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ANALYSIS OF ANTHROPOMETRY, PHYSICAL CONDITIONS, AND ARCHERING SKILLS AS THE BASIC FOR IDENTIFICATION OF TALENT IN THE SPORT OF ARROW

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Abstract: *This research aimed to show children talent in archery by using the base of anthropometric, physical condition, and archery skill. This is descriptive research, and the data was collected by survey. Populations of this research are elementary school students in Yogyakarta and Central Java. Samples are chosen using purposive sampling technique with some criteria, such as: (1) Students of states and private school, (2) Students are the member of Archery Club and actively practice, (3) Samples are 31 persons, (4) Students are filling terms and condition sheet for joining this research. Data are collected by test and measurement in any aspects, such as (1) Height and Weight, (2) Arm Span, (3) Kinesthetic Perception Test, (4) Sit and Reach, (5) Standing Balance, (6) Wall Sit, (7) Side Learning Test, (8) Hand Dynamometer, (9) Endurance, and (10) Archery Skills. The data analysis uses descriptive statistics (tabulation frequency). The result of this research shows that students' talent in archery is for: Very Talented (12), Talented (5), Quite Talented (8), and Not Talented (6).*
Keywords: *Talent identification, elementary school students, archery.*

INTRODUCTION

In the daily life of society, many people like to do physical activity. They carry out physical activities with various goals, such as improving fitness, recreation, and achieving achievement (Dwyer et. al., 2019). Achievement sports are one of the four sports listed in the Great Design of National Sports (DBON) article 4 paragraph 1. In the DBON it is explained that sports based on their objectives can be divided into 4 namely educational sports, achievement sports, recreational sports, and industrial sports. Therefore, sport is included in the type of physical activity that is often done by most people today. Furthermore, regarding physical activity, activities that involve physical movement have their own criteria or characteristics. There are various kinds of physical activity variations that can be done by the community, one of which is games and target matches where in these activities not only train physical strength but can also train one's concentration and accuracy (Clemente et. al., 2016). Some of the target sports that have developed in Indonesian society include shooting and archery. Archery is growing rapidly and is liked by various groups both in terms of economic level, age, and so on (Yachsie et al., 2021). Archery is a type of sport that has existed in ancient times (World Archery, 2020). Even this sport is also believed to be a Sunnah sport (recommended by the Prophet Muhammad) for people who are Muslim. In fact, in the biggest sporting event in Southeast Asia, the SEA Games which was held in Malaysia in 2017, Indonesian archery athletes managed to bring home gold medals in the individual compound classes for men and women. This shows that the development of the sport of archery in Indonesia itself is growing rapidly, so there is a need for talent scouting.

Talent scouting and sports breeding is an important stage in fostering sports achievement. Nowadays, coaching athletes from an early age is considered a demand. This program can be referred to as the foundation of building a system for building athletic athlete achievement to a higher level in the future. The recent slump in Indonesian sports achievements has encouraged practitioners and sports experts from both academics and athletes together with the government, namely KEMENPORA (Ministry of Youth and Sports), KONI (Indonesian National Sports Committee), and KOI (Indonesian Sports Committee) to evaluate the system. sports development in Indonesia. Based on the results of discussions and seminars conducted by these stakeholders, it can be concluded that there is something wrong with the sports coaching system in Indonesia. The talent scouting system in archery seems to still rely more on

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the observation approach and the experience of the coach. This is because there is no specific standard regarding the pattern of talent scouting carried out in the sport of archery. One of the cases that occurs in archery is, for example, archery coaches and coaches in the region tend to foster athletes who are interested in the archery branch that he fosters without taking into account whether the athlete has talent or has the potential to improve his performance in this sport.

Basically, national sports achievements are influenced by the sports coaching system in each region. This is of course clear considering that the regional level is part of the national sports coaching system, so sports coaching carried out from an early age must be able to run optimally. Until now, the achievement of sports achievements, especially in the sport of archery, is still experiencing various obstacles which have resulted in not achieving optimal results in every match. One of the biggest obstacles that exist today is the difficulty of finding talented prospective athletes, although basically talent itself does not have an absolute effect on the success of an athlete, but this has a very large role in the achievement of an athlete's achievement. There are various ways that can be done to get talented prospective athletes, one of which is to do talent scouting from an early age. This talent guide can be carried out by conducting tests or instruments that have been prepared and tested. The instrument is a parameter that is made to predict or predict the quality of an athlete's achievement, taking into account the level of physical fitness, ability to learn motion, and physical development that is currently owned by the child.

Based on the problems above, that before stepping into achievement coaching, it is necessary to seek sports talent search steps first, because this is very important to get prospective athletes who are talented and have the potential to be fostered. If this stage can be carried out properly, it will make it easier to map out the right archery athlete candidates according to the characteristics of their talents. Because, one's talent can be said as the main capital to be able to achieve even higher achievements.

Method

Based on the problems studied, this type of research is descriptive research, where descriptive research has the aim of revealing something as it is. In an effort to maintain the consistency of research so that it is more focused, the determination of the population and sample as objects and subjects in conducting research must be determined. The population and sample selected by the researcher in conducting this study are described as follows: In this study, the population was elementary school students in the province of Central Java and the Special Region of Yogyakarta. The results of the review and information from the coach with the number of active athletes as many as 31 people. The data collection technique in this study was to test the ability of physical conditions, kinesthetic perception tests, and archery skills tests. This test was conducted on early childhood as the sample in this study. The various stages carried out in measuring the level of physical condition, kinesthetic perception, and archery skills include: (1) Height and Weight, (2) Arm span, (3) Kinesthetic Perception Test, (4) Sit and Reach, (5) Standing Balance, (6) wall sit, (7) Side Learning Test, (8) Hand Dynamometer, (9) Endurance, and (10) Archery Skills. After all the data results were obtained in this study, then the data was processed using descriptive statistics (frequency tabulation).

Results and Discussion

This research is presented in descriptive form and the discussion of the research obtained is in accordance with the data that occurs in the field. This data aims to see the physical condition and kinesthetic perception tests, namely: (1) Height and Weight, (2) Arm Range, (3) Kinesthetic Perception Test, (4) Sit and Reach, (5) Standing Balance, (6) wall sits, (7) Side Learning Test, (8) Hand Dynamometer, (9) Endurance, and (10) Archery Skills which will be shown in stages. The research results will be displayed in the form of tables and diagrams below.

Table 1. Results of Archery Talent Identification

No	Norm	Category	Amount
1	81-100	Very talented	12
2	61-80	Talented	5
3	41-60	Talented Enough	8
4	21-40	Not Talented	6
5	0-20	Very Untalented	0

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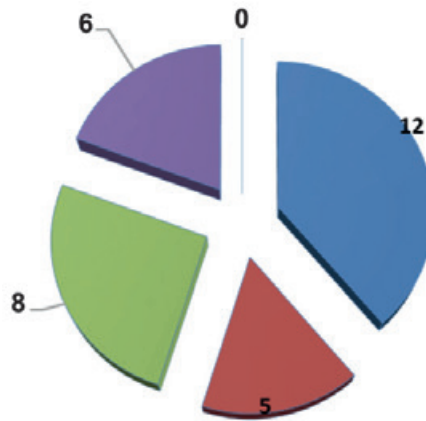**ARCHERY TALENT IDENTIFICATION TEST**

Figure 1. Graph of Archery Talent Identification Test

Based on the data above, it can be seen that there are various instruments used to assess physical condition and kinesthetic perception tests to assess whether the athlete has potential or talent in archery. The method of measuring the physical condition of a person who is said to have potential or talent in archery is by means of anthropometric calculations. Based on the explanation from Heymsfield et al., (2018) he said that anthropometry is one of the oldest measurement methods used to assess the size and shape of the human body. In addition, Norton (2018) also said that anthropometric measurements were carried out by measuring the dimensions of a person's body. With regard to the sport of archery, anthropometry will be very helpful to assess whether a person has the appropriate physique or at least has the potential to become an athlete. In this case, Lau (2020) said that archery is a type of sport that involves repeated aerobic and anaerobic activities. For example, when an archer is training or participating in a competition, they will walk the shooting distance back and forth to pick up the darted arrow and return to the shooting line over and over again. If an athlete is not used to it or does not have a strong body, of course this will be very tiring. Besides being required to have good endurance and aerobic capacity, an archery athlete must also have muscle strength in certain body parts such as arms, chest, shoulders, and back to perform repetitive movements when pulling the bowstring. In order to identify and select prospective athletes who are competent or have great potential, the assessment can be carried out using various instruments.

The first instrument used was height and weight. For people who are engaged in sports, an ideal body can be said as a foundation that can be maximized in achieving good sports skills. More fully, Weir (2019) explains that BMI is a statistical index that uses a person's height and weight to prove or show an estimate of body fat levels, for both men and women of all ages. Regarding the effectiveness of BMI which is used as a measuring tool to categorize a person's body, Adab (2018) explains that measuring the ideal level of a person's body using BMI is quite effective and easy to do and applied to all circles. Seeing and ascertaining the ideal level of a person's body can be used as an early indicator of whether a person has a suitable body as an athlete.

 Archery talent identification assessment is seen from the arm span. The assessment of arm span related to archery has been described by Kim (2018), where he said that archery which has 6 (six) stages of movement will really need hand strength. The stages of the archery movement are bow hold or the position of holding the bow, drawing, which is the position when pulling the bowstring from the front of the face towards the chin or cheek, full draw or the position when the arm used to draw is at the perfect point where an archer gives a moment to pause to centering the shot, aiming is the position when the athlete has focused his aim and is sure to release the arrow, release or the position when an archer releases his pull so that the arrow shoots to hit the target, and the last is follow-through, namely the position of lowering the bow shortly after releasing the child arrow or release position.

The next instrument used to assess whether someone has talent in archery is to do a kinesthetic perception test. Based on the explanation from Artha (2019), kinesthetic perception is a function that has a correlation with movement or kinesthetic information. He further said that the information obtained from the movement of muscles and joints is a way that can be understood compared to the definition explained through reading or oral delivery. People who have kinesthetic abilities will be better able to understand information if they can do it, feel, compare, and iden-

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tify directly an action or object. Based on this, he added that people who have more dominant kinesthetic abilities will more quickly understand the information that is exemplified or shown directly.

The relationship between kinesthetic ability and sports talent is based on the explanation from Elias (2021), namely that motor balance exercises and kinesthetic perception have the aim of preparing athletes in the sport they are involved in. Kinesthetic balance exercises use various development concepts to improve self-control or self-control in their kinetic performance, so that children who have talent as athletes will be better prepared to face sports that require them to have good kinesthetic balance and sensitivity. In the process of searching for prospective athletes who are talented in archery, of course, the kinesthetic ability of a child is also very taken into account. Although there are still many people who think that archery is an easy sport because the activities are not too heavy and the movements are carried out repeatedly, in reality archery can also be said to be a sport that is quite energy-consuming both physically and mentally. Arifin (2022) said that archery is a type of sport that performs repetitive movements such as swimming, cycling, and others.

After performing a height and weight test, an arm span test, and a kinesthetic perception test, the next step or the next assessment instrument is to assess the sit and reach ability. The relationship between the sit and reach test and the sport of archery goes beyond just assessing the level of flexibility. Archery activities that require an athlete to lift and keep the bow steady by directing the arms forward for a while certainly require arm strength and flexibility in both the back of the shoulder and the waist. The position called drawing has the same concept of position as the position when doing sit and reach. If these young athletes have good scores in sit and reach assessments, then they already have a ready foundation to maximize their potential in archery. In addition, Nugroho (2022) said that a test like this is necessary and useful to find potential athletes, so that they can direct and train those with maximum potential. He also added that the process of identifying archery athletes' talents is a way that needs to be done during the process of preparing athletes in the long term, which is about 10 years into the future. Identification of archery talent is a process of screening gifted children using physical, psychological and ability assessments to identify potential in order to excel in the sport in question. Not only that, in his statement he argues that the purpose of talent identification is to identify and select children who have talents with potential achievements so that they can be trained and developed to the maximum.

The indicator or instrument used to identify a child's talent for archery is the standing balance test. The standing balance test is a test used to determine the level of balance in a person's body. Based on the explanation from Van (2019), standing balance is a dynamic posture of a person's body to prevent falling or how they are able to maintain good body balance. The assessment of this instrument can be carried out based on static or stationary conditions or dynamic conditions or when moving. In archery, balance will be seen when the archer is standing on the shooting line, so it needs to be maintained from the beginning of the competition session to the end of the archery competition.

The next instrument is the wall sit. Seo (2019) explained that the wall sit is a test method that can be used to assess muscle strength in the lower body, namely the legs. In addition, Markwell (2021) also said that in carrying out the wall sit test, participants only need to maintain isometric contractions as long as possible by bending their knees 90° with the back position fully against the wall as if sitting. The wall sit test is also useful to determine the level of a person's ability to control themselves. This was conveyed by Steel (2021) where he said that the wall sit will show how a person can hold himself to stay in the perfect position when in uncomfortable conditions. The level of difficulty in performing this movement can be assessed from various aspects, as described by Simmons (2021). He said that to find out whether someone finds it difficult to perform a sporting movement, a researcher or trainer can see from the facial expressions that are reflected on a person, the vibrations that occur in the body when doing the movement, and the duration of time they perform the requested movement. Wall sits are especially useful for increasing strength in the legs, abdomen, and increasing bone density and maintaining posture. This ability will certainly greatly affect the sports performance of an athlete or athlete, especially in archery, because archery also focuses on the correct posture, and the strength of the legs in supporting the body and its bow. If the legs and stomach are not strong, it will be difficult for an archer to remain stable for long periods of time.

Furthermore, the instrument used as a test or test to see if a child has talent in sports, especially archery, is to test side learning and hand dynamometers. The side learning test is one of the activities used to test the level of arm muscle endurance (Purnama, 2019; Prasetyo, 2020). Prinz (2021) says that the hand dynamometer can also be referred to as a hand grip test or an assessment of hand grip strength. The strength and endurance of the arm muscles

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are very much needed by archery athletes such as: the strength of the bow pull in each athlete is different, and archery athletes in the forearm must be able to hold the bow well so that when releasing the forearm it can remain stable, not vibrate or vibrate. shake. This also applies when the wind blows strongly, arm stability is needed.

The next talent identification test instrument is endurance. Wang (2021) said that cardiopulmonary endurance (heart and lungs) greatly affects a person's ability to perform physical activities. Everyone's ability in the heart and lung system can be reflected in how often he does physical exercise. Lung-heart endurance for an archery athlete reflects an indicator of the level of physical fitness, and will be seen in the regulation of breathing during archery. Good breathing settings will provide calm and focus when aiming at the target / target. The better the score that the participants get in this testing process, the better their talents will be to maximize their potential in archery.

The last assessment instrument is archery skills, using a distance of 15 meters in a total of 6 rambaran. In the archery skill test because it is still the basis, use a standard bow. In this archery skill, you will see the basic archery techniques performed by the athlete, the consistency, and the score obtained. Assessment of archery skills can be said as a determining instrument when someone is judged whether he is talented in archery or not. Decheline (2020) says that in archery, the better a person's physical condition, the greater the opportunity for achievement, and vice versa.

Based on the data that has been collected, from 31 children who took a series of tests, it can be concluded that 12 children have talent in archery and have the potential to become athletes if they are trained properly and maximized their opportunities. Meanwhile, 5 out of 31 children have satisfactory talents, but they still have to practice harder and maintain consistency and enthusiasm so as not to waste the opportunities they have. Furthermore, of the 31 children, there are 8 children who have good talent, but they still need time to maximize their potential in archery. While the remaining 6 children were judged to have no talent in archery, it was seen from the test results that did not meet the standards and still needed maximum improvement and training.

Every child certainly has their own abilities and talents, but it would be better if various parties such as teachers, coaches, and parents understand the interests and talents of children well so that they can provide direction from an early age and make children do positive activities and achieve achievements from their interests and talents. If a child is seen or judged as not talented in a certain area, it could be because he or she may not enjoy that field or just needs a little longer to learn something new, because in sports anything is possible. People with talent but don't practice or practice at will will still lose to people who are able to take advantage of opportunities and learn to be better.

CONCLUSION

Conclusions from the data obtained in the field with the aim of seeing physical conditions and kinesthetic perception tests by paying attention to several elements such as (1) Height and Weight, (2) Arm Range, (3) Kinesthetic Perception Test, (4) Sit and Reach , (5) Standing Balance, (6) wall sit, (7) Side Learning Test, (8) Hand Dynamometer, (9) Endurance, and (10) Archery Skills, it can be concluded that in order to achieve the target of scouting talent for archery athletes, optimally, it is necessary to carry out an intensive evaluation. This of course will greatly affect the achievement of athletes with a well-programmed and tiered approach to sports science or sport science.

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