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Description of Students' Lay-Up Abilities Aged 6 to 8 Years Old

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Abstract

Objectives. The ability to lay-up is a multi-coordinated of motoric skill. This ability is consist of eye, hand and foot coordinations. Lay-up skill is kind of closed skills but it is not easy to be done, because it requires throwing skills and the ability to make a good check marks. This check mark consists of steps and coordination of throws into the basketball ring. As they get older, children abilities will increase in terms of coordination developments, and the aim of this research was to determine the ability of children to lay-up aged 6 to 8 years old.
Materials and Methods. The quantitative research method is used in this study with a test and measurement approach as a tool for obtaining its data, where description analysis is utilized to explain about children ability in doing lay-up. There are 117 students as its sample which 28 students aged 6 years old, 29 students aged 7 years old and 50 students aged 8 years old. Lay-up test being done for five times with a ball size 5 for every student.
Results. This study shows that children aged 6 and 7 years old tend to have the same ability to lay-up, meanwhile at the age of 8 years old children, there has been experienced a two-fold increase compared to children aged 6 and 7 years old.
Conclusion. The result provides an evidence that an increase in lay-up ability in basketball occurs in children aged 8 years.
Keywords: (Basketball , Lay-Up , Motoric Skill, Coordination Movement).

Introduction

In the professional basketball leagues, there are 26.592 shots from 152 matches (Ibáñez, García, Cañadas, & Parejo, 2007) . Increasing lay-up ability needs to be based on the knowledge and understanding about biomechanics application. This is important to improve the accuracy and technique efficiency (Chakraborty & Mondal, 2020) . Accurately in doing jump shot, set shoot and lay-up are core skills for scoring in basketball (Wang, Liu, & Moffit, 2006) . Lay-up land with both feet have more low GRF compared to land one foot only (Lim & Park, 2019) , this thing is needed to reduce and prevent of injury also. The things are necessary to be aware

in doing lay-up like friction effect, ball inertia and ball spin (Huston & Grau, 2003) . This study has described that lay-up has given a huge and an important contribution in playing basketball, lay-up also important to aware of danger injury caused by collision with floor, especially children aged 6 up to 8 years old are need get an attention more .

Several efforts are need to be done in increasing basketball skills (Hardinata et al., 2023) which playing basketball needs to have an effective and an efficient movements (Pelamonia & Puriana, 2023) . Based on the research that conducted by (Peltekova, 2019) on the Woman basketball team that they did lay-up skill until 93.58%.

From the physical sides, exercise with drad methods is more effective which compared to exercises that are 100% physically only (Kosarifard & Azadian, 2021) and it similar to study previously that exercise with drill methods has done to increase lay-up ability. It's effectively proven related to other skills such as shooting, and of course its assured more that lay-up has a huge effects in this game (Peltekova, 2019) . A study state that ability *lay up* (Suryadi et al., 2023) , and dribbling is also necessary notice coordination hand and eye (Saputra et al., 2023)

Specifically, giving a mark on the floor for Lay-up exercises, positively increase the players lay-up ability (Raeisiyan, Abdoli, Farsi, & Hassanlouei, 2021) , and through role play method is more effective than demonstration method in learning lay-up (Sumarsono & Syamsudin, 2019) . Along with attack anticipating improvement needs shooting and lay-up accuracy skills (Simeonova, 2012) . This study believe that lay-up ability become something important which need to pay attention. Several studies has conclude that lay-up skills paid a highlights as an important technique in basketball game, that's the reason why this skill is necessary to be improved.

Lay-up technique occupy percentage up to 47.7% in match and *lay ups* that are not guarded chance big come in and deliver score (Matulaitis & Grėbliūnas, 2021) . the results of this research have described how importance of lay-up skills in playing basketball. Lay-up skills has been chosen as subject as well as a reminder that this skill is not an easy and simple.

Materials and Methods

Study Participants.

This study has carried out at SDN 10 Anjungan, district Mempawah, West Kalimantan with 117 elementary school students aged 6 to 8 years old as sample. There are 28 students aged 6 years old, 29 students aged 7 years old and 50 students aged 8 years old.

Study Organization.

The quantitative research method is used in this study with a test and measurement approach as a tool for obtaining its data, where description analysis is utilized to explain about children ability in doing lay-up. Every students are given a chance to attrack lay-up skill for five times with a ball size 5. The implementation of lay-up skills test is make a distance basketball hoop about 4 meters, the students will stand-by with the ball in hand while face the hoop and throw the ball with small running on the rhythm, ready to take step 2 flying and throw the ball with one hand only. When the signal says " YA", the student is dribbling the ball and do small running and retake step 2. The observer needs to observe how many time the ball entering the hoop in five time for trial (Sepdanius, Rifki, Sazeli, Komaini, & Anton, 2019) .

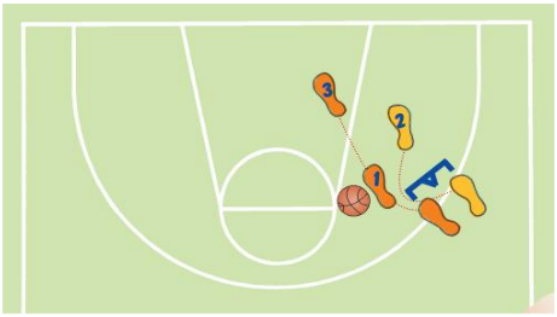

Figure 1. Lay-up position (Barth, Boesing, & Barth, 2010)

Statistical Analysis.

The score would be counted if the ball entering the hoop. The collected data was analyzed using excel and SPSS to get an information about elementary school students lay-up ability.

Results

This research was conducted on children aged 6 to 8 years old at SDN 10 Anjungan, Mempawah, West Kalimantan with 117 students as totally sample. Lay-up skills is tested to students for collecting the data which is arranged on table as follows:

Table 1. Description ability lay-up lower

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
6 years old	38	.7632	.71411	.11584	.00	2.00
7 years old	29	.9655	.49877	.09262	.00	2.00
8 years old	50	1.4400	.50143	.07091	1.00	2.00
Total	117	1.1026	.64840	.05994	.00	2.00

Table 1 above explains that there is a difference in the ability to *lay up* among lower class students. It can be seen that students aged 6-7 years old on average are failed to *lay up* of opportunities that given by the tester. Meanwhile, starting from the age of 8 years old, the average student's ability has almost increased and the average score has reached the beginning of successful lay-up . So it can be seen that the average score for 8 year old students are 1.4. based on the standard deviation which is not much different for each group, it indicates that the abilities of each group can be said not much different between the ages of 6, 7 and 8 years old. Next, the graphic presentation can be seen in Figure 2 as follows:

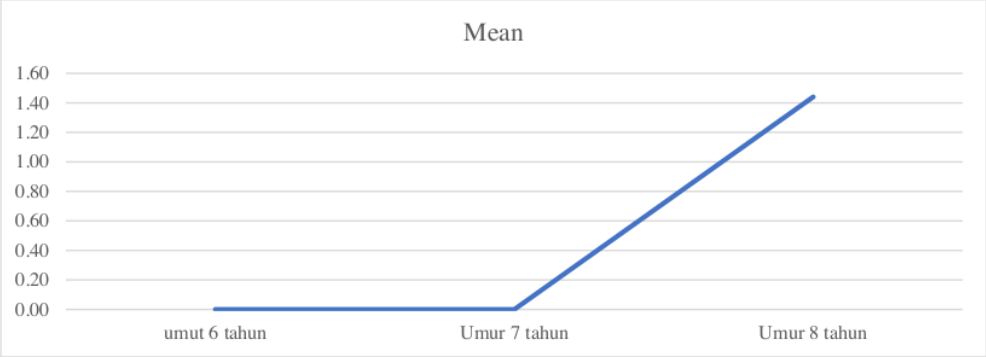

Figure 2. Lower Class Students Basketball Lay-Up Ability

Discussion

The results of this study provide an illustration that *the lay up abilities* of students aged 6 to 7 years old tend to be the same. Meanwhile, at the age of 8 years old, there are already differences. Differentiation about this skill became an indication of students' maturity that started between 7 to 8 years old students where this maturity is proven by increasingly better ability to perform lay-up. This is supported by research which states that hand eye coordination is positively correlated with lay-up ability (Ramadan et al., 2021) . Other research states that you need to be wary of *jumps shots* and *lay up* can easily disturb balance and are prone to injury (Sakurai, Shibusaka, Kubo, & Sasaki, 2017) meaning that the implications of the results and two research reviews provide an indication that the ability to do *a lay-up* because it consists of running, jumping, flying, throwing and landing, it is very important to pay attention about safety when carrying out training or learning. Including giving a high-intensity warm-up before playing does not have a positive influence on playing ability and the use of each technique (de Jesus, Gomes, & D e Almeida, 2018) meaning this is not necessary to do.

Further studies state that there are several things that need to be considered when carrying out *lay up*, research result shows that new shoes for basketball players have a good GRF effect but its comfortless, then the longer the shoes are worn the comfort will decrease (Lam, Liu, Wu, Liu, & Sun, 2019) , the more closer player to the ring, the possibility of getting in the shot is higher (X. Li, 2021) . These two things illustrate that the equipment used determines success, while a closer distance when training will provide a sense of movement and sensation to increase the ability to do *lay-up*. When learning movements, comfort and feeling successful in performing a technique are very important components. Things that are necessary considered is the *lay-up* distance is shortened so that the student chances of experiencing success will be higher. To be able to do this, a reliable teacher or trainer is needed to teach *lay up skills* correctly for beginners, this is so that the correct education and skill learning process occurs (Mosleh, Mukhlif, & Sabti, 2019).

Basketball learning also needs to be interspersed using media. Two studies provide an illustration that online learning can also be used for *lay-up learning*. (Ahmed et al., 2023) , the second uses computer simulations for dribbling , *rebound lay up*, passing and shooting which have a positive impact on increasing accuracy and learning (S. Li & Zhang, 2022) .

Research states that counterattacks that end with *a lay up* are more likely to be successful (Calderani, Ribeiro, Shoiti-Misuta, & Mercadante, 2020) . Considering that *lay up* skills are very important, it would be better if this skill received serious attention. Other evidence of the importance of this skill is stated in research which explains that basketball is played by 5 people per team with the aim of scoring goals into the hoop by shooting , *lay-up* and *slam dunks* to catch points (Ye, 2014) . Based on these results, specifically in learning

basketball skills at basic level, proper planning and curriculum are needed so learning outcomes can be achieved faster and better with less effort (Kazem, Hussein, & Sayegh, 2022) .

Conclusions

This research concludes that the coordination abilities which is lay-up skills of students aged 6 to 8 years old are not completely the same, where the students at the age of 6 and 7 years old have the quality of skills at the same level, while students at the age of 8 years old have a striking difference. Where students' ability in lay-up had increased as shown by the results which is started from age 8 years old.

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Conflict of interest

The author declares that there is no conflict of interest.

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