that there is no difference in diastolic blood pressure results Hypothesis Lung Capacity in Vital Capacity, the results of the F test for gymnastics relationship with lung vital capacity (KVP) is approximately 11,696 with a significance level of 0.001 < 0.05. This means that there are differences between the categories of lung vital capacity before doing exercise and after exercise. Thus regular exercise in the elderly can maintain vital lung capacity.

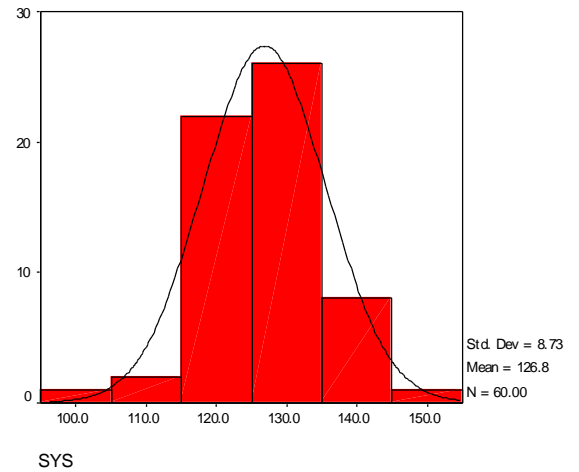
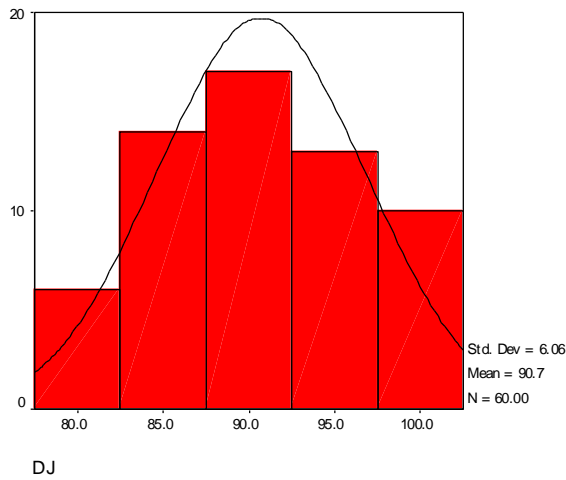
## Analysis Graph

### 1) Heartbeat

Normality test results using graphs



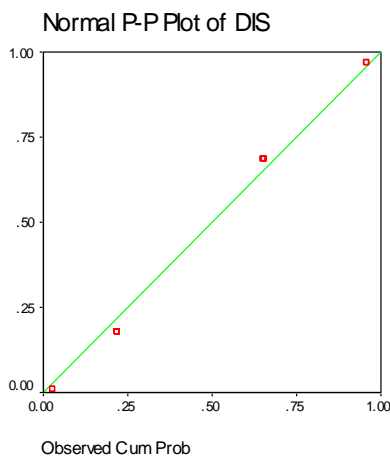
histograms and normal PP plot is as



Picture 19.

Histogram Graph *Systolic* Blood Pressure

**Heartbeat Histogram Graph**

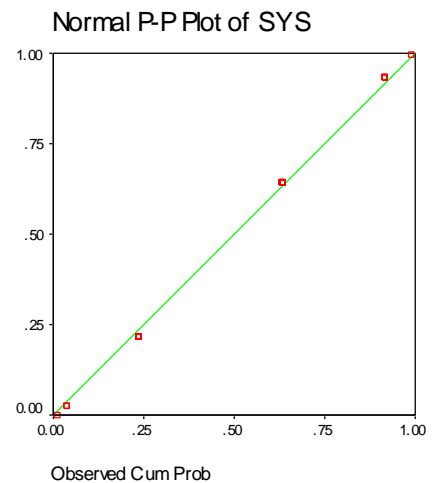


Picture 18.

Normal Heartbeat Graph *P-P Plot*

**a. *Systolic* Blood Pressure**

Normality test results using histograms graphs and normal PP plot is as follows



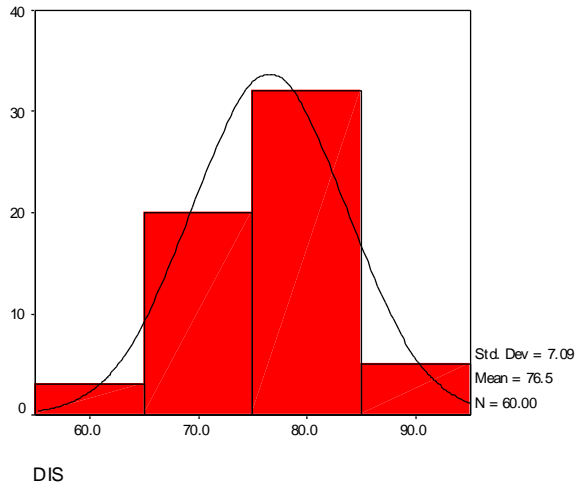
Picture 20.

Normal Graph *P-P Plot Systolic* Blood Pressure

**b. *Diastolic* Blood Pressure**

Normality test results using graphs histograms and normal PP plot is as follows

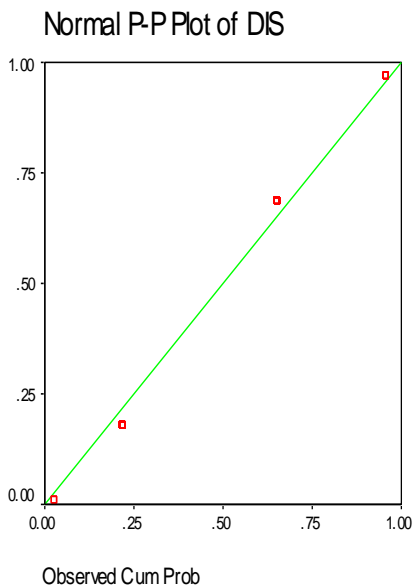




Picture 21.

Histogram Graph Tekanan *Diastolic* Blood

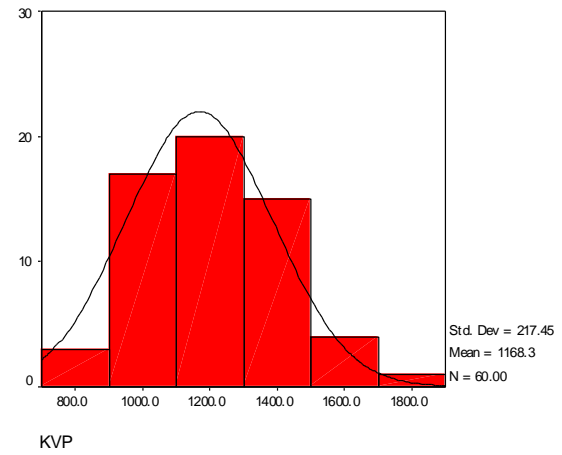
Pressure



Picture 22.

Normal Graph P-P Plot *Diastolic* Blood Pressure

c. Vital Lung Capacity Normality test results using graphs histograms and normal PP plot is as follows:

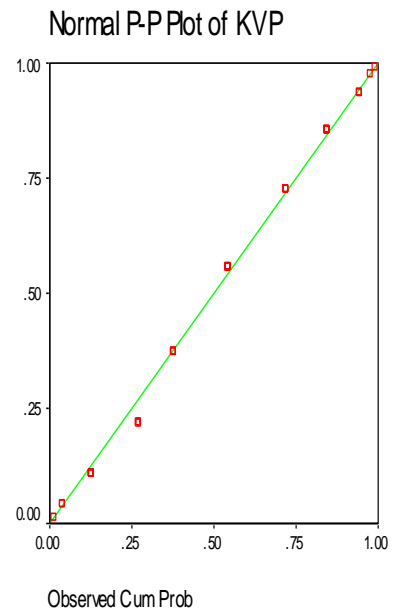


b)

c) Picture 23.

d) Histogram Graph Vital Lung Capacity

Capacity



e) Picture 24.

f) Normal Graph P-P Plot Vital Lung Capacity







In this research, statistical normality test performed with Skewness and Kurtosis test. Here is the result of normality test using SPSS 11.5:

**Tabel 3**  
**Normality Test Result**

Descriptive Statistics			
	N	Skewness	
	Statistic	Statistic	Std. Error
KVP	60	.085	.309
SYS	60	-.115	.309
DIS	60	-.261	.309
DJ	60	.065	.309
Valid N (listwise)	60		

**1) Hipotesis Test**

**a) Hipotesis Test 1 (Multivariate Test)**

Multivariate Test is used to test whether the factor (ie gymnastics independent variable) affects the dependent

variable, namely heart rate, systolic blood pressure (sys), diastolic blood pressure (dis), and the lung vital capacity (KVP)

Here are the results of multivariate test:

**Tabel 6 : Result of Multivariate Test**

Multivariate Tests <sup>b</sup>						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.998	8165.636 <sup>a</sup>	4.000	55.000	.000
	Wilks' Lambda	.002	8165.636 <sup>a</sup>	4.000	55.000	.000
	Hotelling's Trace	593.864	8165.636 <sup>a</sup>	4.000	55.000	.000
	Roy's Largest Root	593.864	8165.636 <sup>a</sup>	4.000	55.000	.000
SENAM	Pillai's Trace	.363	7.843 <sup>a</sup>	4.000	55.000	.000
	Wilks' Lambda	.637	7.843 <sup>a</sup>	4.000	55.000	.000
	Hotelling's Trace	.570	7.843 <sup>a</sup>	4.000	55.000	.000
	Roy's Largest Root	.570	7.843 <sup>a</sup>	4.000	55.000	.000

a. Exact statistic

b. Design: Intercept+SENAM

The above is the test results it show the value of the F test for the Hotelling Trace

at 251.222 with a significance rate of 0.000 <0.05. This means that there is a variable





relationship with the dependent variable, namely gymnastics heart rate (DJ), systolic blood pressure (SYS), diastolic blood pressure (DIS), and the lung vital capacity (KVP).

Test between subject effects used to tested the influence of *univariate* ANOVA for every factor through dependent variable.

**2) Hipotesis Test 2 (Test Between Subject effect)**

Table 7: Inter-group sample test

**Tests of Between-Subjects Effects**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	KVP	468166.667 <sup>a</sup>	1	468166.667	11.696	.001
	SYS	375.000 <sup>b</sup>	1	375.000	5.275	.025
	DIS	41.667 <sup>c</sup>	1	41.667	.827	.367
	DJ	576.600 <sup>d</sup>	1	576.600	21.033	.000
Intercept	KVP	81900166.7	1	81900166.67	2046.034	.000
	SYS	965201.667	1	965201.667	13576.806	.000
	DIS	351135.000	1	351135.000	6966.647	.000
	DJ	493589.400	1	493589.400	18005.148	.000
SENAM	KVP	468166.667	1	468166.667	11.696	.001
	SYS	375.000	1	375.000	5.275	.025
	DIS	41.667	1	41.667	.827	.367
	DJ	576.600	1	576.600	21.033	.000
Error	KVP	2321666.667	58	40028.736		
	SYS	4123.333	58	71.092		
	DIS	2923.333	58	50.402		
	DJ	1590.000	58	27.414		
Total	KVP	84690000.0	60			
	SYS	969700.000	60			
	DIS	354100.000	60			
	DJ	495756.000	60			
Corrected Total	KVP	2789833.333	59			
	SYS	4498.333	59			
	DIS	2965.000	59			
	DJ	2166.600	59			

- a. R Squared = .168 (Adjusted R Squared = .153)
- b. R Squared = .083 (Adjusted R Squared = .068)
- c. R Squared = .014 (Adjusted R Squared = -.003)
- d. R Squared = .266 (Adjusted R Squared = .253)

**Result**

The Reasearch weaknesses:





The majority of the sample did not fits and do not understand the process of measuring the vital capacity of the lungs.

- 1) Most of the samples belong to women who do not do sports when they were young

Most of the samples with upper class background that used to live in luxury so do not much do physical activity when they were young.

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### Abstract

*Protein is needed for growth, development, muscle formation, the formation of red blood cells, the body's defense against diseases, enzymes and hormones, and the synthesis of other body tissues. This study uses descriptive research, survey method and questionnaire as a tool collector. Food consumption data were collected using 24- hour recall method. The research was conducted in FIK UNJ, by the time the study was conducted in October 2012. The study population was all students FIK UNJ. Sampling technique with random sampling with the number of respondents is 60 people. Data collected in this study are: a) the type of food consumed during the 24 hours, b).The amount of food consumed during the 24 hours, c) Weight. Results from this study is that the normal level of protein intake was 61.66 %, 11.66 % mild deficiency, 18.3 % moderate deficiency and severe deficiency levels of 8.33 % .*

**Keyword :** Protein, Intake Protein, Protein Adequacy

### Introduction

Food is a vital necessity required by all living organisms. For human food not only serves to feed, but more importantly the functions in maintaining health through the benefits of the nutrients contained in them. To obtain optimal health, need to know the composition of the food was good quality and amount of food that should be eaten. Knowledge of nutrition has an important role in the formation of one's eating habits, because this will affect someone in selecting the type and amount of food consumed.

Protein is needed for growth, development, muscle formation, the formation of red blood cells, the body's defense against diseases, enzymes and hormones, and the synthesis of other body tissues. Protein is digested into amino acids, which then formed the body of protein in muscle and other

tissues. Proteins can serve as an energy source when carbohydrates are consumed at a time is not sufficient as strict dieting or physical exercise time intensive. Instead, approximately 15 % of total calories consumed from protein.

Protein from the food we eat everyday can be derived from animal or vegetable. Protein derived from animal sources such as meat, fish, chicken, eggs, milk, and other so-called animal protein, while protein derived from plants such as beans, tempeh, and tofu called vegetable protein. Previously, animal proteins are considered higher quality than plant protein, because it contains amino acids that is more complete. But the results of recent research proves that quality can be as high quality vegetable protein animal protein, as long as the daily diet varied. With a diverse array dish or sometimes referred to





as a balanced diet, then the lack of amino acid food which one, can be covered by excess amino acids from other foods. So with the dish: rice or replacement, side dishes, vegetables, and fruits, especially when added to milk, the composition is a healthy dish. Not only the number or quality of nutrients that we need adequate, but also the quality of the nutrients we consume high quality.

In lectures students FIK UNJ lot of physical activity in the field of work that requires a lot of muscle and should have good endurance. With adequate protein consumption growth and repair of muscle tissue that wear out, hormone production, and replace the red blood cells that die with new ones can run well. The purpose of this study was to determine the level of protein intake of students FIK UNJ.

## Research Methods

This study uses descriptive research, the method of survey on the population and respondents using a questionnaire as a means of collecting. Food consumption data were collected using 24-hour recall method.

## Location and time study

The research was conducted at the Faculty of Sport Science, State University of Jakarta, by the time the study was conducted in October 2012

## Population and Sample

The study population was all students of the Faculty of Sport Science, State

University of Jakarta, which consists of three departments namely the Department of Sport Performance, Department of Education and the Department of Sports Recreation Sports college status is still active. Sampling technique with random sampling in which the sample is taken at random without regard to existing strata in the population. The samples are randomly drawn students from various majors in simple UNJ FIK by the number of respondents by 60 people.

## Research Instruments

The instrument used to collect data in this study is a way of questionnaires that contain multiple items :

- a. Type of food consumed during the 24 hours
- b. The amount of food consumed during the 24 hours
- c. Weight

## Data Analysis

Data were analyzed descriptively, food consumption data is translated into the form of nutrients (protein). Nutrient content of food consumed was calculated using the List of Food Composition (DKBM), the level of nutritional adequacy is calculated based on Recommended Daily allowances (RDA) is recommended in Indonesia.

## Results and Discussion

The average consumption of protein FIK UNJ Students are 63.45 grams, while the rate of protein consumption can be seen in





Table 1. From Table 1 it is known that the normal level of protein consumption is 61.66 %, which is in deficiency rate 11.66 % mild, moderate deficiency was 18.3 % and the severe is 8.33 %. Food sources of protein consumed daily comes from animal or

vegetable. Protein derived from animal consumed is meat, fish, chicken, eggs, milk, while vegetable protein is frequently consumed rice, beans, tempeh, and tofu.

Table 1 Protein Adequacy in students of sports science Faculty of Jakarta State University

o	Protein Adequacy	Category	Amount	%
	90-119% of the RDA	Normal	37	61,66
	80-89% of the RDA	Mild deficiency	7	11,66
	70-79% of the RDA	Moderate deficiency	11	18.33
	<70 % of the RDA	Severe deficiency	5	8.33
Amount			60	100

From Table 1 it is known that there are still around 38 % of respondents who experienced a lack of protein in the daily diet. The amount of protein consumed food containing less than recommended. In lectures students FIK UNJ lot of physical activity in the field of work that requires a lot of muscle and should have good endurance. With adequate protein consumption growth and repair of muscle tissue that wear out, hormone production, and replace the red blood cells that die with new ones can run well. When protein intake below the recommended sufficiency this can have a negative effect. The body's ability to fight infection depends on its ability to produce antibodies against specific organisms that cause infection or against foreign substances that enter the body to form antibodies protein is absolutely necessary, if the person is

deficient in protein antibodies in the body will decrease. This can result in a person being sick more easily. Stamina is one of the important factors that strongly support the achievement, good stamina can only be obtained when taking nutrients as needed. Proteins form part of the structure of every cell and tissue in the body, including muscle tissue , internal organs, tendons, skin, hair and nails. Protein, composed of about 20 % of the total adult body weight. Protein is needed for growth and formation of new tissue, to repair tissues and to regulate metabolic channels, and may also be required to make almost all of the enzymes and many hormones (such as adrenaline and insulin) and neurotransmitters. Protein has a role in maintaining optimal fluid balance in the tissues, transport nutrients in and out of cells, carrying oxygen and regulate blood clotting.







There are 20 amino acids that form a protein. Amino acids can be combined in various ways to form hundreds of different proteins in the body. When protein is consumed, the protein will be broken down in the digestive tract into smaller molecules that single amino acid unit and a dipeptide (two amino acids linked together). Or adding muscle growth is only possible only when there is enough corresponding amino acid mixture including for maintenance and repairs. When muscle protein deficiency cannot be well formed, whereas in the lecture students FIK requires muscle work, especially lectures motion. Body proteins are in a dynamic state, which in turn are broken down and re-synthesized. Every day as many as 3 % of the total protein is in this altered state. Intestinal wall every 4-6 days to be replaced, requiring the synthesis of 70 grams of protein every day. The body is very efficient in maintaining the existing protein and amino acids reuse derived from the breakdown of tissue to rebuild the same tissue or another tissue. Man must obtain protein intake every day, because the body does not store protein reserves. If you do not eat foods containing protein at all, can damage body tissue protein. Tissue protein found in the body's muscles, enzymes, neurotransmitters, and the muscles of internal organs, like the heart. Damage to body tissue protein, can lead to protein in the blood go down and cannot be reshaped by the liver. As a result, the liquid cannot be maintained in the form of blood, and a leak.

Protein is the main component of the enzyme, while the body cannot function properly without the enzyme. The enzyme has a time limit expired, and must be replaced every day. If there is no protein in the body that is used to form the vital enzymes, the body will take protein from body tissues. This is what causes the body's tissues become damaged. Many studies involving both endurance and strength training has been shown that the current recommended protein intake was 0.75 g / kg body weight / day is not enough for the people who participate in regular exercise or sport. need extra protein to compensate for the increased protein breakdown during and immediately after exercise, and facilitate the improvement and growth. Exercise triggers the activation of the main enzymes of amino acid oxidation in muscle, which is then used as a fuel source. the greater the intensity of exercise and the longer the duration of the exercise, the more protein is broken down for fuel .

## **Conclusions and Suggestions**

### **Conclusions**

The conclusion from this study is that normal levels of protein consumption is 61.66 % , which is in deficiency rate 11.66 % mild, moderate deficiency was 18.3 % and the deficiency severe is 8.33 %. Food sources of protein consumed daily comes from animal or vegetable.





### Suggestion

Expected to have continued research on the factors that influence student food consumption FIK UNJ

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## The Development of Yoga Asanas, Pranayamas, and Mudras to Increase Exercise Adherence among Diabetes Mellitus Patients

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### ABSTRACT

*Currently, a few exercise models have been introduced to diabetic patients however, they have relatively low exercise adherence (EA). Yoga provides aerobic, balance and strengthening training which is beneficial to diabetic patients. It also stimulates relaxation which comforts diabetic patients thus potential to increase the EA.*

*This research aims to developed Yoga model for diabetic patients based on theoretical concept and patient`s responses to increase EA. This research consists of three phases including (1) the development of the model, (2) expert validation and (3) patient`s responses trial. Twenty five diabetic patients (13 females and 12 males) were invited to join once a week Yoga session for 8 weeks. They were asked to rate the Yoga model based on (1) comfort, (2) aesthetics and (3) safety aspects on the scale of 1 to 10 (10 represents highest satisfactory level). In addition, the participation rate was assessed.*

*A yoga model had been developed and validated by three experts on exercise therapy, endocrinology and exercise modelling. The percentage of subjects participated in eight weeks session was 95,5%. The average rating for aesthetic, comfort and safety aspects were 8,9, 7,4 and 7,5 respectively. In conclusion, the Yoga model developed in this research is validated by the expert, perceived relatively well by subject and yields on a high participation rate.*

*Keywords: Yoga, Diabetes Mellitus*

### INTRODUCTION

Diabetes mellitus (DM) is the condition in which the level of blood sugar is increasing due to the insulin malfunctions (Alberti and Zimmet 1998) . Clinically, the increase level of blood sugar stimulates the serious complication in blood vessels (angiopati) and nerves (neuropati) thus DM potentials to disrupt almost all of the organs(Fulop, Tessier et al. 2006)). Statistically, DM has a quite high morbidity and mortality, it is estimated that at 2030 Indonesia will have the highest number of diabetes in the world. This potentially

increase Indonesian burden of diseases (Reusch 2002).

Exercise is one of the integral parts of DM management along with education,diet and pharmacology therapy (Womack, Nagelkirk et al. 2003). Unfortunately many DM patients do not conduct appropriate exercise based on the altest research finding. As the illustration, the model of the diabetes exercise that was developed in Indonesia in the period in the 1990 's took the form of *Senam Diabetes Indonesia* only incorporate aerobik technique. Meanwhile, several recent researches shows that the use of the technique aerobik is not sufficient in



controlling the level of blood sugar. The technique should be combined with the strengthening exercise (resistant training) that stimulated the skeletal muscle. The muscle subsequently will produce cytokines (IL 3 and IL 6) that play roles in the increase in the sensitivity of insulin (Womack, Nagelkirk et al. 2003). Furthermore the strengthening exercise increases the muscle mass therefore increase the capacity of glycogen savings which helps regulating blood sugar. Another problem in conducting exercise in DM is that the exercise should be conducted regularly. Therefore the exercise model should interest the subjects and yields a high exercise adherence.

Yoga is the practice of the physical activity that came from India since 4000 years ago (Desikachar 2010). Several kinds of yogas are practiced to increased wellbeing. Among them are asanas (postural), pranayama (control of the breath), dharana (concentration), and mudras (finger gesture) (Bijlani, Vempati et al. 2005). Asanas yoga provides combined aerobic, resistant and balance training therefore potential to control the level of blood sugar (Malhotra, Singh et al. 2005). Pranayamas and mudras are also potential to improve neural and vascular health of DM patients (Sahay 2007). Yoga also provides relaxation which potentials to increase exercise adherence. This research aims to develop yoga exercise model which potential to control blood sugar and yield on the a high exercise adherence among the DM patients.

## METHODS

The methods of this research comprised three main stages which were Designing, Validating and Reception Test.

### 1. Designing

- a. Based on literature review based on DM pathophysiology and exercise physiology.
- b. Based on socio-psychology aspects which aims to increase exercise adherence
- c. Based on safety aspect to minimize adverse effects.

The designing was based on the exercise physiology to achieve target zone and based on Perkeni (Perhimpunan Endrokinologi Indonesia) which requires exercise to employ CRIFE principles (*continue, rhythmic, interval, progresive and endurance*)

### 2. Validation (*Expert Judgment*)

The yoga prototype were validated by three experts on exercise therapy, endocrinologist and exercise trainer.

### 3. Reception Test (*Secondary Validation*)

The validated yoga model were tested to 25 DM subjects (13 females and 12 males). During this stage, the subjects were invited to attend once a week (supervised) and advised to conduct twice a week (unsupervised) for eight weeks. The percentage of attendance (supervised session) and compliance (Unsupervised session) in 8



we represent absolute unsatisfactory while 10 represent absolute satisfactory. At weight 8, drop out rate

was also calculated by calculating the percentage of subjects who were not attended to the last session.

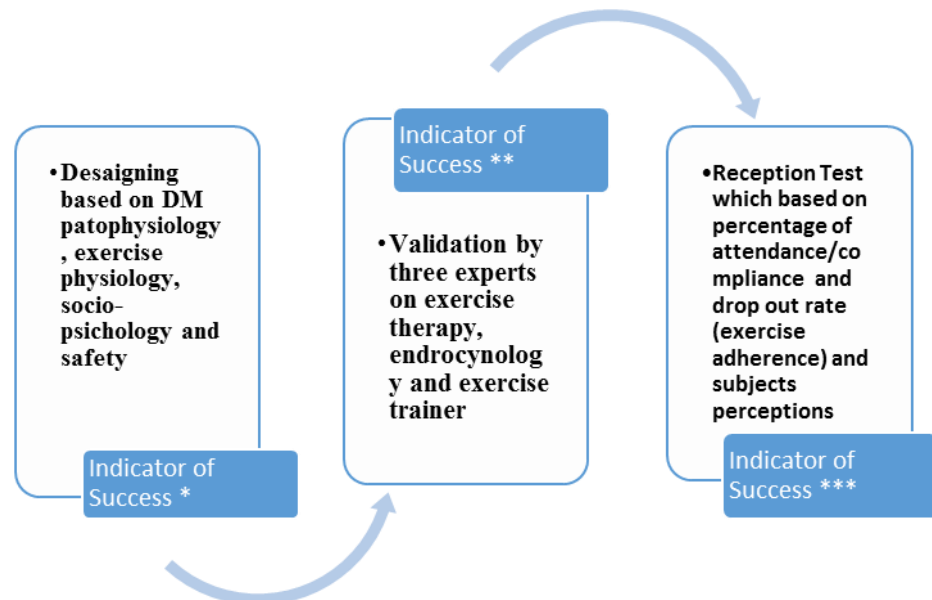


Figure 1. Methods/Frame Works of Research

**Keterangan Gambar :**

- \*= Indikator of success in this stage is the development of yoga prototype based on the DM patophysiology, sociopsichology and safety.
- \*\*= Indikator of success in this stage is that the yoga prototype were validated by the panel of the experts.
- \*\*\*= Indikator of success in this stage is that the pyoga model yielded on exercise attendance more than >75% and drop out rate < 25%.

**RESULTS**

- a. Development Phase
  - (i) Tahap pengkajian
    - a. Literature review

Based on the literature review several standing, seated and combined poses were identified as the main asanas. Those poses were selected due to their characteristics and potential to provide aerobic, resistant and balance exercise which are needed in diabetes mellitus patients. The main asanas were combined with pranayamas (breathing exercise) to stimulate autonomous nerves. The pranayamas was selected since there are plenty of evidences suggest that pranayama exercise increased parasympathetic and decreased simpathetic activity. With this regards it is assumed that pranayama may decrease glucagon and epinephrin





release before exercise as anticipation responses and during exercises which can cause blood sugar elevation. In addition to asanas and pranayamas, several mudras were identified to increase peripheral blood flow so that prevent neuropati and microangiopati.

b. Socio-psichologis Aspect

To increase exercise adherence, the prototype should stimulates “addictive effect” so that it will attract subject to do the exercise regularly. Pranayama components was intended to increase relaxation which stimulates comfort to the diabetes mellitus patients. Another aspect which needed to be consider was the difficulty level of the poses. The poses which were difficult to be conducted were less likely to attract subjects to regularly do the exercise. Therefore, every poses selected in this developmental phase was tested to unexperience subjects. Their response on difficulty level of each poses were rated. The poses which were selected were fell into category very easy and easy, while the poses which fell into difficult and very difficult were omitted.

c. Safety Aspects

The majority of diabetes mellitus patients are old and have already suffered from health complication such as high blood

pressure and neuropathy. They also have relatively low aerobic capacity and stiffed joint. Therefore, several poses which requires high physical capability were not selected. One the examples of those poses are the pose which require large range of movement. Other reasons was the pose which give a high impact on a certain part of the body for instance standing in one leg for a long time or balancing upon small muscle groups such as hand and arm.

(ii) Prototype Development

Based on progression and esthetics, the following prototype were modelled.

a. Warming Up

The basic asana pose in warming up was standing poses. It was started with mountain pose (*tadasana*) which was combined with *pranayama* (breathing exercise) which included three part breath (*dirgha pranayama*). This incorporated (i) prolonged and fine inhalation, (ii) exhalation and (iii) retention. *Mountain pose* (*tadasana*) was combined with arm movement to increase heart rate and neck movements to increase flexibility. Meanwhile the poses also incoroprated mudras to increase peripheral blood flow and to enhance pranayama effect. Several mudras which were





selected in the prototype includes *gyan, rudra, pritvi, shanka, vayu, linga, surabhi and surahi mudras.*

Mountain pose was followed by *five pointed star pose, goddess pose, cressent moon pose, chair pose, stork pose and dancer pose* so that more muscle groups were involved to increase heart rate. The poses were modified with arm and hand movements. The final pose in the warming up was mountain pose which was the initial movement in main exercise.

b. The Main Exercise

The main exercise incorporated surya namaskara especially turiya yoga branches which includes (i) invoke, (ii) intent/inhale, (iii) surrender/exhale, (iv) assume/inhale, (v) align/exhale, (vi) awareness/inhale, (vii) surge upward/exhale, (viii) expand as space/ exhale, (ix) ignite/inhale, (x) void/ exhale, (xi) fullness/inhale and (xii) third eye/ exhale.

Surya namaskara were selected because it provides resistant and balance exercises which were needed by diabetes mellitus patients. The aerobic metabolism can be stimulated with the modulation of intensity and repetition of the surya namaskara cycles. Generally it is suggested

for the first time yoga learner who to complete one cycle in 5 to 10 minutes. After the physical condition allowed the subjects to increase the exercise dosage, it can be conducted more than once. The surya namaskara was finished with mountain position which was followed with surrender as the transition pose to obtain easy pose (sukhasana)

c. Colling Down

The basic pose in the cooling down was seated positions. It was started with easy pose (sukhasana) as the basic pose. It is followed with bound angle pose (baddha kanasana), half lotus pose (ardha padmasana), lotus phase (padmasana), cow face pose (gemukhasana, simple twist (parsva sukhasana), setaed half spinal twist and (ardya matsyendrasana). The seated position was followed with last pose which is child pose.

b. Validation and Revision

The validation was conducted by three expert each on exercise therapy, endocrinology and exercise training. The prototypes were approved by the experts so that it can be used in the reception test to evaluate the exercise adherence related to the prototype and the perception of the subjects upon the comfort, esthetics and the safety aspects of the models.





c. The Reception Test

(i) Exercise Adherence and Drop Out Rate

The first analysis was based on the percentage of subject attendance during once a week yoga session. The average of the

percentage of subjects attendance during the invited session for both sexes was 95.5 % (female and male were 95.1 % and 95.8% respectively). The detail percentage of attendaces from first to eight weeks were illustrated in Figure 2.

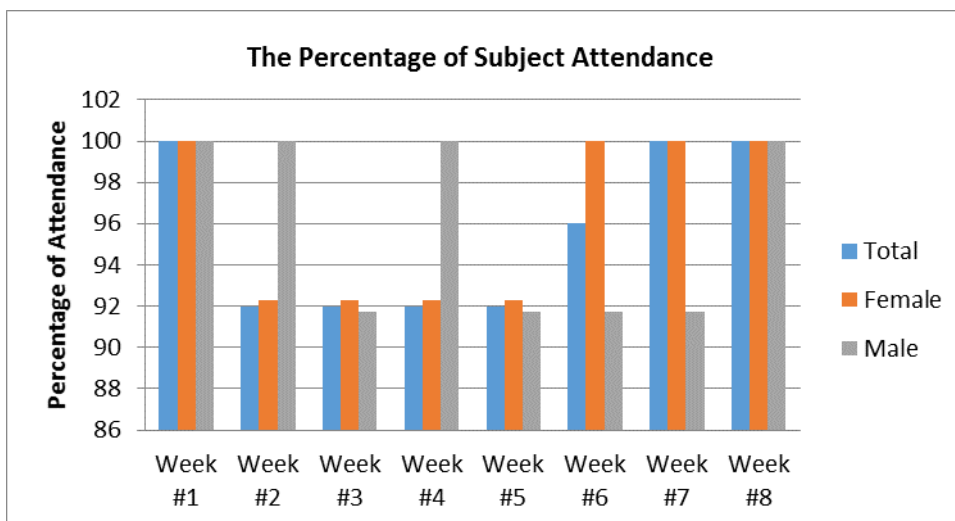


Figure 2. The Percentage of Subject`s Attendace during Invited Yoga Session

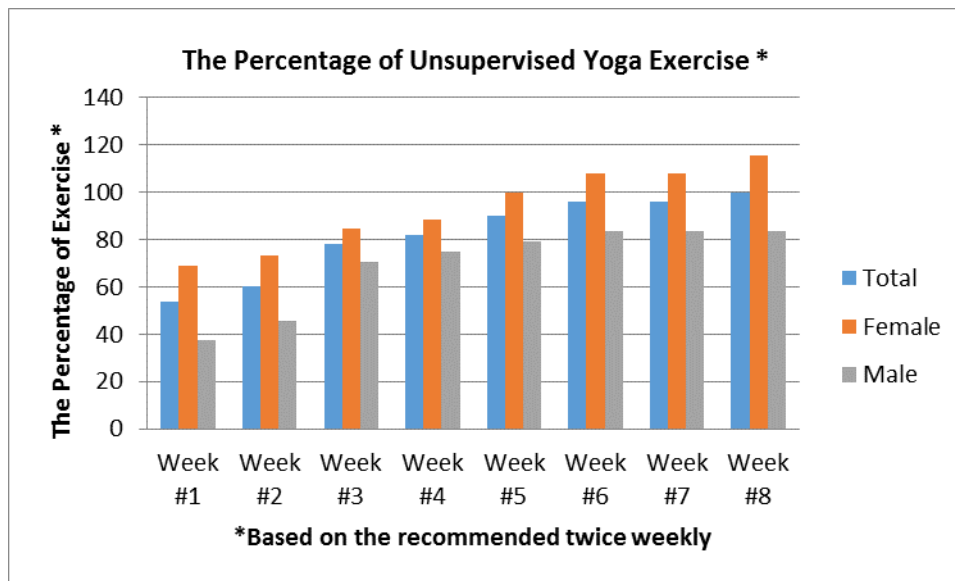
It can be observed from the graph that the drop out rate was 0. The percentage of attendaces during first to eight week were between 90 to 100%.

As the subjects were advised to do two more yoga exercise unsupervised at home. During the meeting they were asked to report how many yoga session they did unsupervised. The percentage of

subject did unsupervised yoga exercise during first to eight week were 82,0% in total and 69,79 % and 93,0% for male and female respectevly. The detail percentages of unsupervised exercised from first to eight weeks were illustrated in Figure 3.





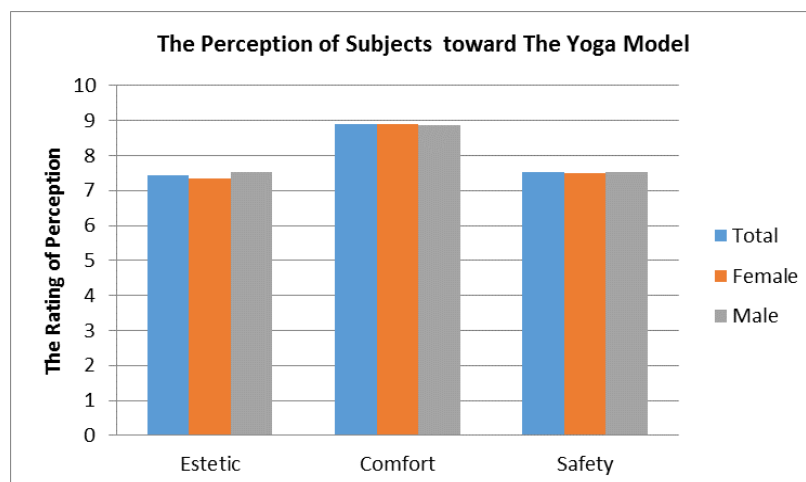


**Figure 3. The Percentage of Subject`s Compliance on the Unsupervised Yoga Exercise**

(ii) Subjects Perception Upon Yoga Exercise

In the final week, the subjects were asked to rate the yoga model they have done for eight weeks upon esthetics, comfort and safety. The scale was 0 to 10 which 0 represent

unsatisfaction and 10 was the maximum satisfaction. The average satisfactions for estetic, comfort and satisfactory were 7,44; 8,90 and 7,52. The detail responses for both sexes were provided in Figure 4.



**Figure 4. The Perception of Subjects toward The Yoga Model**





## DISCUSSION

In recent years, yoga has been an exercise basis which is closely related with the improvement of several ailments including diabetes (Kosuri and Sridhar 2009). This research attempt to model yoga exercise which benefit diabetic patients based on the literature review and socially accepted by the subjects.

Based on the literature review, several aspects needs to be consider. Firstly the exercise should accomodate aerobic, balance and resistant training and secondly the exercise should apply CRIPE (continue, rhythmic, interval, progresive and endurance) concept (Sahay 2007). The yoga model develop in this research includes several standing and seated poses and also utilize sun salutation (surya namaskara) poses as those has potential to benefit diabetic patients. The asanas were combined with pranayamas to stimulates autonomic nerves so that the balance between sympatic and parasympatic can be achieved. The mudras were utilized to increase the peripheral blood flow to manage and prevent neuropathy (Skoro-Kondza, Tai et al. 2009).

In order to be accepted and increase patients motivation to conduct the exercise, the exercise models should incorporates the easy but chalenging exercise which allows patients to improve in line with their ability. The level of difficulty of the poses should be arranged to stimulates the feeling of success

so that motivates them to continue the practice (Salmon, Lush et al. 2009). They should enjoy the exercise and look forward to continuing to practice them supervised or unsupervised. Those concepts were applied in this research to increase exercise adherence.

The prototype of the yoga model in this research were validated by the experts of exercise therapy, endrocynologist and exercise trainer to ensure that the models were conceptualize based on diabetes mellitus patophysiology, exercise physiology and estetics. The experts controls the models so that the models will have the maximum benefits in controlling blood sugar level, preventing and managing DM complication and have optimal exercise adherence.

The reception test which was conducted for three weeks on 25 of diabetes mellitus patients (13 females and 12 males) revealed that the average of the percentage of subjects attendance during the invited session for both sexes was 95.5 % (female and male were 95.1 % and 95.8% respectively). This implied that the model yielded on a quite high exercise adherence. It is also found that the drop out rate of the program was 0%. However as the exercise should be conducted more than once a week to obtain maximum benefits, therefore the subjects were advised to conduct unsupervised exercises at mhome at least





twice a week. The percentage of unsupervised exercised (the number of sessions divided by two) was 82% on average and 69,79 % and 93% for male and female respectively. From the Figure 3 it can be seen that more female conducted unsupervised exercises each week. In addition, during the last weeks, there were several female subjects which conducted exercises more than twice a week. It might imply that female subjects were more independent in memorizing the poses and have more motivation to conduct exercise.

On the average, the rating provided by the subjects in esthetics, comfort and safety were 7.44; 8.9 and 7.52 respectively. This means that the prominent features which was valued the greatest by the subject was comfort. Meanwhile for esthetics and safety were aspects which needed to be addressed.

## CONCLUSION

Yoga prototype for diabetes mellitus patients was successfully modelled. The model contains (i) several standing, seated and combined asanas, (ii) basic pranayamas and (iii) mudras for controlling blood glucose, balancing autonomic nerve responses and increasing peripheral blood flow. The model has been validated by exercise therapist, endocrinologist and exercise training experts. Upon the reception test, it is revealed that the model yielded quite high exercise adherence and receive relatively high rating for esthetics, comfort and safety.

## ACKNOWLEDGEMENT

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**THE EFFECTS OF CIRCUIT AND PLYOMETRICS TRAINING TOWARDS AEROBIC GYMNASTICS ATHLETES' LEG POWER**

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**Abstract**

*This research aims at investigating: (1) the effects of plyometrics training circuit exercise towards leg power, which method is better in increasing aerobic gymnastics athlete leg power.*

*The research is experimental research. The method used is test method to investigate aerobic gymnastics athlete leg power. The population of the research was aerobic gymnastics athlete aged 15- 23 year old and was still one year active training. The samples used were 8 male students and 8 female students. The data analysis technique used was t-test, one group pre-test- post-test design.*

*The results show that p value of t test in pairs is 0,265, if compared with  $1 = 0, 05$  then  $p > 0, 05$ . Therefore, the statistic conclusion obtained is  $H_0$  acceptable. As a result, it can be concluded that after being calculated using SPSS the conclusion is "there is no difference of leg muscle power after and before the circuit training". From the calculation result of p value of t test in pairs is 0, 005, if compared with  $a = 0, 05$  then  $p < 0, 05$ . So, the statistical conclusion taken after counted using SPSS, the conclusion is that "there is difference legs muscle power between before and after Plyometrics. The average result calculation shows that Plyometrics training has higher average difference than circuit training exercise. Thus, it can be concluded than Plyometrics is more effective than circuit training exercise towards legs power training.*

**Keywords:** circuit training, Plyometrics, Legs Power

**TRODUCTION**

Gymnastics is a very complex sport, as it involves several components, including fitness. In gymnastics, the important components of fitness are agility and strength. Agility is the ability to change direction quickly without losing balance. Harsono (1988: 172) says that a person who has the ability to change direction and body position fast and quickly when he or she is moving without losing balance and its body position is called agility. Whereas strength is to improve muscle power in order to overcome burden throughout exercise activity. On Gymnastics require power on leg muscle to move and during the choreography movements.

Aerobic gymnastics is gymnastics on choreography with dynamic movement accompanied by proper and unique musical rhythm. The movements are usually prepared according to the storyline, and demonstrate strength, agility, flexibility, balance, and perfection of performance. (Fahmi F, 2001: 2)

The movements in aerobic gymnastics are very dynamic and require a physical movement during performance. In Yogyakarta, specifically in gymnastics athletes of Selabora (Sport Laboratory School) are athletes that are being prepared to compete local and national tournament, that is why they need a good workout and adequate training schedule. The workout is based on their agility and personal strength,





especially on their leg muscle. Sometimes, their leg muscle is still weak, so they don't perform better. It's proofed on National and Local Gymnastic tournament.

## LITERATURE REVIEW

### Gymnastic

Gymnastic is a selected and created body workout by plan, arranged systematically to form and develop personally in harmony. According to 18th century figure (Imam Hidayat, 1996: 12), there are three criteria for gymnastics, they are: (1) selected gymnastic exercise must be observed its impact to the body. (2) the movements must be done correctly. (3) Each exercise dosage has to have its purpose. Due to the complexity gymnastics movement, the three elements mentioned above are obliged to pay attention to, for example, anything that involves gymnastic movements are need attention to its impact to the body, while the motion carried must avoid injury.

#### 1. Aerobic gymnastics

FIG (2009: 10 of 32) also claims that:

*It's said that: Aerobic gymnastics is the ability to perform continuous complex and high intensity movement pattern to music, which originate from traditional aerobic exercises: the routine must demonstrate continuous movement, flexibility, strength, and the utilisation of seven basic steps, with perfectly executed difficulty element.*

Aerobic gymnastics is the form of gymnastic in choreography specifically coupled with the dynamic motion intensity accompanied by the order of the music (the song) is appropriate and distinctive. The composition of motion is usually prepared in accordance with the character (character / story) you want to display, but the choreography should always show strength, agility, flexibility, balance and perfection of execution.

This kind of sport consists of man single, woman single, in pairs, trio, and group.

#### 2. The Definition of Training

According to Sukadiyanto (2009: 32) training is the accumulation process of various components of activities such as duration, distance, frequency, number of replications, the loading, rhythm performance, intensity, volume, recess time, and density. Therefore, in preparing and planning an exercise, coaches must consider all factors called the components of exercise.

#### 3. The Agility Definition

The agility itself can be interpreted as a person's ability to perform rapid direction changes without losing balance. Harsono (1988: 172) reveals that agile person who has ability to change direction and body position quickly and precise moving time, without losing balance and body awareness. Also a gymnastics athlete, where moves require strength and





agility as intended in such a short period to complete required compulsory sequence.

#### 4. The Definition of Power

Weight training is one of the important elements to produce sportsmen. The benefits of weight training for sportsmen are: (1) to increase muscles and tissues ability, (2) to reduce and avoiding injuries (3) to improve achievement, (4) therapy and injuries rehabilitation on muscle, and (5) to assist learning or mastering a technique. (Sukadiyanto, 2005: 80)

#### 5. The Circuit Definition

Circuit training is an exercise program that consists of multiple stations, each station, an athlete doing the kind of exercise that has been determined. One exercise circuit is said to be completed if an athlete has completed training at all stations in a precise dose, (Sajoto, 1991: 161). Exercise circuit using the movement of the seven basic steps in aerobic gymnastics movement or often called with seven basic steps. How to do this made seven posts, each charged to carry out the exercise. Basic steps undertaken include jogging, knee lift, jumping jack, kick, skip, lunges, and march.

#### 6. The Plyometric Definition

The action involved in a plyometrics type of exercise relies mechanically on the stretch reflex which is found in the belly of the individual muscle, (Bompa, 1993: 161). It is translated that plyometrics is a training method that uses weight and can be done by jumping. To be

applied in specific Plyometrics exercise is: the characteristic trained in muscle groups. Plyometrics exercises are categorized based on anatomy function in conjunction with the movement that will be committed, so at the time of exercise will be based on the muscle groups involved and the relationship with the movement in sport.

### Conceptual Framework

Physical exercise is aimed to improve physical condition as well as improving athletes' performance. A good exercise program will support athlete success. By using the circuits and plyometrics as the added exercise program to achieve the best accomplishment.

Agility and strength are important elements in gymnastic and in every performance and tournament. Agility is used on moving direction and strength is used when doing compulsory movement in gymnastic.

### The Instrument Development

#### a. The Operational Definitions

The variable in this study includes two variables; they are free and bound variables. Circuit training and plyometrics is a free variable and agility, strength of limb muscles are bound variables.

Definition operational of research variables is:



1. Circuit exercise is an exercise consists of outposts that have been specified and must be completed by each athlete.



Figure 1 exercise circuit

2. Plyometrics exercise is training using weights itself and done as well as in jump-jumping.

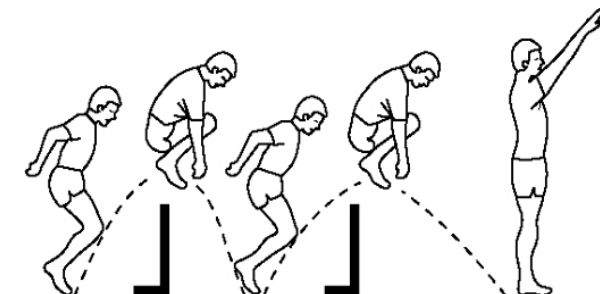


Figure 2. Plyometric Exercise (Jumping)

### Validity and Reliability

The validity and Reliability instrument mean it can be used to measure what should be resized. Sugiyono (2009: 121) states that the validity of the measuring instrument can be used to measure how far the instrument itself to have a valid data. The reliability is the ability to deliver results on measuring

compliance can also be translated as the stability of measuring results.

### Design Research

#### a. Population and Sample

The sample uses purposive sampling that is a technique that chooses samples not disordered, but based on specific consideration criteria in accordance with the research objectives Singh (2006: 91). Criteria for sample gymnastics athletes aged 15 years to 22 years who are actively practicing gymnastics for a minimum of 1 year. Suharsimi Arikunto (2006: 130) says that the determination of population in a research should be clearly and emphatically because the population is the entire subject of research. Pre-test sampling techniques using the entire population in the testing criteria. Then initial test is by doing one Vertical Jump test.

#### b. The Place and Time

The research took place at Gymnastic Selabora (Sport Laboratory School) Faculty of Sport Science, Yogyakarta State University. Colombo St. #1, Yogyakarta 55281.

### Data Analysis and Technique

The data analysis techniques used are test-t sample of one group. As a step to analyze the data, the assumption test was done first to find out whether the generated data is worth T test.







**RESULTS AND DISCUSSION**

**Data description**

From the results of this data in the form of result table of pretest, treatment, and post treatment test. The circuit workout using the 7 basic steps are (jogging, jumping jacks, lunges, kick, knee lift, march, skipping). Plyometrics exercise uses upward leaps movement (vertical jump)

**Vertical Jump test Data**

**a. Vertical Jump Result**

No	Number	Pre Test Result	Post Test Result	Result
1.	02	58	58	0
2.	08	45	45	0
3.	01	41	42	1
4.	07	41	41	0
5.	04	40	45	5
6.	05	39	39	0
7.	06	39	39	0
8.	03	38	38	0

No	Chest Number	Pre Test Result	Post Test Result	Total Result
1.	02	58	58	0
2.	08	45	45	0
3.	01	41	42	1
4.	07	41	41	0
5.	04	40	45	5
6.	05	39	39	0
7.	06	39	39	0
8.	03	38	38	0

Figure of Circuit Training Exercise Result

From the circuit training above, there are two athletes who have increased, and 6 other athletes do not increase.

**Vertical Jump Test Data**

No	Number	Pre Test Result	Post Test Result	Result
1.	02	55	55	0
2.	04	44	48	4
3.	01	42	42	0
4.	06	39	41	2
5.	07	38	41	3
6.	05	37	42	5
7.	08	37	40	3
8.	03	35	38	3

**Figure of Plyometrics Exercise**

From the Plyometrics results above, there are 6 athletes increased, there are two athletes who do not experience an increase.

**Hypothesis Test**

**1. Circuit Training Exercise**

From the calculation result of the p-value of the paired t-test is 0,265, if compared to  $\alpha = 0.05$ , then  $p > 0,005$ . The statistical inference is acquired  $H_0$  are received. In the SPSS conclusion interpreted is that there is no difference of leg muscles power before and after circuit training exercise.

**2. On Plyometrics Exercise**

From the results of the value of the p paired t-test is 0.005, compared to  $\alpha = 0.05$ , then  $p < 0,005$ . The statistical inference is  $H_1$  accepted. In conclusion, the SPSS interpreted is that there are





differences between leg muscles power before and after Plyometrics exercise.

3. The average Calculation

Plyometrics exercises have greater average than Circuit Training exercise; Plyometrics exercises are more effective than Circuit Training.

**CONCLUSION**

Both types of training methods are essentially to have the effect on enhancing leg exercises, but using Plyometrics method is more effective to increase leg power of Selabora gymnastics athletes.

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## SPORT TOURISM DEVELOPMENT IN INDONESIAN

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### Abstrak

*The paradigm on Sport Tourism began to develop in the early 2000s. It was pioneered by the publication of the international journal "Sport Tourism". Sport Tourism is defined as "A Sport Tourism Frame work is detailed andnot only a tentative sports tourism Typology (based upon competitiveness recreation activity and passivity) but also a method Utilize organization can,in order to identify current and future sport tourism development.*

*According to Spillane (1987: 30) Sport Tourism divided is 1) Big Sport Events is organizing an event or major sporting events such as Olympic Games, World Cup,World Boxing championship, world championship basketball etc.. While 2) Sport Tourism of the Practitioner is the implementation of sports tourism for those who perform for the purpose of pleasure and leisure. Examples of these activities are mountaineering, rafting, hunting etc.*

*Sport Tourism has a good effect against the development of tourism in general. Sport and tourism are the two disciplines and two different studies but can be puttogether so that mutually beneficial. In sports there are elements of tourism elements in it. Instead through sports tourism can be, nurtured and developed.*

*Another goal is to serve as a tool to introduce and to recognize sport, improve fitness and preparation exercise. In 2006 the Indonesian government began to develop sports industry which is a new field of study in this country. Ministry of Youth and Sports launched a resurgence sports industry in Indonesia. The legal basis is the development of sports industry Law No. 3 of 2005 on the national sports system. In Act No. 3 of 2005 Article 1, Section 12, stated that the Recreation Sports is a sport that is done by people with a penchant and ability to grow and develop in accordance with the condition and value of local culture to health, fitness and fun.*

*Sport Tourism is very likely developed in Indonesia. Indonesia is a country rich in natural resources which are very beautiful. Indonesia is also rich in diverse cultures. Indonesia is also rich with human resources are managed properly there have a lot of. If Economic value that will be profitable for the state, government and society. Some physical activity in the tourist spot of which is 1). Mountaineering, Climbing, sport diving, Mountain bike, Out bond, traditional sport. Conversely tourism events that can be collaborated with sporting activities in Indonesia is Lake Toba Festival, Serayu Festival, Borobudur Festival Etc.*

*Finally if managed well in Indonesia will help develop sports tourism sports and encourage people to participate in sports activities. He can also bring potential athlete seedlings in various sports. Output of this activity is to encourage public awareness of the sport and is responsible for sports performance.*

**Keywords :** Sports, Tourism, Indonesian

### A. INTRODUCTION

Paradigm of sports tourism began to flourish in the world in the early 2000s , which was marked by the publication of the journal Sports Tourism . However, the development and commercialization of the

sports industry has started in 1984 . After the implementation of the 1984 Olympic Games in Los Angeles marked the success of the organizing committee, which was a great benefit of holding the Olympic Games .





Sports tourism in Indonesia is part of the sports industry . Sports tourism is tourism that uses sports activities as a means to an end . If developed properly it has the potential to be developed in the interests of economic , social and educational .

Sports Tourism in Indonesia into policies developed as part of the sports industry. Indonesian sports industry revival began in 2006, although the rules of the sports industry has been there before . Government through the Ministry of Youth and Sports launched in 2006 as a revival of the Sports Industry sports tourism as a part of it.

Sports tourism has economic value and can bring benefits to the State , the government and local communities . In many countries , Sports and Tourism has developed is now advancing so many sports that are now used as the object as well as an attraction for tourists . Types of sports are offered primarily use the facilities that are natural such as mountains, lakes, rivers, the sea and the only offers the charm of natural beauty as well as cultural and local wisdom .

In many countries have shown no increase in spending for the purposes of travel, tourism , sports and leisure time from year to year . This potential is large enough to be used by countries that tourism as a commodity , including Indonesia .

Bali province is one of the provinces in Indonesia which develops the most successful Sports Tourism . Organizing events at international level has also successfully held in Bali . Even in 2008 successfully conducted multi Bali Asian Beach Games event is the first , with equalize some modified sports held on the beach .

Indonesia has many competitive advantages in the market place to offer tourism destinations , including climate conducive to outdoor activities , various sports activities , quality sports facilities , tourism infrastructure is well developed and heavily in the international promotion increase as the nation's sports and tourist destinations . Even the fact that the seasons in our country is the opposite of world tourism , which provides a variety of opportunities in various fields . But the potential it has to be managed in a way that provides maximum benefit for the country as a whole Although there are many opportunities in the field of sports tourism broader , some sectors and some places seem to have a special potential and to develop. Sports and Tourism are two disciplines and two studies can be combined so that it has the power and double the effect is positive . There is an element of the implementation of sports tourism in the tourism and there are those sports that do .

## B. PROBLEM





1. How does the potential for sports tourism in Indonesia
2. What obstacles faced by sports tourism in Indonesia
3. What are the challenges faced to develop sports tourism in Indonesia

## C. DISCUSSION

### 1 . Definition

Understanding sports is all systematic activities to encourage and develop the potential for physical , spiritual and social . ( Act No. 3 of 2005 ) . Further scope of the exercise is divided into : 1 ) . Sports Education 2 ) . Sports Recreation 3 ) . Sports Achievement .

Here after referred to Sports Recreation is a sports that is done by people with a penchant and ability to grow and develop in accordance with the conditions and cultural values of the local community for health , fitness and pleasure.

Understanding Tourism by Marpaung are : displacement while the man carried out with the purpose of the routine work , residence and place of scientific activities carried out during their stay at the destination and the facilities that were made to meet their needs Purwadi believes tourism is a pleasure doing activities personality , knowledge satisfaction , health , exercise , rest and pilgrimage .

Some tourism figures give a very varied definitions of the types of tourism in Indonesia . Based on the motives and objectives Yoeti ( 1978:114-116 ) divides types of tourism into 6 sections:

#### 1 . Cultural Tourism

Activities that travelers will be interested primarily in the style of art and culture in their own country so that they might be interested also to visit the sights of the same kind in other countries as far as finances and ability allow .

#### 2 . Medical tourism

Tourist activity is mostly done by those who have health like traveling from one place to another either because the doctor's advice as well as habit after feeling tired and bored of the work is monotonous .

#### 3 . Sports tourism

Tourist activity is mostly done by those who are involved either directly or indirectly in various types of sports activities such as mountain climbing , shooting , hunting , fishing , riding a car / motorcycle , boarded the plane / helicopter , highlands winter sports in the Alps , and the regatta water skiing in the North Sea , etc.

#### 4 . Tourism Trade and Politics





The participants consisted of various trade and political figures or regions / countries that went with the purpose of gaining political advantage and trade .

## 5 . tourism Sciences

The participants held meetings or research in various fields of science and knowledge to the regional, national , as well as to the international level.

## 6 . Social tourism

Aims to help those who want to travel but perhaps not in terms of finances and often gets help from government agencies / tourism either directly or indirectly .

Yotti further divided into seven types according to the tourism object , namely : Cultural Tourism, Recuperation Tourism , Commercial Tourism , Sports Tourism , Political Tourism , Social Tourism , and Tourism Religion while by means tourism is divided into 5 groups: Recreational Tourism, Cultural Tourism , Health Tourism , Sports Tourism , and Tourism Conference .

While understanding of sports tourism by Robinson & Gamon (2004 ) A sports Tourism Frame work is detailed and not only illustrates a tentative sports tourism Typology (

based upon competitiveness , recreation , activity and passivity ) but also a method which Organization can utilize , in order to identify current and future sports tourism development.

In the opinion of J. Spillane ( 1982:30 ) divides into two, namely sports tourism :

### 1. Big Sports Events

Implementation is the event / major sports events such as Olympic Games , World Cup Football , World Championship Boxing , Basketball World Championships etc.

### 2. Sports Tourism of the Practices

Is the implementation of sports tourism for those who want to do their own with the aim of pleasure and pastime such as : mountain climbing, hunting , rafting , etc. mountainering

Based on the definition above shows that the Sports Tourism in goes to a journey of people who aim to see or watch a sporting event in a place or country in sports activities themselves.

## 2 . Government policies

The government has issued a policy on sports industry as follows :

1. Sportswear creative product development and various sports equipment educational , recreational sports , and sports achievements of national and international standards .
2. Develop various sports championship events in the category olympic games ,





various championship competitions , and festivals including recreational sports community sports and traditional sports , extreme sports , including adventure sports , which is integrated with arts degrees , traditional culture, contemporary arts , natural resources , and promotion of tourism .

3 . Sports development consultancy , growing health club fitness club , growing information and communication media sports , spurring promotional, and marketing in the sports industry at home and abroad .

4 . Increased capacity and capability of the sports industry sports industry from an economic perspective , the development of sports industry geared to accelerate the reduction of unemployment , employment opportunities and business opportunities for young entrepreneurs in rural and urban areas.

### 3 . Potential Sports Tourism in Indonesia

#### a. Legal Basis

Legal basis implementation Sports tourism in Indonesia is clear that based on the law No. 3 of 2005 on the national sports system . Stipulated in article 18 of the sports industry , sports tourism as a part of the sports industry . Second Act No. 17 of 2007 concerning the long-term development plan mentioned in the sports industry development plan as follows :

1. Improve the quality of human resources

2. Improve the governance of the sports industry

3. Improve product quality standard sports industry , sports event in accordance with national and international quality standards

4. Expanding distribution center industry gym equipment capable of producing creative products of national and international standards.

5. Increase the intensity and quality of sportsing events rekreasi, olahraga tourism, nautical sports , though the open, world-class extreme sports.

6. Enhance the role and contribution of organizations , institutions , sports clubs in organizing sports events and sports equipment use the national product .

#### b . Marvelous Natural Potential

Indonesia is a country with diverse natural resources . Has the most islands in the world , amounting to approximately 13,000 pieces . Has the longest coastline in the world . Number of good mountain that is still active and that has been inactive spread from Sumatra to Papua . Many rivers , each river has its own characteristics .

Wealth of the most beautiful sea in the world is in some places in Indonesia such as Bunaken , Raja Ampat , Karimunjawa etc , a very famous beach in the world such as Kuta Beach





, Sanur Beach , Beach Lombok etc also add to the many natural tourist destination in Indonesia that should be preserved and developed .

### c. Cultural Property.

Indonesia consists of various ethnic groups , religions and customs is a tourist attraction . Potential to be very large since each tribe has different habits and different cultures. There are many historical relics which is a very rare relics , and a world heritage. Such as Borobudur, Prambanan, Mendut etc. Tourist places like this is where the potential to develop sports tourism. Tourist attraction can be used as a special attraction .

### d. Number of People Very Much

Indonesia's population now consists of approximately two hundred and sixty souls also. This number is the fourth most populous in the world. Of this amount approximately sixty-five percent of a potential work force.

The population of the lot is the basic capital in the development of sports tourism in Indonesia. If it can be managed with either a major supporter of moving the sports tourism in Indonesia

### f. Cultural property

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## 4. Existing Constraints

### a. Lack of Promotion of Tourist Attractions in Indonesia.

Sports tourism in Indonesia is hampered by the lack of information and promotion of tourist destination spot. Lack of promotion of tourist attractions on the development of sports tourism impact. Promotion sustainable a shared task between tourism and creative economy ministry with youth and sports ministry.

Promotion has been done in the conventional way and just evolved from mouth to mouth. Many tourist attractions that have the potential to be developed into a place for tourism and sports industry, but has not been handled well.

Promotion in destination countries have done intensively through various ways either through formal channels, as well as non-formal channels. Campaign spending our government is still inferior to Malaysia and Singapore in







introducing the tourist attractions to the world.

## **b. Lack of Accessibility of Tourist Destinations.**

The lack of access to the site inhibits desire that parties will follow and organized the event. Access is the key to the development of tourist attractions that will develop later. Lack of infrastructure to destinations where tourist will also hinder the development of tourist attractions. Damage to roads and bridges are also an obstacle that must be overcome by relevant ministries. The lack of infrastructure is also recognized by the Ministry of tourism and creative economy.

## **c. Lack of Qualified Human Resources.**

Quality of human resources is still not in Indonesia. Though human resources plays an important role in the development of sports Tourism. Low human resources makes our competitiveness is low compared to other countries. Low competitiveness will also hinder the development of sports tourism in Indonesia.

## **5. Sports Tourism Development Opportunities In Indonesia**

### **a. Globalization**

In the era of globalization would narrow the distance between that must be taken including the distance between countries. Asean unification

became a separate force for countries other destinations. The era of globalization will accelerate progress tourist destination spot. The more advanced the more tourist attractions promote the progress of sports tourism in Indonesia.

## **b. Indonesia's Strategic Position.**

Indonesia's position is at a crossroads between two continents and two oceans also be challenges in developing sports tourism in Indonesia. This position makes the population of two continents to visit Indonesia as one of the world's tourist destination negara.

How to utilize the geographical position of Indonesia as a tourist destination and sports tourism is a challenge that must be answered by all stakeholders of tourism and sports. Failure utilization of this strategic position will only make Indonesia as consumers tourism and sports tourism.

## **c. Security Assurance.**

Security assurance requirements of the security forces being done sports tourism. Security conditions conducive to invite tourists and tourism sports participants. To be able to fast-forward the government and the public must be able to ensure the security and order of execution of an event.

To ensure safety is not easy, given the vast territory, diverse ethnic





and religious belief potential also invite instability. Stability needs to be improved in order to compete with other countries.

#### d. Mastery of Science and Technology

Mastery of science and technology to be the basis of the development of sports tourism in Indonesia. In the modern era, the development of science and technology that have become human needs. Modern man can not be more than the invention of technology and information.

The more advanced the need for science and technology is increasingly urgent to be improved. Marketing, implementation and evaluation of the event takes the latest technology. Many tourists are on vacation and do sports but does not leave his business. It means that the infrastructure and personnel needed for a reliable provider operate it.

#### e. Improved Infrastructure and Sports tourism attractions

Good infrastructure will spur the development of tourism and sports tourism in a region. Instead the lack of infrastructure development of the two major obstacles to the above. Therefore, the development of infrastructure should be a priority that will develop tourism and tourism spots in Indonesia. It takes considerable funds to develop infrastructure. But

this development can be used as an investment and medium term and long term.

#### D. CONCLUSION.

Direct the development of sports tourism can also develop other tourism such as nature tourism and location is along the lines held sporting, cultural tourism can be performed either on-site or surrounding, and other tourism. Direct the development of sports tourism can provide great benefits to the government and society.

1. Indonesia has a great potential in natural resources, customs, culture and population are very much
2. Indonesia tourism and sports development is constrained by the lack of promotion, the low quality of human resources, the difficulty of accessibility and existing infrastructure.
3. The challenges of developing sports tourism in Indonesia is the era of globalization, geographical position, security, mastery of science and technology and infrastructure improvements.
4. If successful sports tourism will be developed to promote a tourism destination and improve people's lives around.





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## The Effect of Exercise using Ergocycle on the Blood Glucose Level and Epinephrine Release in Diabetic Patients

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### Abstract

Chronic high blood glucose level in diabetic mellitus (DM) patients resulted in several macro and micro vascular complications. Correct exercise regimen controls blood glucose level. Bicycling is increasingly popular in the diabetic patients. However, the effect of the ergocycle exercise on controlling blood glucose as well as its relation to epinephrine release have not been reviewed.

This research aims to study the effect of exercise using ergocycle for 30 minutes in 65% heart rate reserve (HRR) on the blood glucose level. Ten diabetic patients (four female and 6 male) were recruited in this study. The blood glucose level was ascertained before and after ergocycle exercise. The data of blood glucose level was statistically analyzed using wilcoxon signed rank test for blood glucose analysis and paired *t* test for epinephrine analysis. The correlation between them was analyzed using spearman correlation test.

The mean and standard deviation of blood glucose level before and after ergocycle exercise were  $172.10 \pm 127.67$  gr/dl and  $142,5 \pm 113,67$  gr/dl (*p* value: 0,017). Meanwhile the mean and standard deviation of epinephrine before and after ergocycle exercise were  $74.69$  gr/dl  $\pm 23.23$  ng/dl and  $76.62 \pm 25.11$  ng/dl (*p* value: 0,015). The spearman correlation coefficient between blood glucose and epinephrine after ergocycle exercise was 0.03 (*p* value 0,934) In conclusion; ergocycle exercise for 30 minutes in 65 % HRR significantly decreases blood glucose level in diabetic patients. However the decrease appears not related to epinephrine level.

**Keywords** : Ergocycle, Blood Glucose, Diabetic Mellitus

### INTRODUCTION

The incidence and the prevalence of diabetes mellitus (DM) is steadily increasing. The incidence DM in Indonesia in 2000 was reported of 4,4% and it is projected to increase (Reusch 2002). DM manifest in the chronic increase of blood glucose level due to the disturbance of the insulin or the insulin receptor activity. DM subsequently increase the risk of chronic heart disease, hypertension, stroke, neuropati, retinopati and the nefropati (Ribeiro, Almeida-Dias et al. 2007).

DM is classified into type diabetes 1 and type diabetes 2 (Nugent 2004). Type diabetes 1 is caused by the lack of insulin produced by pancreas. In many cases, the pancreas can not produce enough insulin due to the autoimmune diseases in which the immune system destroys the pancreas cells which produce insulin. Type diabetes 2 is a Non- Insulin Dependent Diabetes Mellitus. In this situation there is a decline of insulin sensitivity therefore insulin can not be used by body cells. Type diabetes 2 is occurring in approximately 90% to 95% of the DM patients (Simon, Retih et al. 2006).





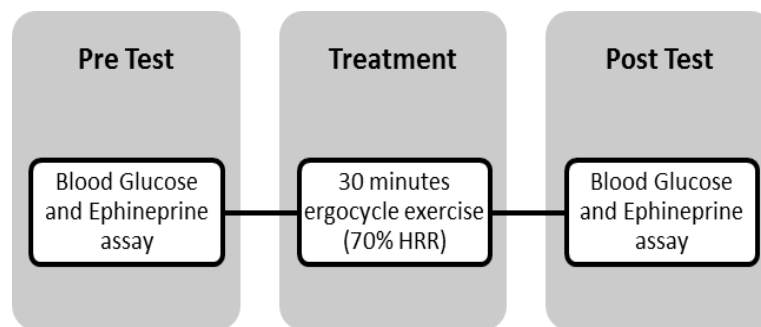
Exercise is found to improve the metabolic function of the DM patients through various mechanisms including the improvement of the regulation of blood sugar, the improvement of the lipid metabolism and the increase function of cardiovascular organs (Stern 1995). Exercise is also known to increase epinephrine level (Poll, Levi et al. 2007). This Epinephrin stimulasion is assumed to be related to the regulation of the level of blood sugar. It is assumed that the increase epinephrin may increase the level of blood sugar. Therefore exercise that do not cause the fluctuation in epinephrin is regarded as an ideal exercise in DM management (Thrall, Lane et al. 2007).

Ergocycle exercise is often was recommended to the DM patients. This is

because the ergocycle exercise includes aerobic and strengthening principles. Several researches state that both aerobic and strengthening exercise are needed to maximise the regulation of blood glucose. However, up to today, the effect of the ergocycle exercise on the blood glucose and epinephrin level in DM patients has not been investigated. This research aims to measure the effect of ergocycle exercise on blood glucose and epinephrine level in DM patients.

**METHODS**

This research was an experimental one group pretest and post test design involving 10 diabetes mellitus patients ( 4 females and 6 males subjects).



**Figure 1. Research Design**

Whole blood samples were drawn from arteria cubity. The blood glucose was measured using enzymatic method (dry chemistr method) by Kodak Ektacem protocols uses relectabce spectrophotmetru in which blood glucose was determined by measuring the intensity of color through a lower transparent film. The epinephrin

concentration was measured with HPLC (HighPerformance Liquid Chromatography) using Shimadz machine. The stationary phase was 250 x 4,6 mm C8 column. The mobile phase was aformat acid 0,1%:acetonitrizile (85:15), the water speed was 1 ml/minute, the UV Detectorwas at 230 mm, the retention time 15 minutes and the



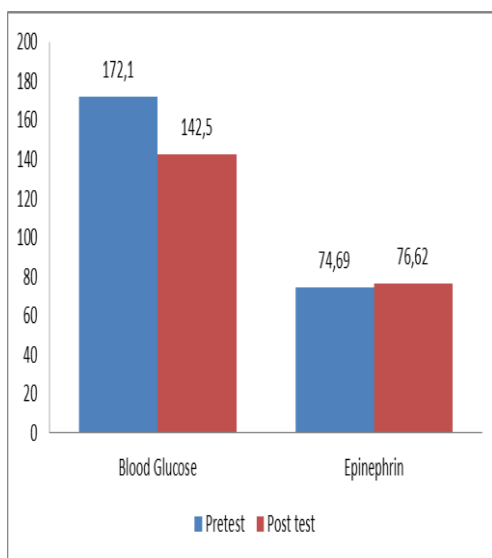


volume of the injection 20 ul. The area under curve (AUC) was processed with linear regression to receive the level of epinephrin in the sample.

The data of blood glucose level was statistically analyzed using wilcoxon signed rank test for blood glucose analysis and paired t test for epinephrine analysis. The correlation between them was analyzed using spearman correlation test.

**RESULT**

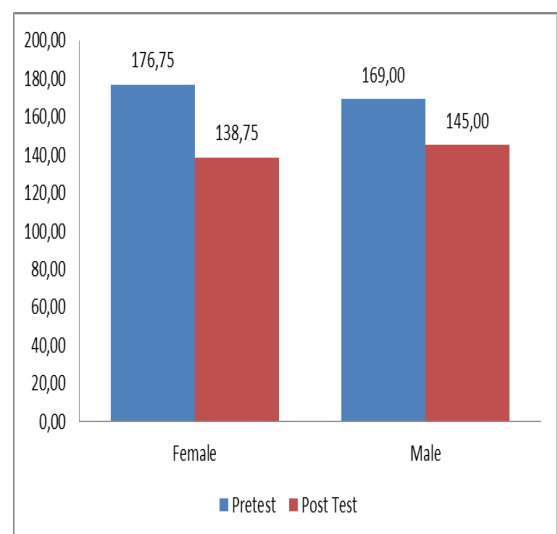
**Blood Glucose and Epinephrine Concentration Before and After Ergocycle Exercise** The average ± standard deviation of blood glucose concentration before and after ergocycle exercise were 172,10±127,7 and 142,5±113,67 respectively while the average standard deviation of epinephrine were 74,69±23,23 and 76,62± 25,11 respectively. Figure 2 provides lilustration of the figures.



**Figure 2. Blood Glucose and Epinephrine Concentration Before and After Ergocycle Exercise**

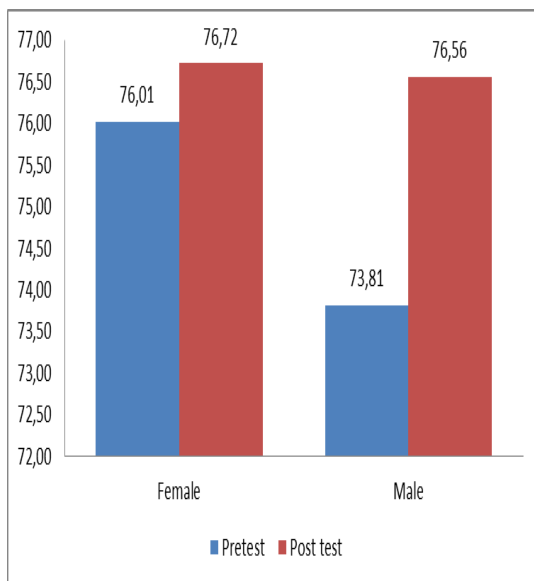
Upon further analysis, it was found that the blood glucose data distribution was not within normal distribution (Kolmosgorof-Smirnof p value : 0,017) therefore non parametric test was chosen to analyze the difference between pre and post test value. Wilcoxon signed rank test revealed that the difference between those values was significant (p value 0.017). This value was generated from 9 negative values compared with 1 positive values. The epinephrine data was normally distributed therefore and homocedastic therefore paired t test was performed. It was revealed that the posttest epinephrin data was significantly higher than pre test data (p value : 0.015).

For further analyses, the data blood glucose and epinephrine were classified into male and female subjects. Figure 3 and 4 provides ilustratracion about the blood sugar and epinephrine concentration before and after exercise stratified in females and males.



**Figure 3. Blood Glucose Concentration Before and After Ergocycle Exercise in Female and Male Subjects**

The average of blood glucose concentration before and after ergocycle exercise in female were 176.75 and 138.75 respectively while in male were 169.00 and 145.00 respectively. Therefore female experienced 38 decrease while male experienced 24 decrease (P value; 0.00)



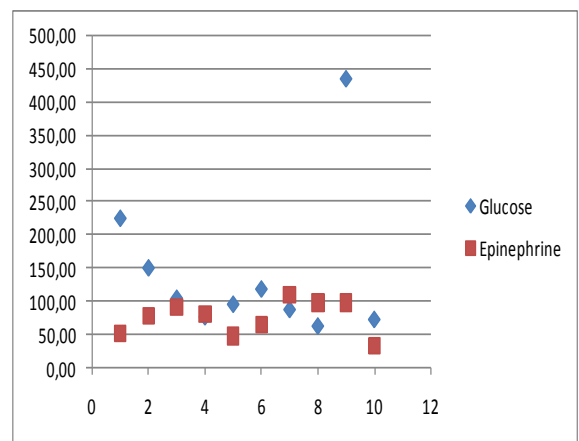
**Figure 4. Epinephrine Concentration Before and After Ergocycle Exercise in Female and Male Subjects**

The average of epinephrine concentration before and after ergocycle exercise in female were 76.01 and 76.72 respectively while in male were 73.81 and

76.56 respectively. Therefore female experienced 0,7 increase while male experienced 2,75 increase (p value: 0.00)

**b. The Relationship between Blood Glucose and Epinephrine Release**

The scater-plot of Blood glucose and epinephrine was presented in Figure 5.



**Figure 5. The Scater-Plot of Blood Glucose and Epinephrine Concentration**

Based on the scatter plot, the spearman correlation test was conducted to measure the relationship between blood sugar concentration and epinephrine level. It was revealed that the correlation coefficeint was 0,03 ( p value =0.934).

**DISCUSSION**

Exercise is increasingly promoted as an integral part of DM management (Womack, Nagelkirk et al. 2003). However, the DM patients should be cautious in choosing the exercise as it might not be effective whenever the exercise is not appropriate to manage blood sugar concentration (Sobel and Schneider 2004). Ergocycle exercise is widely used by DM





patients as a part of their exercise regime therefore there is a need to study the effect of ergocycle exercise on the blood sugar. Theoretically, ergocycle may be effective as it may not generate epinephrine release which has an adverse effect of increasing blood sugar (Simon, Retih et al. 2006).

This study found that there was a significant decrease of blood sugar in both female and male subjects. This means that ergocycle exercise can be recommended in DM patients. The decrease is more prominent in female than male. This might be due to that female more comply to the exercise instruction better than males in this study. On the contrary, it was also found that there was an increase of epinephrine level. This means that ergocycle is similar to competitive exercise also significantly produces epinephrine. However, the increase was not as prominent in competitive sport in which the epinephrine can increase to 100-1000 times (Thrall, Lane et al. 2007).

The epinephrine was found not to be related with blood glucose concentration. The correlation coefficient was found relatively small (0.03). It can be assumed that epinephrine was not the main determinant of blood glucose. However, as the sample size of this study was relatively small and the blood glucose was not normally distributed, the correlation study may need to be replicated in larger sample size.

## CONCLUSION

Ergocycle exercise is an effective means for DM patient in controlling the Blood sugar both in female and male even though it also stimulates epinephrine release. It is also concluded that blood glucose concentration is not related to epinephrine release.

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## IDENTIFICATION OF COMPLAINTS ON RUNNER'S FEET OF PPLM AND PPLP NORTH SUMATERA

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### ABSTRACT

*The aim of this study is to identify the types of feet complaints on runners of PPLM and PPLP North Sumatera. The researchers took the data by using questionnaires. From 20 athletes who became the sample, there were 8 people (40%) of sore complaint in the plantar media at rest time, sore in knee, inflammation of the tibial tendinitis, and sore in the little toe while doing activities. There were 9 persons (45%) had complaints of sore in the plantar media in the morning. There were 10 persons (50%) suffered sprains, 10 persons felt sore in little toe (50%) at rest time, 11 persons (55%) complained of suffering from sprains, 12 persons (60%) complained sore in plantar media at rest time, 13 (65%) persons felt sore in metatarsal head. Various complaints are caused by discomfort of the shoes they used. Based on these results, it is advisable to continue the research that is the analysis of the feet condition with pedoscan application.*

*Keywords : feet complaints, runners*

### INTRODUCTION

Exercise is a physical activity that aims to obtain freshness and physical health, either for achievement or as a hobby. Sports can be divided into several branches including: diving, football, swimming, badminton, athletics, and so on. In which athletic became source of all branches of sports, this is because all basic movements existing in other sports are in athletics.

Indonesia has a great potential in developing runners' performance. Athlete's performance can be achieved with the support of several factors, including: athlete (physical and mental condition), environment (infrastructure and facilities), and a qualified coach.

Sports equipment, sports shoes which are comfortable and good quality are luxury items, in exercise it will be pleasant if the

standard equipments are good and comfortable to those who wear. If the shoes are not comfortable, it can cause injury.

Injuries to runners can be mild injury and severe injury. Minor injuries such as blisters, sprains, muscle cramps can still be healed, but if the injuries suffered by runners is very severe injuries such as fractures, and injury in the area around the head, healing process will be relatively long and it can be permanent injury or may relapse someday. Therefore, "preventing is better than curing" — wise words for us to prevent injuries than to treat or heal injuries which have occurred.

Based on the initial survey that has been conducted on 5 athletes resulted that 3 persons complained sore in the knee, 2 complained sore in the little toe at rest time. Therefore, researchers are interested in identifying the complaints in the legs occurring on runners.





**METHOD**

The study is descriptive study to identify complaints on athletes feet of PPLM and PPLP North Sumatra. Instrument of data collection is questionnaires. The

questionnaire consisted of 17 questions dealing with complaints on feet commonly experienced by runners. The number of samples in this study is 20 persons.

**DISCUSSION**

**Tabel 1. Athletes Frequency Distribution Based on Complaints Heel Spur Syndrome**

No	Complaint	Distribusi Frekuensi			
		Yes (ppl)	%	No (ppl)	%
1	Is there pain in the plantar media in the morning?	9	45	11	55
2	Is there pain in the plantar media at rest time?	8	40	12	60
3	Is there pain in the plantar media while doing activities?	12	60	8	40

Based on the data above, it is noticed that 9 athletes have complaints of sore in the plantar media in the morning, 8 persons (40%) complained sore in the plantar media at rest time, 12 persons (60%) complained sore in the plantar media during activities and after using ergonomic soles the number reduced to 3 people (15%). There are things that may cause the symptoms of heel spur syndrome. One possible cause is the use of

worn out footwear. Shoes may be damaged in the heel area or on the back of the controller or on the protective pads. Another cause is running on the track that has hard surface, including concrete roads. However, heel spur syndrome, commonly caused abnormal changes biomechanical of pathological foot mechanics caused by excessive foot pronation.

**Table 2. Athletes Frequency Distribution Based on Sesamoiditis Complaint**

No	Complaints	Frequency Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Is there pain in the metatarsal head while	13	65	7	35





doing activities?				
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Based on the data above, it is noticed that the athletes' complaint based on the sore in the metatarsal head while doing activities are 13 persons (65%). Causes of sesamoiditis are diverse but mostly found in runners and other athletes who have high foot arch (cavus). Press power from sports

covering pounding, jumping for example sprinting, basketball, gymnastics, and volleyball. The occurring injuries can lead to sesamoid irritation and surrounding tissue, if the occurring pounding is quite big, it can lead to fracture.

**Table 5. Athletes Frequency Distribution Based on Stress Fracture Complaint**

No	Complaint	Frequency			
		Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Have you ever had a broken foot during running training?	6	30%	14	70%
2	Have you ever had a broken foot during running competition?	7	35%	13	65%

Based on the data above, it is noticed that the athlete ever suffered a feet fractures during running training are 6 persons (30%) and complaining for having feet fracture during the running competition 7 people (35%). Athletes who suffer from stress fractures do not have a conditional system indicating that they are easily affected by the injury. The high portion of exercise and changes in routine exercise can cause stress fracture. Shoes can also be the cause of fracture. If in usual practice one wearing shoes that are rigid, thick coated, and then suddenly wearing footwear that is lightweight, and flexible, it can be overcome fracture by doing easy steps to get used to the new shoes. Well cushioned shoes can help preventing injuries of athletes, except those who have high arched feet.





**Table 6. Athletes Frequency Distribution Based on Sprain Complaints (Ankle Sprains)**

No	Complaint	Frequency Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Have you ever had a sprain in the leg during running practice?	11	55	9	45
2	Apakah an Have you ever had a sprain in the leg during running competition?	10	50	10	50

Based on the table above, there were 11 people (55%) complaining of having sprain during running practice. 10 persons (50%) experienced a sprain during competition. Acute injury is caused by the motion employing sudden turning. The level of sprains can be divided into: mild sprains,

moderate and severe sprains. This ankle sprain can affect not only on the side of the ankle, but usually can also damage the outside (lateral) ligaments. To prevent additional injury, it will be better to do follow up program after the rehabilitation program.

**Table 7. Athletes Frequency Distribution Based on Complaints on Knee (Patellofemoral Dysfunction)**

No	Complaint	Frequency Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Is there any pain in the knee while doing activities?	8	40	12	60

From the table above, sore in the knee is felt by 8 athletes (40%) while doing activities. Perceived complaints experienced by athletes who do a lot of lunging movements, jumps up and down. Treatment

for this case is the same as other injuries, that is taking break, hot compresses, and using anti-inflammatory drugs such as aspirin. And the most important thing is not to





give excessive pressure on this area at the time of exercise.

**Table 8. Athletes Frequency Distribution Based on Achilles Tendonitis**

o	Complaint	Frequency Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Inflammation of the Achilles tendonitis?	0	0	20	100
2	Is there pain in spaces between toes while doing activities?	5	25	15	75

From the table above, it is noticed that there is no athlete experiencing inflammation in Achilles tendonitis. 5 persons (25%) experiencing sore between toes during

activities. Injury in Achilles tendon occupies the first rank of injuries that most happening in athletes as well as the most difficult to treat/cure.

**Table 9. Athletes Frequency Distribution Based on Complaints on Posterior Tibial Tendonitis**

No	Keluhan	Frequency Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Is there inflammation on the Tibial Tendonitis?	8	40	12	60

Based on the table above, there were 8 persons (40%) complained of having inflammation on the Tibial Tendonitis. These symptoms are pain, sore and hardening feeling on the tendon. The pain occurs on the inside of the ankle, commonly just behind and below the ankle bone, but may also occur in

the lower leg. To prevent factors of injury causing tendinitis injury relapsing such as training techniques to use appropriate footwear, biomechanical problems as well as considering place for doing the exercises (Taylor, 2002).





**Table 10. Athletes Frequency Distribution Based on Complaints in Tailor's Bunion**

No	Keluhan	Frequency Distribution			
		Yes (ppl)	%	No (ppl)	%
1	Is there pain in little toe while doing activities?	8	40	12	60
2	Is there pain in the little toe at rest time?	10	50	10	50

Based on the table above, there were 8 persons(40%) complained sore in little toe while doing activities. At rest time, 10 persons (50%) experiencing sore in little toe. The causes of these complaints are due to biomechanical imbalance. Most injuries associated with three important factors, namely: training conditions, the structure and function of the lower teeth of shoes.

**CONCLUSION**

There are complaints on the runners feet that is Heel Spur Syndrome complaints, sesamoiditis complaints, stress fractures complaints, sprains (ankle sprains) complaints, complaints of disturbance in the knee (Patellofemoral Dysfunction), Achilles Tendonitis, Posterior Tibial Tendinitis, and Tailor's Bunion. Causes of these complaints is the use of worn out footwear, very hard pounding, biomechanical imbalance and the high portion of the exercise. In this case, it is important to design ergonomic shoes which

referring to the condition of proper training to reduce the complaints occurring in the feet.

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