

The Influence of Learning Approach and Hand-Eye Coordination on the Free Throw Results in Basketball Games

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Abstract

The purposes of this research were to examine the influence of direct and indirect learning approaches on free throw result in basketball, the difference of free throw result played by students with good and poor hand-eye coordination, and the interaction influence of learning approach and hand-eye coordination on the result. This research applied experimental method with 2x2 factorial design. The population within this study was male students in 5th semester of the major program. Purposive Random Sampling was used as the sampling technique. 40 students were taken as the samples, in which students with good and poor hand-eye coordination were equal. The analytical technique of this study belonged to ANOVA to use SPSS 22 and 5% significancy. Study result showed the difference of significant influence between direct and indirect learning approaches on free throw result, for p-value = 0,045, smaller than 0,05; the difference of increase in the result from students with good and poor hand-eye coordinations, for p-value = 0,035, smaller than 0,05; and the interaction of learning approach and hand-eye coordination on the result, for p-value = 0,012, smaller than 0,05. It is concluded that there were differences of the significant influence between the learning approaches on free throw result, the free throw result from students with good and poor hand-eye coordinations, and there was an interaction influence of learning approaches and hand-eye coordination on the free throw result.

Keywords: free throw; basketball; hand-eyes coordination; direct and indirect; experimental research.

I. INTRODUCTION

The development of the sport was rapidly grown and not only played in the community or clubs, but also among professionals. But further, the sport was also entered into the realm of education in Indonesia, especially in the educational curriculum of physical education in schools, incorporate the skills of the game was as one of the great ball skills. The game was taught from the primary school level, and at the level of SLTA (Senior High School). The game that had been incorporated into the educational curriculum not only studied in schools, but also into

the education curriculum in higher education, particularly for the Physical Education Department. This game was also played between the campus and always became a very prestigious match.

In addition to the Foundation of SME activities (Student activity units) at various colleges, skill games was also studied by students who attended the sport. As any student of the semester 5 FKIP University Surakarta Development Shoots POK were given material skills basic techniques of the game. Although they set out from the background of the ability of different sports, but it had become a liability for the entire students to master the skills of the game. It is considering they are prepared to become a teacher of physical education should be colonised a wide range of sports, including the skill. As had been mentioned before that the game was taught at the most basic level of education up to the secondary level, so there should be no reason for prospective educators or teachers of the sport not being able to master the techniques of the game. In addition to be prepared to be a teacher, students of University of Surakarta Development Shoots POK must be ready to become a coach if the team where he taught will join in a match.

The game was a complex game, which was involving elements of strength, speed, endurance, explosive power, flexibility, coordination and other physical conditions. Mastery of the domain motion in the game was also one of the important elements. The player should also have supporting elements in order to play well. In addition to support the above elements of mastery in the game, was to have the basic techniques that must be mastered by players. The basic techniques were, among others, passing, dribbling, shooting, and pivot. The basic technique must be controlled by a player because with a good mastery of the basic engineering, a player will also be able to play outstanding. In the game, shooting technique was the most important technique, because the object of the game was given scoring. So the only way to print numbers in the game was by doing the shooting. The good shooting ability will provide a lot of numbers anyway. The game was divided basically into three types of shots, namely standing shoot, jump and shoot and lay up shoot. Variation in doing the

shots can be done by a player in accordance with the situation and condition of the time the game takes place. The variation range of the shot was done so that while doing the shots a player will be able to outwit opponents and enter more numbers.

The difficulty of doing free throw themselves was visible in the teaching and learning activities on University students FKIP POK Shoots Development Semester 5 who got the courses. In the activities of the study, errors were still found when doing free shots or free throw techniques. Errors that often occurred during a free throw were often right on target and the ball was not going on the air or the ball did not touch the basket hoop. In addition, students also often looked unfocused when they will do this shot and they were less doing shots with a relaxed attitude. The direction of the shot was not appropriate on targets were probably influenced by the bad eye-hand coordination from students themselves. A good coordination will probably produce a good accuracy anyway and vice versa. Strong suspicion that in order to achieve a high degree of accuracy in conducting free throw then eye-hand coordination was an important component of the alleged. In addition to those factors the errors may also occur due to inappropriate learning approach on students themselves.

See the various constraints that were found above, it was necessary to apply in a method or approach to learning that can be applied to students. The learning approach was how a teacher or teachers used steps or learning methods to deliver the materials, with the goal of learning that the material can easily be mastered by students or student body. With the right learning approach, the students were expected to be able to properly understand what had been delivered by a teacher, be it from lecturers or lecturers' assistant. In the world of learning, there were lots of approaches that can be applied to deliver a material and the effectiveness of each learning approach will be different. Learning can be centered on the teacher as its main source or can also be centered to students or pupils, while the teacher just purely as intermediaries.

Examined the elaboration of the background issue which had been discussed above, as well as saw some factors barrier to learning activities in a free throw then the author chose the title "The Different Influence of the Learning Approach and Eye-Hand Coordination Against the Results of a Free Throw In the Game (Experimental study of Direct and Indirect learning methods on students of semester 5, PKO FKIP University Development Shoots Surakarta)".

Based on the background of the problem, identification of the problems and limitations of problem then the problem can be formulated as

follows; Is there any difference between the influence of direct and indirect learning methods against the results of the free throw was?, there is any difference in the results of the free throw among the students who have high and low hand-eye coordination?, the influence of the interaction between the learning approach and eye-hand coordination against the results of the free throw?

II. THE STUDY OF THEORY

The game was a great ball game developed in a city in America and was becoming a very popular sport of many people. According to Gede Eka (2015:262) the game was played by two teams, each consisting of 5 players. According to the Firm Chinese Indonesian surname (2016:42) the game was a sport ball played by a group consisting of two teams each consisting of 5 people and each competed for scoring points by inserting the ball into the opponent's basket. The goal of each team is to score a number to the opponent's basket and try to prevent the other team to score. While according to Sucipto, Dian Budiana, Lukmanul Hakim Lubay and Jajat Darajat (2010:23) "a team sport is played in a manner of reflecting balls, and shooting the ball into the opponent's basket. Each team consists of five people and attempting to insert the ball into the basket of his opponent and prevent the opposing squads enter into our basket ball".

A. Learning Approach

According to Ngalimun (2016:8) as for the term approach (approach) in learning according to Sanjaya (2007) have similarities to the strategy. A different approach is actually better with the strategies and methods. The approach can be defined as a starting point or point of view toward the learning process. Term approach refers to the view of the occurrence of the process which is still very common. Therefore, strategies and learning methods used can be sourced or depending on the approach in learning. Further explained the term approach refers to the view of the occurrence of an approach centered on the teacher (teacher centered approaches) and student-centered approach (student-centered approach). Teacher-centered approach to lowering the direct learning strategies (direct instruction) deductive learning, or learning expository. Whereas, the approach of learning based on student learning strategies lowers discovery and inkuiri as well as inductive learning strategies.

According to Fathurrahman (2007) method literally means way. In general usage, refers to a method as a means or procedure used to achieve a particular goal. In relation to learning, a method is defined as a means of presenting learning materials on learners to achieve the goal that has been set. Thus one of the must-have skills that a teacher is learning skills in choosing the method. Election methods

directly related to teachers efforts in showing the teaching to suit the situation and conditions so that the achievement of the objectives of teaching gained the most.

According to Suprijono (2009:45-46) “a Model of learning is the cornerstone of the practice of learning results decrease educational psychology and learning theory that is designed based on an analysis of the implementation of the curriculum and its implications on operational level class”. Learning can be defined as a pattern that is used for the preparation of curriculum, managers of the material, and give instructions on the teacher in the classroom.

B. Direct Learning Approach

According to Ngalimun (2016:9-10) “a direct Learning Strategies is learning that many directed by the teacher. This strategy is effective to specify the information or skill development stage by stage. “ Direct learning is usually an deductive. According to Tite Juliantie dkk (2013:41) “directly learning can be defined as a model of learning where the teacher is transforming the information or skills directly to students and learning oriented on purpose and distukturkan by the teacher”.

According to Suprijono (2009:46-47) direct or direct instruction learning known as active teaching. Direct learning is also called a whole class teaching. The mention refers to the style of teaching where the teacher is involved actively in carrying content on learners and teach it directly on to the whole class. According to Zhang Dong bo (2011) Limited direct effect is working good in depth as an indicator of knowledge and understanding of the causes of the limited vocabulary understanding.

C. Indirect Learning Approach

Indirect learning is a learning centered on the pupil students. The teacher’s role shifted from a lecturer to become the facilitator “, according to Ngalimun, (2016:10). Indirect learning approaches according to Samsudin (2008:30-32) “is a diverting task control learning on student learning, where teachers are no longer in control of the learning in full but gives in completely on the students to get together to do it.”

Indirect learning strategies often called inductive inkuiri, memecahan problems, decision making and discovery. Contrary to the approach of learning direct, indirect learning generally are generally centered on learners, though despite the two strategies complement each other.

D. Hand-Eye Coordination

According to Rogram (2015:17) “Coordination is the ability to do work or movement quickly and efficiently”. The coordination of various

factors of harmonious relations States that happen to a movement. The ability of koordinatif is a good basis for learning ability is sensomotorik, the good level of coordination will be more rapid and effective movement difficult to get done anyway.

The sense of coordination, according to some experts like according to Suharno (1993:61) that “coordination is the ability of athletes to link several motion into one movement intact and aligned”. Barrow and McGee cited by Harsono (1988:220) provides a limitation regarding the coordination of “the ability to combine a variety of movements into one or more special motion patterns”. Thus the conclusions and opinions of the coordination is the ability of two or more organs of the body that moves with a certain movement patterns.

Broer and Zernicke in Harsono (1988:221) explained that coordination is the ability to combine multiple motion without tension in the correct order and do complex movements smoothly without excessive energy expenditure. Thus the result is movement efficient, smooth, seamless (smooth) and well coordinated.

Based on the opinion of the above, it is clear that coordination of the formulation is one of the important elements for motion motor skills. Good level of coordination or whether someone’s motion coordination is reflected in his ability to perform a move smoothly, precisely and efficiently. A student with a good coordination is not only able to do a skill perfectly, but also fast and easy can do the skill that was new to him. Besides it can also change rapidly from one motion to another motion patterns so that her movements became more efficient. Students who do not cooperate well usually do rigidly, with tension and with excessive energy is so inefficient.

E. Energy Exercise System Coordination

A good exercise to improve coordination is to do a wide variety of gestures and skills. Students who have a specific sport specialties, preferably involved in skills in different branches of sports or other sports. Students have a lot to be trained with new skills from his branch or branches in other sports. If not, will not develop coordination and ability to learn new gestures will decrease. In coaching skills, difficulty and complexity of the movement must be constantly enhanced. The easiest coordination developed in young children at the time of adaptability nervous system better than the staff of adults (Bompa in Harsono, 1988:222).

F. Factors affecting Coordination

In addition to paying attention to the signs of exercise coordination, the problems should be noticed in this exercise, as the notion is innervated resiproka a

race that coincided with the arrival of the one negative and the other positive. Synergistic muscles and antagonistic working together harmoniously to produce a good coordination. Agility, balance and kelentukan needs to be improved as well as possible to support the coordination of high quality. Almost all sports require coordination, complex movements even though levels of difficulties and their needs vary for each sport. Train the ability should since early age in motion as the basis of enrichment process skills at the junior and senior students.

Influence of the differences between direct and indirect learning approach against the results of the free throw was.

Learning approach with direct and indirect learning approach on deployment in the field, especially in the emphasis of physically and mentally. The advantages of direct learning approach to learning is planned and it is easy to use. On the approach of learning direct, given learning-oriented application technique free throw was. Thus, students can directly develop techniques that are taught in accordance with the game environment. Whereas the indirect approach to learning, training oriented given the ability of mastering the technique free throw was. The emphasis tends to be on increasing exercise the ability to shoot the ball into the basketball hoop continuously on every practice session until a set time limit. Advantages of indirect learning approach is encouraging the interest and curiosity of the students, creating alternative problem solving, encouraging creativity and skills development, and better understanding.

From the explanation above by observing that there are advantages and disadvantages to each approach to learning, then it can be suspected that between direct and indirect learning approach will give a different result against the influence of the free throw was. And the most influential was the exercise by using an indirect approach to learning.

The difference between the results of the free throw was a student who has a eye-hand coordination is high and low.

Hand-eye coordination that is owned by every student is not all the same, there are high and some are low. High low hand-eye coordination that is owned by a student will certainly have an effect on the reaction arm muscles student concerned. This is due to the hand-eye coordination is one of the dominant elements in movements that require a high level of eksplorisifitas.

From the description above, it can be presumed that the difference eye-hand coordination is high and low can give different effects against the results of the free throw was. And the most influence

on the results of the free throw was is a student who has a high hand-eye coordination.

Influence of the interaction between the learning approach and eye-hand coordination against the results of the free throw was.

Indirect learning approach is not particularly in need of eye-hand coordination capability are high, since the delivery of the material gradually and the teacher as a facilitator then tend to be gradual process to increase the explosive coordination. While the use of direct learning approach will require eye-hand coordination is higher, because the learning process a lot delivered by guru then it is more effective to increase strength, muscle endurance, coordination and muscle formation.

For students who have a low hand-eye coordination in applying the learning approach of direct disadvantage. Eye-hand coordination with low student will be hard to adapt to the needs of the eye-hand coordination. Indirect learning approaches more appropriate use for students who have hand-eye coordination that is low to master free throw was.

From the above description, it can be presumed there is interaction between the learning approach and eye-hand coordination against the results of the free throw was.

III. METODE

Research methods used in this research is a method of experimentation using 2 x 2 factorial design. The large samples used in this study is 40 students, obtained by purposive random sampling techniques. According to Sudjana (2002:148) purposive random sampling technique of population to be sampled should comply with the provisions to meet the research objectives. These provisions are:

1. Gender male and 5th semester student majoring in Sports Education Coaching Faculty of teacher training and educational sciences UTP Surakarta.
2. Interested to follow the research with iklas.
3. Healthy physical and spiritual.
4. Willing to sample and conduct treatment research.
5. Have the capability of free throw good or less, based on the results of observation and information

The sampling technique used was Purposive Random Sampling, the samples taken as many as 40 students, composed of 20 students who have a high level of eye-hand coordination, 20 students who have a low level of eye-hand coordination. From a number of students who have such provisions, then hand-eye coordination was obtained by tests of throwing tennis balls, data capture results such hand-eye coordination is used for grouping, namely coordination which has samples of eye-high hand and eye coordination that has a sample-low hand. Next ranked, from the results of the rank was divided into

three groups, the level of eye-hand coordination in high, medium and low. 20 students who have a level of eye-hand coordination are not included, so the large samples used in this study were 40 student son consisting of 20 students who have high hand-eye coordination, and 20 students who have hand-eye coordination. Next 20 students who have high hand-eye coordination and have eye-hand coordination low each divided into two groups in a way to be drawn (random), i.e. 10 students getting preferential treatment by direct learning approach and 10 students as a group get indirect learning approach. Engineering analysis using ANOVA using SPSS program 22 and 5% significance.

IV. RESULT AND DISCUSSION

The first hypothesis in this study stated that “the differences Influence the learning approach of Direct and Indirect Learning approach, there are the results of Free Throw in the game of basketball.” Based on hypothesis testing first it turned out that there was a difference between the real influence of a group of students who were given the learning approach of direct and indirect learning approach (p -value = $0,045 < 0.05$). Di- rect learning approach group had an average final result of free throw of 5.950, better than indirect learning approach which had the results of a free throw of 4.100.

Learning by direct approach in improving the results of free throw in the game of basketball was a pattern of learning used by providing lear- ning materials free throw learned directly without going through the stages of a certain distance. In practice, learning free throw with the direct ap- proach was as follows: (1) the student was given a learning material about free throw with the actual movement patterns. (2) implementation of teach- ing and learning activities carried out directly on the actual field.

Based on the results of the analysis of the data indicated that there was a distinction between direct and indirect learning approach against the results of the free throw, in this research, direct learning approach had better results than the indirect learning approach, it can be seen from the results of direct learning approach score that is 5.950 and indirect learning approach score that is 4.10.

The second hypothesis in this study stated that “there is a difference in the results of Free Throw In the game of basketball between students who have high and low hand-Eye coordination”. Hand-eye coordination was one of the supporting factors in the success of a person in his free throw movement in the game of basketball, free throw motion was the complex movement and needed harmony in the motion. Learning the techniques of free throw not regardless of how a student was able to perform the task with the right moves. The truth movement will

affect the level of energy expenditure. If students were wrong or not able to do the movement correctly then they will waste their energy. This condition will affect the result to be achieved.

The most important factor that affects the quality of the student in carrying out the tasks of motion exercises correctly and effectively was hand eye coordination. The precision mastery of motion of a person’s professional basketball player to perceive a function of the organs of the human body which were closely related to the motion of the body as well as members of the active or passive body. The movement associated with the basic movements of the free throw.

Students who have a high hand eye coordination would be easier to perform motion given in learning, with the precision of the type of learning that was done will be able to provide faster results compared to those with less hand-eye coordination.

The results of the analysis of the data indicated that there was a difference between students who have a high hand eye coordination compared to the low hand eye coordination, it was in accordance with the above theory that the high ratio of sit and long limbs will show the precision of a person to perform the duties of the motion correctly, quickly and effectively. The more the students have high hand eye coordination so that students will be able to carry out all types of learning properly and accurately in accordance with the harmony of motion and the rate of energy expenditure was needed.

The third hypothesis in this study stated that “there is interaction between the Learning Approach and Eye-hand Coordination Against the results of a Free Throw In the game of bas- ketball”. In total there were influences of interaction on both a variable approach to learning, i.e. the achievement of outcomes free throw is influenced directly by the learning approach and eye coordination hand. The achievement of the results of the free throw, directly influenced by the level of coordination of eye difference factors in the hands of students.

The research results indicated that the interaction of learning approach with hand eye coordination against the results of the free throw. This was evidenced from the value of H_0 was accepted at $\alpha = 0.05$. This can be proved by the results of the analysis of variance calculation 2 factors i.e. because p -value = $0.012 < 0.05$. Learning ap- proach for direct and indirect learning approach with the hand-eye coordination level against the results of the free throw, meaning there was significant influence interactions between them or there was an interaction between the two.

This can be explained that the approach of learning direct will have good results when given to the student who has a high hand-eye coordinating learning approach and indirect will have better results when given to students who have a low level of eye-hand coordination.

V. CONCLUSIONS

From the results of testing a hypothesis can be drawn conclusions that there was a difference significant influence between the direct and indirect learning approach against the results of a free throw in the game of basketball. The direct learning approach gave a better influence than indirect learning approach. The average increase in their respective direct learning approach and indirect learning approach was 5.950 of 4.100.

There was a difference in the results of free throw in the game of basketball between students who have a high hand eye coordination and students who have a low hand eye coordination. Students who have a high hand eye coordination had better results compared to students who have a low hand eye coordination. The average increase in high and low hand-eye coordination was 6.00 of 4.050. There was a direct interaction between the learning approach and eye-hand coordination against the results of a free throw in the game of basketball. Direct learning approaches had better outcomes when treatment was given to students who have high hand eye coordination. Indirect learning approaches had better outcomes when treatment was given to students who have a low hand eye coordination.

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