

# YISHPESS PROCEEDINGS

## THE 1<sup>ST</sup> YOGYAKARTA INTERNATIONAL SEMINAR ON HEALTH, PHYSICAL EDUCATION, AND SPORTS SCIENCE.

*Evidence-Based Practice of Sports Science in Education, Performance, and Health.*

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***Evidence-Based Practice of Sports Science in Education,  
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**October 14<sup>th</sup>, 2017**

## **OPENING SPEECH**

As the Dean of Faculty of Sport Sciences Universitas Negeri Yogyakarta, I would like to welcome and congratulate to all speakers and participants of the First Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS) 2017 entitled "Evidence-Based Practice of Sport Science in Education, Performance, and Health".

This international seminar is actually an implementation in the framework of the assessment of the achievements and sports culture in society that can support the achievements of the Indonesian people, so that there will be a significant role of practitioners, academicians, sport people, and sports observers from Universities, Institutions and Sports Organizations to help actively facilitate in the development, assessment of innovative sports science development so as to achieve sport achievements at the National and International level.

Finally, we thank all the committee of YISHPESS for their hard work in organizing this activity, and congratulate the invited speakers and all participants. Hopefully, this seminar is significant for the development of physical education, health, and sports sciences.

The seal of Universitas Negeri Yogyakarta, Faculty of Sport Sciences, is a circular emblem. It features a central figure holding a torch, surrounded by the text "UNIVERSITAS NEGERI YOGYAKARTA" and "FAKULTAS ILMU KEOLAHRAGAAN". The outer ring contains the text "KEMENTERIAN RISET, TEKNOLOGI, DAN PENDIDIKAN TINGGI".  
**Dean of Faculty of Sport Sciences,**  
Universitas Negeri Yogyakarta  
  
**Prof. Dr. Wawan S. Suherman, M.Ed.**


## **PREFACE**


*Alhamdulillahirobilalamin*, thank Allah the First Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS) has been prepared well and on time. With all humility, we welcome and congratulate the speakers and participants of Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS) organized by the Faculty of Sport Sciences, Universitas Negeri Yogyakarta.

The YISHPESS 2017 is designed to updating and applying evidence-based practice in sports science aspects, including: education, performance and health. We hope that the invited speakers of this seminar can reduce the gaps between academic and field to get best output in the daily sport and health practices.

We would like to thank to Rector and the board of Universitas Negeri Yogyakarta for supporting this seminar come true. Praise and be grateful to the Lord, so that this proceeding can be issued. Hopefully, the publication of this proceeding can bring benefits to the participants in particular and readers in general.

Yogyakarta, October 14<sup>th</sup>, 2017  
Chairperson of the Committee



  
**Dr. Or. Mansur, M.S.**

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## ANDROID BASED REFERENCE MODEL OF STUDENT'S SKILL COACHING IN GYMNASTICS BRANCH

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### Abstract

**Objectives:** This research aims to develop gymnastics scouting application media using android based applications. As a medium in facilitating trainers of gymnastics branch.

**Methods:** This research is a research development or Research and Development (R&D). This research is conducted with several steps: identification of potentials and problems, information gathering, product design, product creation, expert validation, product revision, testing, final production. The media development of gymnastics scouting applications was validated by material experts, 5 trainers for small group trials, 10 trainers for large trials. The subject of this research is the coach of gymnastics branch. Instrument used in this study is questionnaire. Data analysis technique of this research is descriptive qualitative and descriptive quantitative percentage.

**Results:** The result shows that the development of gymnastics scouting app is feasible. The results are obtained from the validation results of a) material experts of 75% or adequately Eligible; b) a media expert of 71.15% or reasonably feasible; c) the response of small group trial trainers was 79.23% or viable and large group trials of 89% or viable. Thus the application of gymnastics scouting is declared eligible to use for gymnastics scouting skills

**Keywords :** android apps, scouting, gymnastics

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### INTRODUCTION

Education has a strategic and very decisive role, not only for individual development and manifestation but also for the development of a nation and state. The 1945 Constitution: 31 states that "every citizen is entitled to education". The mandate contained in the article is getting education is the right of every individual regardless of the background and conditions that exist in them. Quality education should include two dimensions of essential life skills orientation. Academic-oriented means promising academic achievement learners as a benchmark, while the essential lifeskill is education that can make learners can survive in real life. To obtain good achievement, it requires an instrument for the selection of interests and special talents of sport that meet the rules of giftedness. Selection of gifted students is not only taken from the marks of subjects, but it is also can be taken from other elements. For gifted students in the gymnastics, their technical skill and their physical condition obviously become one of the reference in determining student's talent.

Instruments for monitoring student talent vary widely, both physically and technically related instruments, but in fact they are still in the form of written/manual. To do the data recording track still requires input data first. This way requires twice of works to know the outcome.

Sports evaluation is necessary because evaluation provides information about the design of training activities used by trainers in their activities. Sports evaluation is the process of collecting data, information processing, to determine the level of student development and decision-making. Sports evaluation can be useful for everyone involved in the growth and training process of students. Especially for trainers will be able to know how the state of their students during the training process. For parents of students will know the level of development of children in practice at club/school sports early age. For the children, sports evaluation is useful to provide encouragement and motivation to improve and develop the capabilities possessed.

Club/gym classes especially for early childhood are still very rare that use the book development outcomes. This is a big problem that must be overcome by the sport club/class. Data

development of students in doing sports activities can be used as a guide in evaluating students. The data of the evaluation guideline which has been encountered is still very conventional, using paper widely. Though a paper will be very vulnerable to weather, climate, or fungus that gnaws at paper. With the advancement of technology today it is hoped to embrace a new innovation of paper madness in observing and evaluating students. Digital technology is believed to be able to answer this challenge, to create a better evaluation guide, more durable, and certainly can be used anywhere.

Scouting of sports talent is an effort to find sportsmen candidate who are expected to perform higher achievement in the future. Thus, the talent of scouting process must be continuous from the identification stage, the selection of sports, the coaching of basic sports skills and the training of the achievement sport (Yuanita Nasution, 2000). Talent guidance can be defined as a process of participation of children in sports to achieve optimal performance based on the results of tests from selected parameters. "TALENT": describes the special dexterity of a person who can be further developed. The goal of talent scouting is to identify and select a child who has a potential talent in the field of sport to be developed into a qualified athlete and maximum achievement. Why talent scouting needs to be done: (1) The process of scouting talent becomes a crucial part in sports coaching to deliver the greatest performance achievement, (2) Sports is an art, so finding talented individuals, choosing from an early age, constantly monitoring and helping to achieve mastery levels.

Talent scouting is an important element in developing athletes in the future. The principles of scouting Reigner, Salmela and Russell (1993) are: (1) Scouting of sports talent should be seen as a process, in the context of wide-ranging talent development, (2) Sports talent scouting is a long-term predictor of a child's sporting achievement, (3) Sports talent should consider the specific demands of each sport, (4) Sport talent scouting based on various disciplinary approaches, due to the appearance of the sport influenced many aspects, (5) Sports talent should be able to determine the sporting determinants of achievement, which are influenced by heredity or innate, (6) Scouting sports talent should consider the dynamic aspect of sporting performance, due to age, growth and exercise.

Talent is a pent-up capability brought by birth. Someone's talent can be known through talent scouting. Recognizing one's talent from an early age is essential for high achievement to be achieved. Talent tests are generally tests designed to measure the potential for achievement. Charter (2010) states that there are nine different talent types:

- a. General learning: learning and understanding, reasoning and decision making. Example of how well achievement in school
- b. Verbal talents: general lexical abilities - understanding words and usage effectively
- c. Numerical talent: general math skills - handles numbers quickly and accurately
- d. Spatial talent: understanding geometric forms and understanding and identifying patterns and their meanings. An example of understanding how to construct pieces of two-dimensional furniture from a series of instructions
- e. Form perception: examine and understand the details of the object and make visual comparisons between the forms. Example: research an object using a microscope and inspection of the quality of objects
- f. Clerical perception: reading, analyzing and compiling details of written data or tabulated material. Examples: editing, report analysis and understanding of graphs
- g. Motor coordination: eye and hand coordination and make quick and accurate movement response. Example: can install pieces of two-dimensional objects at the time understand how to do it, can operate computer keyboard quickly and accurately and the ability of sports
- h. Finger dexterity: manipulate small objects quickly and accurately. Example: playing musical instruments and sewing.
- i. Manual dexterity: the ability to work with your hands. Example: paint and decorate, build something and operate the machine.

Process of recognizing or predicting a person's potential is called talent scouting. Talent scouting in principle aims to predict with a high probability, how much chance a person to successfully achieve maximum achievement, in the future.



Talent identification is a systematic effort to identify a potential person in sports. Based on these limitation, it can be predicted the intended talent scouting is a process of selecting athlete candidates that involves the process of measurement of various internal qualities of athletes (including anthropometric quality, physical quality, motor quality and psychological quality) using predefined instruments. This talent scouting is therefore often called a selection stage, before an exercise process is conducted, to provide confidence that the child or prospective athlete involved really has good potential in accordance with the needs and demands of the sport will succeed in training and can achieve peak performance (Cholik, 2002).

Olaru (2009) suggests that in performance sports, the role of selection is to choose children who have outstanding or most talented skills and qualities from a large number of children. Gymnastics as a sport with complex techniques requires special qualities for anyone who wants to achieve extraordinary results in this sport. One of the determinants of value in excellent artistic performance is the process of selecting and training children and junior-level gymnasts. Selection is the basis of exercise performance. Early selection of gymnastics exercises performed when 6 year olds only reveal the skills of the subject being investigated. Olaru in his research (2009) suggests success in the selection process related to the concept and personal experience of the models, methods, standards, experiments used, and maintenance of the ideal ability. Athletes are a decisive factor in achievement, so choosing athletes through talent identification and development must be done in earnest. Related research has been conducted in various countries, and it can be concluded that:

1. Skills and attitudes shown at a young age actually show a person's talent and performance.
2. Talent can disappear or not appear if there is no chance to display it.
3. Learning, practice and high motivation is needed to bring out one's talent.
4. There are differences in patterns of development, and speed between individuals.
5. The quality, type and intensity of training is crucial to the development of one's talents.
6. It takes more than ten years with concentrated training to develop talent and achieve maximum performance.
7. Children will not practice or not bring up their talents if this is not a push from around them.
8. Children will prefer to practice when they feel a progress. Likewise, it will be more enjoy an activity that matches their talent.
9. The development of talents depends on heredity, the environment, the impulses that give effect to the physical and psychological characteristics of a person (Macquaker, downloaded from <http://www.sportscotland.org.uk/diakses> tanggal 15 Maret 2010).

Identification of potential athletes of early age need to be born in order to obtain talented early age athlete so as to facilitate the coach's guidance in detail. The advantages of scientific criteria in identifying talents according to Bompa (1999) include:

- a. It substantially reduces the time it takes to reach the highest ability by choosing talented individuals in the sport.
- b. Reduce the volume of work and energy the trainer has to work on. The effectiveness of the training provided by the trainer is usually supported by the effectiveness of the athletes who have the superior ability.
- c. Improving competitive atmosphere and the number of athletes included and achieving high levels of ability
- d. Improves the athlete's confidence because the display is better than the other athletes of the same age who are not through the selection process.
- e. Indirectly provide motivation on the application of scientific training, assistant sports coaches who assist in the introduction of motivated talent to continuously monitoring of training athletes.

Prime physical health and fitness can only be achieved if supported by the right sports activities, systematic, regular, directional and continuous. To be able to exercise rightly, which has a positive impact on the optimization of muscle and nervous development, as well as endurance and brain, the correct understanding and satisfaction of motion activity needs to be done since early

childhood. Activity of movement that is important and need to be developed early especially related to aspect of agility, flexibility, balance, endurance, and coordination between body/five senses.

Gymnastics is one of the oldest and famous sports in the Olympics. In the gymnastics competition includes 4 types of rhythmic gymnastics, trampoline and artistic man and woman gymnastics (Siahkouhian, 2013). Mahendra (2008) stated artistic gymnastics is defined as a gymnastics that combines aspects of tumbling and acrobatics to get the artistic effects of the movements made by the instrument there are two artistic for the man and artistic for the woman. Furthermore Mahendra (2008) asserted the artistic effect resulted from the magnitude (amplitude) of the movement and the perfection of tumbling combined with acrobatics performed in a controlled manner, capable of giving a surprising effect that invites a sense of beauty. In addition to attracting artistic gymnastics can also improve fitness for the culprit. Therefore, gymnastics is a form of physical activity that involves several elements supporting the body's fitness process. Physical activity is greatly affect the development of all components (organs) of the body as a whole, in other words the body organs can develop well in accordance with its function. On the other hand gymnastics activities can also be directed to the achievement of athletes achievement in the championship.

Adisuyanto (2009) states that artistic gymnastics is a sport that has a very complex range of motion. In addition must be able to master perfectly each part of the motion, gymnasts need to be able to complete the series of motion in a sustainable manner. This sport has a very important role in the development and coaching of individuals and groups. Therefore, gymnastics education prioritizes the following: (1) fulfilling the child's talents and interests for physical activity; (2) to stimulate the intelligence and development of health and physical fitness; (3) assist in the improvement of motion growth abnormalities; (4) instilling mutual respect for the elderly, courtesy, discipline and hard work; and (5) reduce the influence of bad and child delinquency to adulthood. This research has a goal to develop android applications for gymnastics talent scouting, to make it easier and can be stored more safely.

## **RESEARCH METHODS**

This research is a research development. The research design used with Borg and Gall approach. Research and development method is a research method used to produce a specific product, and test the effectiveness of the product (Sugiyono, 2011: 297). Research and development is a type of research product oriented. The product is in the form of software development for the selection of application programs android based gymnastics talent scouting.

Operational definition with Software (basen) development for selection of special interest and talent development program android based branch of gymnastics is a development by combining sport science and technology with the technology. This development is a creative idea designed carefully planned in developing, producing and validating a product.

Instruments for collecting data in this development study is to use a questionnaire. Questionnaire is a data collection technique that is done by giving a set of questions or written statement to the respondent to answer (Sugiyono, 2011: 142).

The data collection in this development study uses open questionnaire and closed questionnaire, which on the next page is accompanied by a suggestion column. Validity is a measure that indicates the validity level of an instrument. Validation of instruments for material experts and media experts is conducted through consultation and solicits assessments to the experts on the material to be tested and the product criteria to be produced.

## **DISCUSSION**

At the beginning of this development was designed and produced into an early product of "gymnastics scouting app" to help early childhood gym trainers. In this application there are three kinds of capabilities that are identified and able to be stored as data base, namely speed, flexibility and agility. Development process through research and development procedures. Through some planning, production and evaluation. Then the product is developed with the help of app inventor 2, after the initial product is generated it will need to be evaluated to the experts through expert validation and need to be tested to the trainers. The evaluation is done to the material expert and the

media expert. While the research phase is done by testing the product of one opponent one, small group trials, and field trials.

The quality of these "gymnastics scouting apps" included in the "Eligible" criteria of the statement can be substantiated from the results of the "Eligible" assessment analysis of both expert materials and media experts, as well as in the assessment of one-on-one trials, small group trials, and field trials. The coach is excited and enthusiastic about this product because the coach is interested in learning and hopes this product can be disseminated to other trainers.

Coach welcomes this product. According to them, the advantages of this product include an attractive display, easy to use, easy to store data, and can be taken anywhere. Interest of "gymnastics scouting application" is a motivation that can improve the process of practice. This product also allows children to provide an understanding of talent scouting to trainers and motivate learners to practice gymnastics. In addition, with this product the child can practice actively and independently because this product is easy to use.

### CONCLUSION

This research is able to create "an application of gymnastics scouting" android based. Trials that have been passed, gymnastics scouting applications "is categorized as worthy of use as a talent scouting product and the evaluation of gymnastics trainers to athletes. This product facilitated the trainers to store talent scouting data and provide ratings to their athletes. It can be reviewed from the results of the assessment of "gymnastics scouting application" products:

1. Overall, the product of "gymnastics scouting app" with material and media subjects categorized as eligible for use in fitness talent scouting of 92.7% eligibility is categorized as feasible.
2. Application media of this talent gymnastics assist the trainers in the process of scouting talent, especially the gymnastics branch.
3. Media application guidance talent easy to use gymnastics
4. Media applications for gymnastics scouting can be stored with a long resistance level

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