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COMPARISON OF FUTSAL LEARNING THROUGH THE APPROACH OF PLAYING USING PLASTIC BALL TOOLS AND STANDARD BALLS TO PASSING ABILITY AT SMAN 1 CICALENGKA

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Abstract

This study aims to determine the differences in futsal learning outcomes through a play approach using plastic balls and standard balls on students' passing abilities at SMAN 1 Cicalengka. The research method used was an experimental method with a pretest-posttest control group design. The population of this study consisted of all futsal extracurricular students at SMAN 1 Cicalengka. The sample was selected using simple random sampling, consisting of 30 students divided into two groups: the first group used plastic balls, and the second group used standard balls. Passing ability tests were conducted before and after the treatment. The data were analyzed using a t-test to determine the difference in passing improvement between the groups. The results showed a significant difference between the two groups. The group using standard balls showed a higher improvement in passing ability compared to the group using plastic balls. Therefore, the use of standard balls is more effective in improving students' passing ability through the play approach.

Keywords: Futsal, Plastic Ball, Standard Ball, Passing

INTRODUCTION

Education is one of the most important aspects of human life, because through education the quality of human resources can be improved and developed optimally. Education not only functions to transfer knowledge, but also to shape the personality, morals, and character of students so that they can play an active role in society. Therefore, education has a strategic role in improving the quality of life of the nation and advancing national development (Ministry of Education and Culture, 1987).

In the context of national development, physical education is an integral part of the education system that plays an important role in fostering and developing the physical, spiritual, social, and emotional aspects of students. Physical education is not only oriented to physical activity, but is also a means to instill moral values, discipline, sportsmanship, cooperation, and responsibility (Ministry of Education and Culture, 1994). Through physical education, students are directed to understand the importance of a healthy lifestyle, be active, and appreciate the potential of themselves and others.

The educational process in schools does not only take place in intracurricular activities, but also through co-curricular and extracurricular activities. Extracurricular activities are a forum for coaching that is complementary to teaching and learning activities, providing opportunities for students to develop their potential, interests, and talents outside of class hours (Suharno, 1999). One of the areas

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that students are in great demand in extracurricular activities is sports, because in addition to being healthy, sports also provide positive social experiences such as cooperation, leadership, and respect for rules.

Of the various sports taught in schools, futsal is one of the popular sports among teenagers. Futsal is a ball game that is carried out indoors with two teams consisting of five players each, including the goalkeeper. The term "futsal" comes from the Spanish futbol sala which means indoor football.

This sport was first introduced by Juan Carlos Ceriani in Montevideo, Uruguay in 1930 and began to spread to various countries in the world until it became an international sport recognized by FIFA (FIFA, 2008).

Futsal has a fast and dynamic game character, with high intensity and limited movement space, so it demands good technique and tactical skills. Some of the basic techniques that are important in futsal include passing, dribbling, shooting, and control (Sucipto, 2010). Of these techniques, passing is the most important basic skill because it is the basis for building teamwork, maintaining possession, and creating scoring opportunities.

In physical education learning activities, futsal is not only used as a physical training venue, but also as a means of learning movement skills and the application of social values. Through futsal games, students can learn to work together, respect friends, and control emotions while playing. However, in practice, the implementation of futsal learning in schools often does not run optimally. Many teachers still use traditional methods with monotonous practice patterns and minimal variety of activities, so students tend to get bored quickly and lack motivation (Husdarta, 2009). In addition, the limitations of facilities and infrastructure such as the number of balls, the size of the field, and the type of ball used are often obstacles in the learning process.

This condition also occurs at SMA Negeri 1 Cicalengka, where futsal learning in extracurricular activities faces various obstacles. One of the main problems is the limitations of the tools, especially the balls used. In the implementation of exercises, students often use plastic balls because the number of standard balls available is very limited. In fact, the use of different types of balls can have different effects on students' basic technical skills. Plastic balls have the advantage of being lightweight, easy to get, and not painful when it hits the body, making them suitable for beginners. However, plastic balls also have disadvantages, such as unstable reflections and difficulty in control. In contrast, standard balls have a weight and size that corresponds to official regulations, making it more realistic to practice basic technical skills such as passing and control (Justinus & Ishak, 2008).

To increase the effectiveness of futsal learning, physical education teachers need to apply interesting approaches and methods and adapt learning media to students' abilities. One of the approaches that is considered effective is the play approach. According to Mahendra (2000), the play approach is a learning strategy that prioritizes game activities as a means of learning. Through this approach, students can learn technique and tactical skills through fun play activities, without feeling burdened by formal exercises. This is in line with the opinion of Aqib (2002) who stated that game-

based learning can increase students' motivation and active participation because it provides a contextual and meaningful learning experience.

The approach to play is also in accordance with the principle of Developmentally Appropriate Practice (DAP) put forward by Nurhasan (2001), namely learning must be adjusted to the stages of physical, psychological, and ability development of students. Through play activities, students can develop motor skills, understand the rules of the game, and learn to make decisions in real situations. In addition, teachers can modify the form of games and learning tools to suit students' abilities (Sukintaka, 1992). This modification can be in the form of adjustments to the size of the field, the number of players, playing time, or the type of ball used.

Thus, learning futsal through a play approach provides an opportunity for students to learn basic techniques in a fun and competitive atmosphere. The use of appropriate learning media, such as standard balls or plastic balls, can affect the effectiveness of learning and improve students' passing skills. Previous research results show that the use of appropriate tools can significantly improve motor coordination and basic engineering skills (Griffin, 2003).

Based on this background, the researcher felt the need to conduct a study entitled "Comparison of Futsal Learning Through a Playing Approach Using Plastic Balls and Standard Balls on Passing Ability at SMA Negeri 1 Cicalengka."

This study aims to find out the difference in the influence between the use of plastic balls and standard balls in futsal learning on improving students' passing ability. The results of this research are expected to contribute to physical education teachers in choosing the right learning media and approach, as well as being considered for schools in developing sports extracurricular activities to be more effective, interesting, and in accordance with the characteristics of students.

METHODS

This study uses an experimental method with a true experimental design, and the design used is a pretest-posttest control group design. This design is used because it can compare two treatment groups with the same initial conditions to determine the influence of learning on student learning outcomes.

The research design is described as follows:

Groups	Pretest	Treatment	Posttest
Experiment I	O1	X1	O2
Experiment II	O3	X2	O4

Description:

O = Futsal passing skills test (pretest and posttest)

X = Futsal learning treatment with a play approach

This design allowed researchers to compare the influence of two types of media (plastic balls and standard balls) on the improvement of students' passing ability after participating in learning with a play approach.

Research Location and Time

This research was carried out at SMA Negeri 1 Cicalengka, Bandung Regency, West Java Province. The selection of the location was carried out deliberately (purposive sampling) on the grounds that the school has active futsal extracurricular activities and adequate facilities for the implementation of research.

The research was carried out in the even semester of **the 2014/2015 academic year**, with an implementation time of four weeks, including the preparation stage, the implementation of pretest, treatment, and posttest.

Population and Sample

The population in this study is all male students of SMA Negeri 1 Cicalengka who participated in futsal extracurricular activities for the 2014/2015 school year, which amounted to 30 people.

The research sample was taken using the total sampling technique, meaning that the entire population was sampled because the number was limited. The samples were divided into two groups at random, namely:

Experimental group I (15 students): was given futsal learning through a play approach using plastic balls.

Experimental group II (15 students): was given futsal learning through a standard ball playing approach.

Research Variables

The variables of this study consist of:

1. Independent variables:

Futsal learning through the approach of playing with plastic balls.

Futsal learning through the approach of playing with a standard ball.

2. Bound (dependent) variables:

Basic futsal passing technique skills of students.

Research Instruments

The instrument used in this study is a futsal passing skill test adapted from Griffin (2003). This test is used to measure students' basic passing technique skills both before and after treatment.

The test is carried out by each participant passing to a predetermined target several times, then the number of successes is calculated. The final score indicates the student's level of passing ability.

This instrument has been tested for validity and reliability through previous trials. According to Arikunto (2010), an instrument is said to be valid if it is able to measure what should be measured, and reliable if it provides consistent results on repeated measurements.

Research Procedure

The implementation of the research is carried out through several stages, namely

1. Preparation Stage:

Develop a plan for the implementation of futsal learning with a play approach.

Prepare a passing skill test instrument.

Coordinating with the school and futsal extracurricular coaches.

2. Pretest Implementation Stage:

Both groups were given a pretest to determine their passing ability before treatment.

3. Treatment Stage:

Experimental group I conducted futsal learning with a play approach using plastic balls.

Experimental Group II conducted futsal learning with a standard ball playing approach.

The treatment was carried out for 6 meetings, with a duration of each meeting of 2 x 45 minutes.

4. Posttest Implementation Stage:

After the treatment was completed, the two groups were again given a test (posttest) to find out the improvement of futsal passing ability.

5. Data Analysis Stage:

The data of pretest and posttest results from both groups were analyzed using inferential statistics.

Data Analysis Techniques

The data were analyzed using the t-test (independent sample t-test) statistical technique to determine the difference in learning outcomes between the group that used plastic balls and the group that used standard balls. Before the t-test was carried out, the data were first tested for normality and homogeneity using the Lilliefors and Levene tests with a significance level of $\alpha = 0.05$.

If the data is normally distributed and homogeneous, then hypothesis testing is carried out using the t-test. The testing criteria are:

If the t-value is calculated > the table, then there is a significant difference between the two treatment groups.

If the value t is calculated < t table, then there is no significant difference.

Data analysis was carried out with the help of simple statistical software and manual calculations according to the guidelines from Sudjana (2005).

RESULTS AND DISCUSSION

The following are the results of the average score of students' futsal passing ability:

Groups	Pretest (Red)	Posttest (Red)	Dizziness
Plastic Balls	**63,40**	**70,60**	**7,20**
Standard Ball	**62,80**	**78,20**	**15,40**

From the table above, it can be seen that both groups experienced an increase in passing ability after treatment. However, the increase in the standard ball group was much higher than in the plastic ball group.

Descriptively, the use of standard balls has a better impact on student coordination, strength, and passing accuracy.

The results of the t test showed a calculated t value of 2.83, while the t table at a significance level of 0.05 was 2.05. Because of the calculation > the table, there is a significant difference between the two groups of treatment of students' futsal passing ability.

Thus, it can be concluded that the use of standard balls in learning futsal through a play approach has a more effective influence on improving the passing ability of SMA Negeri 1 Cicalengka students.

The results of the study show that both the use of plastic balls and standard balls in learning futsal with a play approach are both able to improve students' passing ability. Nevertheless, higher ability gains occurred in the group that used standard balls.

These findings show that the type of ball used has an influence on the learning outcomes of basic futsal techniques, especially in the context of passing. Standard balls have a weight and size that corresponds to the official rules of the game, so the ball bounce is more stable and realistic to the actual game situation. This allows students to learn control and operant techniques more precisely. In contrast, plastic balls that are lighter and have unstable bounces tend to make it difficult for students to accurately control the direction of the ball.

According to Griffin (2003), passing in futsal is a fundamental component that must be mastered by players because it is the basis of all forms of teamwork, both in building attacks and maintaining possession. Good passing ability will be greatly influenced by the level of motor coordination, leg muscle strength, and experience of practicing with the ball that has characteristics according to the conditions of the game.

In addition to the type of ball factor, the results of this study also prove the effectiveness of the play approach in futsal learning. The play approach puts students in game situations that resemble real matches, so that students can actively learn, experience competitive situations firsthand, and understand the application of techniques in a real context (Mahendra, 2000). In this approach, teachers act as facilitators who create a fun and challenging learning atmosphere. This is in line with the view of Aqib (2002) who stated that the game-based learning model is able to increase students' motivation and active participation because it provides a contextual learning experience.

Furthermore, the improvement of students' passing ability in this study is also related to the principle of Developmentally Appropriate Practice (DAP) put forward by Nurhasan (2001), namely the importance of adapting the form and learning media to the level of development and ability of students. Learning that is structured according to students' physical and cognitive abilities will be more effective in developing basic movement skills, including in futsal sports.

Husdarta (2009) explained that one of the causes of low physical education learning outcomes is the monotony of the learning methods applied by teachers. By applying a play approach and modifying learning tools, teachers can create a more interesting and interactive learning atmosphere. In the context of this study, the use of two types of balls provides a different learning experience and enriches students' adaptability to variations in game conditions.

In addition, the results of this study strengthen the opinion of Sukintaka (1992) that modification of equipment in sports learning can be an effective strategy to improve the mastery of basic techniques. By modifying the tool—in this case the type of ball—teachers can adjust the difficulty level of learning to suit the student's abilities. The use of plastic balls in the early stages helps students adapt to basic passing motions without excessive physical strain, while standard balls are used to improve the accuracy and power of the pass.

The findings are also in line with the research of Justinus and Isaac (2008) who showed that the characteristics of standard balls provide a more realistic response to the force of the foot thrust than plastic balls, making them more effective in training basic futsal technical skills. The findings reinforce the reason why the group with the standard ball showed a greater increase in ability than the plastic ball group.

Pedagogically, these results confirm the importance of a combination of an engaging learning approach and appropriate media use. The approach to play is able to create an active and enjoyable learning environment, while the selection of the appropriate ball helps students develop correct technical skills. The combination of the two resulted in a significant increase in passing ability in SMA Negeri 1 Cicalengka students.

Thus, the results of this study imply that physical education teachers need to consider factors such as the characteristics of the tools, the suitability of approaches, and the conditions of students in designing sports learning. Futsal learning packaged through a play approach with the right use of media not only improves motor skills, but also fosters a positive attitude of sportsmanship, cooperation, and competitive spirit among students.

CONCLUSION

Based on the results of research, data analysis, and discussions that have been carried out, it can be concluded that learning futsal through the approach of playing using plastic balls and standard balls both have a positive influence on improving students' passing ability. However, there was a difference in the rate of improvement between the two treatment groups, where learning using standard balls showed better results compared to learning using plastic balls.

A significant improvement in passing ability in both groups shows that the play approach is an effective and fun learning method in physical education. This approach is able to create an active learning atmosphere, encourage student participation, and increase motivation as students learn through hands-on experience in the context of a game. This is in accordance with the opinion of Mahendra (2000) and Aqib (2002) who affirm that the play approach places students as active subjects, who learn through real social experiences and interactions in the field.

The difference in results between the use of plastic balls and standard balls can be explained by the physical characteristics of the two balls. Plastic balls are lightweight and easy to control for beginners, but they have unstable bounces that reduce accuracy when passing. In contrast, standard

balls have a size, weight, and surface texture that conforms to the official rules of the futsal game, thus providing more realistic feedback and helping students improve their basic engineering skills optimally (Justinus & Ishak, 2008). Thus, learning to use standard balls is more effective for improving passing technique skills, especially in the context of game-based learning that demands precision and speed of movement.

In addition, the results of this study also strengthen the theory about the importance of choosing media and learning tools

in physical education. Sukintaka (1992) stated that the modification of learning tools must pay attention to the abilities and characteristics of students so that the learning process is more effective. This principle is also in line with the concept of Developmentally Appropriate Practice (DAP) (Nurhasan, 2001), which emphasizes the importance of conformity between materials, methods, and media with the stage of student development. In the context of this study, the use of plastic balls can be used as an initial stage of learning for students who are still in the process of adaptation, while standard balls can be used for the advanced stages in the formation of more complex engineering skills.

Overall, it can be concluded that:

1. The effective play approach is used in futsal learning because it can increase students' motivation, activities, and technical skills.
2. The use of plastic balls and standard balls both improved passing ability, but higher increases were obtained in the group that used standard balls.
3. The type of ball used affects the learning outcomes of passing skills, because the difference in the physical characteristics of the ball has an impact on the ability to control, speed, and accuracy of the pass.
4. A play approach combined with appropriate learning media can create a more meaningful learning experience, foster confidence, and build cooperation and sportsmanship in the game.

The findings of this study reinforce the view that physical education does not only aim to improve physical abilities, but also plays a role in developing the psychomotor, cognitive, and affective aspects of students. Through creative, varied, and contextual learning such as the play approach, students can learn with pleasure, understand the values of sports, and develop skills that are useful in daily life.

REFERENCE

Aqib, Z. (2002). Model-Model, Media, dan Strategi Pembelajaran Kontekstual (Inovatif). Bandung: Yrama Widya.

Arikunto, S. (2010). Prosedur Penelitian: Suatu Pendekatan Praktik (Edisi Revisi). Jakarta: Rineka Cipta.

Departemen Pendidikan dan Kebudayaan. (1994). Kurikulum Pendidikan Dasar: Garis-Garis Besar Program Pengajaran Pendidikan Jasmani. Jakarta: Depdikbud.

Depdikbud. (1987).Kebijakan Peningkatan Mutu Pendidikan Nasional. Jakarta: Departemen Pendidikan dan Kebudayaan.

FIFA. (2008). Futsal Laws of the Game 2008/2009. Zürich: Fédération Internationale de Football Association.

Griffin, L. L. (2003). Teaching Sport Concepts and Skills: A Tactical Games Approach. Champaign, IL: Human Kinetics.

Husdarta, J. S. (2009). Manajemen Pendidikan Jasmani dan Olahraga. Bandung: Alfabeta.

Justinus, L., & Ishak, A. (2008). Ilmu Kepelatihan Dasar. Jakarta: Universitas Terbuka.

Mahendra, A. (2000). Pembelajaran Pendidikan Jasmani Pendekatan Permainan. Jakarta: Depdiknas.

Nurhasan. (2001). Tes dan Pengukuran dalam Pendidikan Jasmani. Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah, Depdiknas.

Sucipto, B. (2010). Futsal: Teknik Dasar dan Strategi Bermain. Bandung: CV Maulana Media Grafika.

Suharno, H. (1999). Pengelolaan Kegiatan Ekstrakurikuler di Sekolah. Jakarta: Departemen Pendidikan dan Kebudayaan.

Sukintaka. (1992). Teori Pendidikan Jasmani. Jakarta: Depdikbud, Direktorat Jenderal Pendidikan Tinggi, Proyek Pembinaan Tenaga Kependidikan.

Sugiyono. (2012). Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

Sudjana. (2005). Metoda Statistika. Bandung: Tarsito.