

The Effect of Learning Dribble Variation Using Modification of Plastic Balls on Improving The Results of Football Dribble Skills Learning

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Abstract— This study aims to determine the effect of learning variations of straight and zig-zag dribble on increasing the results of learning football dribble skills. The result of analysis of one way anova $F_{count} = 5,324 > F_{Table} \alpha = 0,05 = 4,149$ and the significance difference (LSD) test obtained by $vs = 1,0159 > LSD\alpha 0,05 = 0,8968$, it can be concluded that learning straight dribble variation is better than learning zig-zag dribble variation to improve the dribble skills of football.

Keywords— *dribble, straight, football, modification, zig-zag*

I. INTRODUCTION

Learning is an important component in education. Learning is approximately a process of interaction between students and educators (teachers) and various learning resources that exist in the learning environment. The learning process is an important component in education. Learning that will be planned requires a variety of theories to design it so that the learning plan that is prepared could meet the expectations and goals of learning.

Physical education is a process of physical activity or sports by providing opportunities for students to learn various activities of movement skills while developing their potential. Physical education is an important component in education in schools starting from elementary, middle and high school education. Physical, sports and health education subjects in the process including cognitive, affective, and psychomotor aspects.

There are so many models of learning which can be given to improve the learning outcomes of students's movement skills. One of them in this study, researchers used a variety of learning models in the learning of football (big ball) games. Variation is diversity or variety that makes things not monotonous [1]. Varied of learning is used to create freedom of thought, creativity, and reduce the level of boredom of students in learning. The learning model that will be used is adjusted to the available learning facilities. If the learning facilities are inadequate, it does not rule out the possibility to modify learning facilities.

Modifying learning facilities is one the effort that can be done by physical education teachers to make learning can be carried out properly in accordance with basic competencies and learning achievement goals in physical, sports, and health education. Husdarta [2] "creative teachers will be able to create something new or modify something which is already exists but presented it in more interesting way, so that children could feel happy in learning. In learning various activities in physical education in senior high school (SMA) directed at mastering the competence of the development and application of movement skills, physical fitness development and healthy lifestyle through big ball games, small ball games, athletics, martial arts, gymnastics, motion rhythmic, water activity, and health material. One of the games which popular in high school students is football. Learning football games the learning tools that can be modified are balls, for example using plastic balls.

To support the skills of playing football, every student should master basic techniques in football games. Dribble is one of the important basic techniques that must be mastered in playing football. Dribbling is a method of moving the ball from one point to another on the field using feet [3]. In doing dribbling there are several foot target on the ball, these requirements have their respective functions: (a) Dribbling using the inner side of the foot; (b) Dribbling using the outer side of the foot; (c) Dribbling using leg turtles.

Preliminary test results (pretest) football dribble skills of class XI students show unfavorable results and most of them not reached the minimum standard of competence that must be achieved. This is matching with the results of the previous test of 34 students, 9 students (26.47%) the results of the test including the poor category, and 11 students (32.35%) including the very poor category; the total number of students who score below the minimum score of learning outcomes is 20 out of 34 people (58.82%).

Based on the background of the problems above and according to the results of preliminary observations in the form of pretest football dribble skills in class XI of SMAN 5 Malang and interviews with physical education teachers of XI class, researchers were interested in conducting research with in title, "The Effect of Straight Dribble Variation Learning and Zig-zag

Against Increasing Learning Outcomes of Football Dribble for Students in Class XI of SMAN 5 Malang".

The purpose of this study was to determine the effect of learning straight and zigzag dribble variations, as well as to find out which one has more significant influence between straight and zig-zag dribble variations on improving the results of football dribble learning for students of class XI of SMAN 5 Malang.

II. METHODS

This study uses an experimental design in the form of Randomize Control Group Pretest-Posttest Design. Judging from the purpose of the study, this study includes quasi-form experimental research. The variables studied included: (1) dependent variable in the form of an increase in soccer dribble learning outcomes, (2) independent variables including (a) straight dribble variation learning, (b) zig-zag dribble variation learning and (c) control variables in the form of (1) dribble ball learning model, (2) students of class XI and (3) School of SMA N 5 Malang,

The population of this study was 38 students of class XI IPS 1 in SMAN 5 Malang. Sampling was carried out using a systematic purposive proportional random sampling technique with a percentage of 90% of 38 students, so that the number of samples used was 34 students. The study involved two groups which were divided using ordinal pairing matching technique that is, pairing a balanced sequence. Each group numbered 17 people, namely the straight dribble variations group learning and the zig-zag dribble variation group learning.

This study used test and non-test instruments. Test instruments in the form of tests of football dribble skills past the obstacle previously validated dribble test items and validity coefficients were found 0,694 including acceptable categories. [4] using empirical validity techniques in forms of comparative validity and criteria used in the form of external criteria namely performance assessment conducted by three experts. Test reliability was obtained at 0,885 using a retest technique (test and re test) including criteria that could be accepted, so that the dribble skills test could be used to measure dribble skills for grade IX students of SMA N 5 Malang. While non-test instruments in the form of observation are used to observe the implementation of dribble learning and football dribble skills tests. Collecting data in this study uses (1) the measurement technique of test forms namely tests of football dribble skills, (2) experimental techniques to provide treatment in the form of learning, (3) and observation techniques to observe tests and learning.

The data obtained were analyzed using paired t-test and one-way ANOVA analysis. One-way variant analysis need requirements that must be fulfilled, namely data normality test and variant homogeneity test in the population. Hypothesis testing used a significance level of $\alpha = 0,05$. Data normality test uses Lilliefors technique [5]. Data homogeneity test using Fmax test technique. If the results of the analysis using a one-way variance analysis technique (one way anova) is obtained $F_{count} > F_{table} \alpha = 0,05$, then a further test analysis is performed using the Least Significance Difference (LSD) test.

The data analysis procedure is done manually by using the help of the Casio FX 3900 PV calculator.

III. RESULTS

Based on the results of the analysis of the normality test using the Liliefors test at the time of the pretest, the results obtained for the study group of straight dribble variations are $L_{count} 0,143 < L_{table} \alpha 0,05 0,206$. Whereas for the learning of group zig-zag dribble variation that is Calculated as $L_{count} 0,123 < L_{table} \alpha 0,05 0,206$. At the end of the test (posttest), the results obtained for the study group of straight dribble variations are $L_{count} 0,155 < L_{table} \alpha 0,05 0,206$. Whereas for the learning group zig-zag dribble variation namely $L_{count} 0,140 < L_{table} \alpha 0,05 0,206$.

Based on the results of the analysis of the normality test of all groups of learning at the time of the initial test obtained results of the calculation $0,118 < L_{table} \alpha 0,05 0,152$, and at the time of the final test obtained results of the Calculation $0,139 < L_{table} \alpha 0,05 0,152$. This indicates that the data has been obtained in the learning groups; straight dribble variation and zig-zag dribble variation shows normal distribution and meet the variance analysis requirements.

To determine the variance homogeneity in the population, a homogeneity test was carried out on the group data, learning straight dribble variation and zig-zag dribble using the F max test with a significance level $\alpha = 0,05$. At the pretest results obtained $F_{count} 1,010 < F_{table} \alpha 0,05 4,5431$, and at the end of the test results obtained $F_{count} 1,158 < F_{table} \alpha 0,05 4,5431$, then the data shows a homogeneous population variant and meets the requirements of variance analysis, so One-way variance analysis (ANOVA) can be done. The results of the t-test paired with a significance level $\alpha = 0,05$. In the group learning, straight dribble variations obtained $t_{count} 7,54 > t_{table} \alpha 0,05 2,12$, whereas in the group learning of zig-zag dribble variation was obtained $t_{count} 13,77 > t_{table} \alpha 0,05 2,12$. This shows that the learning group variations in straight dribble and zig-zag dribble have differences in the results of the football dribble test between before and after being treated.

Furthermore, the results of the analysis of one-way variance (one way anova) obtained $F_{count} 5,324 > F_{table} \alpha 0,05 4,149$. This shows that there is an influence between learning straight dribble variation and zigzag dribble on increasing the results of football dribble learning for students in class XI of SMAN 5 Malang. To find out how much influence that given by straight dribble and zig-zag dribble learning to increase the results of football dribble learning students of class XI of SMAN 5 Malang, further tests were carried out using the Least significance difference (LSD). From the results of the LSD significance difference analysis obtained vs The mean value is $1,01 > \text{coefficient LSD } \alpha 0,05 0,01$, meaning that there is a significant difference between learning straight dribble variation and zig-zag dribble to increase football dribble learning outcomes.

IV. DISCUSSIONS

A. Results of Test Data Analysis Differences Before and After Learning Variations in Dribble Straight Using Modification of Plastic Balls Against Increasing Learning Outcomes of Students Football Dribble Skills in Class XI of SMAN 5 Malang

The results of data analysis using paired t test has been obtained the value of $t_{count} = 7,54 > t_{table} = 2,12$, so that the null hypothesis which says that there is no difference before and after giving learning variations of straight dribble using plastic balls to increase the results of students football dribble learning of class XI of SMAN 5 Malang is rejected and the hypothesis which stated that there were differences before and after the administration of learning variations of straight dribble using plastic balls to increase the results of football dribble learning students of class XI of SMAN 5 Malang accepted. This means that there are differences before and after giving a variety of straight dribble learning using plastic balls to increase the results of football dribble learning for students of class XI of SMAN 5 Malang.

There is a difference as an effect of giving the treatment using straight dribble variation learning using plastic balls that are carried out for 12 times (learning 2 times a week) that can improve the learning outcomes of football dribble skills of students of class XI of SMAN 5 Malang. Learning that is given routinely and programmed can affect the results of learning dribble skills, because in football games dribble skills are needed to maintain the ball when running past opponents so that the ball is still in control. The use of plastic balls is intended to facilitate students in following the learning which is provided by the teacher.

Learning straight dribble variation is given to reduce the level of boredom of students in participating in learning. Majid [6], said that "learning that has a varies stimulus is a form of learning designed by the teacher in the context of teaching and learning interaction processes aimed at overcoming students' boredom so that in teaching and learning situations, students always show perseverance and full participation "

Research done by Sandhi [7] states that "there is an effect of dribbling practice using a variation model on dribbling skills". While another research done by Effendi and Fahrizal [8] states that "learning with plastic balls is done to improve the ability to dribble because students do not find it difficult to practice the techniques and variations provided". The use of plastic balls as a means of learning is an attempt to achieve learning goals. Using plastic balls in principle students feel more comfortable to play the ball. Modification using plastic balls is done with the following considerations: (1) exercising with modified equipment will reduce the risk of injury, (2) modifying sports equipment will be able to develop students' skills faster, (3) modifying exercise fosters excitement and pleasure in a competitive atmosphere for students (Safariatun, 2008)

The effect of straight dribble variation learning proved to have an effect on increasing the results of football dribble learning for students of class XI of SMA 5 Malang. Variations in straight dribble are one form of learning that is adopted from

the actual football game. In the game on the field, dribble ball by changing the speed of the ball both fast and slow is needed to outwit the opponent so that the ball can be mastered to the maximum extent possible by the player.

Thus the straight dribble variation learning affects the improvement of the results of learning the football dribble skills of students of class XI of SMAN 5 Malang. Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

B. Results of Different Test Data Analysis Before and After Learning Zig-zag Dribble Variations Using Plastic Ball Modifications to Increasing Learning Outcomes of Students Dribble Soccer Skills of Class XI of SMAN 5 Malang

The results of data analysis using paired t test has been obtained $t_{count} = 13,77 > t_{table} = 2,12$, so that the null hypothesis which stated there is no difference before and after giving learning zig-zag dribble variations using plastic balls to increase the participants' dribble learning outcomes students of class XI of SMAN 5 Malang were rejected and the working hypothesis stated that there were differences before and after learning zig-zag dribble variations using plastic balls to increase the results of football dribble learning students of class XI of SMAN 5 Malang were accepted. This means that there are differences before and after giving learning zigzag dribble variations using plastic balls to increase the results of learning football dribble for students of class XI of SMAN 5 Malang.

The difference as a result of giving treatment using zig-zag dribble learning using plastic ball which is done for 12 times (learning 2 times a week) can improve the learning outcomes of football dribble skills of students in class XI of SMAN 5 Malang. Learning that is given routinely and programmed can affect the results of learning dribble skills, because in football games dribble skills are needed to maintain the ball when running past the opponents so that the ball is still in control.

The use of plastic balls is intended to facilitate students in following the learning provided by the teacher. According to Anitah [1] "variations are divided into 3 groups as follows: 1) variations in teaching style, 2) variations in interaction patterns, and 3) variations in the use of learning aids". Variations in the use of learning tools such as plastic balls instead of the balls for football because In the research done by Djuwaini [9] stated that "the use of plastic balls in learning volleyball can improve the learning outcomes of lower passing students in grade V SDN Pakal II Surabaya". This is supported by the theory described by Subroto which states that "modifying sports branches means to generate motivation, because it provides convenience for students to master the sports skills taught" [10].

Based on the theory which discusses about training zigzag dribble on dribble skills Zigzag is intended to master the ability to run through obstacles both people and things that can interfere with movement can be interpreted by agility in moving. Agility is the result of a combination of elemental formation of speed, strength and balance. Forms of agility training include shuttle runs, and zigzagging.

Based on research done by Pratama Entitled "The Effect of Agility, Balance, and Reaction Speed on the Dribble Ball Ability in the FC Pematang Club Football Game in 2015", It was concluded that there was an influence between agility, balance, and reaction speed on ball dribble ability [11]. Daryanto & Hidayat states that "there is an influence of agility training on the ability to dribble ball in eighth grade students of Kembayan 2 Junior High School, Sanggau District" [12].

Thus the learning of zig-zag dribble variation has an effect on increasing the learning outcomes of soccer dribble skills of students of class XI of State Senior High School 5 of Malang. Figures and Tables

C. Results of Data Analysis, Differences in the Effect of Learning Straight and Zig-Zag Dribble Variations Using Plastic Ball Modification on Increasing Learning Outcomes of Football Dribble Skills Students of Class XI of SMAN 5 Malang

The results of data analysis using one-way ANOVA analysis was performed on the difference in the pretest data with the posttest dribble skills of each group obtained by the price of $F_{count} = 5,324 > F_{Table} \alpha = 0,05 = 4,149$, and the results of further test analysis using the Leat significance difference (LSD) technique obtained the results of $vs = 1,0159 > LSD \alpha 0,05 = 0,8968$, so that there is an influence between straight dribble variation learning and zig-zag dribble using plastic ball to increase learning outcomes of dribble soccer skills of students of class XI of SMAN 5 Malang, then the null hypothesis stating that there is no increase in the results of soccer dribble learning before and after learning in the learning group of variations in straight dribble and zigzag dribble using plastic balls to increase results football dribble learning students of class XI of SMAN 5 Malang are rejected, and the working hypothesis which states that there is an increase in the results of soccer dribble learning before and after learning in the group learning straight dribble variation and zigzag dribble using plastic balls to increase the results of football dribble learning students of class XI of State Senior High School 5 of Malang are accepted. So learning straight variations of dribble and zig-zag dribble can improve the results of soccer dribble learning.

Based on the results of the analysis of the average calculation of football dribble tests at the time of the initial test and the final test for the group learning straight dribble variation and zig-zag dribble, then in the group learning straight dribble variation there is an increase in the results of the soccer dribble test of 3,29 seconds, and on the learning group of zig-zag dribble variation is an increase in the results of the 2,5 second soccer dribble test. It can be concluded that the learning of straight dribble variation has a greater increase compared to learning zig-zag dribble variations.

Various things that can be modified in learning physical education include rules of the game, playing time, movements, number of players, facilities and infrastructure [13]. The development of modification of facilities and infrastructure needs to be made and disseminated, in order to overcome problems, one of which relates to sports facilities and infrastructure used in learning physical education in schools.

Modifying infrastructure is one of the efforts that physical education teachers can do to help learning run smoothly.

Learning is a whole series of activities or activities which are carried out consciously by a person and result in changes themselves in the form of the addition of knowledge or skills based on his sense tools and experience [14]. While motor learning is a process that leads to the dimensions of motion [14]. Learning motion skills cannot be separated from the process of teaching motion or motor skills. This is similar to the theory of motion learning proposed by Thorndike.

The connection with football dribble learning by using a variety of dribble learning models has been supported by theories about training law (Thorndike) which states that "the more behavior is repeated, trained, and practiced, the association will be stronger" [14]. With the provision of straight and zigzag dribble learning variations. This means that with the provision of learning carried out repeatedly, the lessons will be increasingly mastered. It can be interpreted as an exercise in the form of a variety of straight and zigzag dribble learning giving the main principle of repetition. This is supported by the opinion of Rahyubi that "continuous and repeated training can cause a person to master skills and motor skills well" [14].

Learning with high meaningfulness is when students experience by doing and engaging. The activity of a sport like football must be done as a whole. A football player must have an understanding of the relationship between the position of the ball and its own set of motion when performing techniques such as dribbling, kicking a ball or other techniques. The teacher must maximize the transfer of training between various activities where students are involved in the learning context. Transfer training or skill is an important part in the context of learning and practicing sports skills. Exercises related to zig-zag agility can affect football dribble skills. This shows that there is a positive transfer between agility training and football dribble skills.

Thus it can be said that the increase resulting from learning that uses a variety of straight dribble learning increases more than the variation of zig-zag dribble learning on the results of football dribble learning for students of class xi state high school 5 of Malang.

V. CONCLUSION

Based on the results of the study concluded that: (1) there is the effect of variation in straight dribble learning using modification of plastic balls to increase the results of learning football dribble skills of class XI students of SMAN 5 Malang, (2) there is an effect of zig-zag dribble variation learning using plastic ball modification to increased learning outcomes of dribble soccer skills for students of class XI of SMAN 5 Malang, (3) learning straight dribble variation has an increase of 3,29 seconds, better than learning zig-zag dribble variations that have an increase of 2,53 seconds to increase learning outcomes football dribble skills of students of class XI of SMAN 5 Malang.

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Suggestions and input that can be considered for teachers, students, and other researchers are as follows. For PJOK teachers at SMAN 5 Malang, when learning soccer dribble skills using a learning variation model, such as dribble variation through straight or zigzag obstacles. Learning can be modified using plastic balls as learning tools in principle students feel more comfortable to play the ball. For students so that the value of football dribble skills can achieve the minimum score of learning achievement, students are advised to learn soccer dribble skills independently using plastic balls and with straight or zigzag obstacles. Other researchers are expected to develop research similar to different variables and subjects.

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