

Effects of Shots Under The Basket Shoot and Eye-Hand Coordination on Shot Results in Basketball Extracurricular Students at MAN 1 Semarang

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Abstract

The research was motivated by the shot technique, which was conducted by students who took extracurricular activities less than the maximum. The purpose of this study was to analyze the effect of clear and bank shoot on the results of shooting in basketball, to analyze the effect of high and low eye-hand coordination on the results of shots in basketball, the interaction between clear and bank shoot with eye-hand coordination to the results of shooting in the basketball game on extracurricular students of Public Madrasah Aliyah (MAN) 1 Semarang. The method used in this study is to experiment with 2x2 factorial design. The population in this study amounted to 28 male students. Sampling in this study uses purposive sampling technique. The sample used 24 male extracurricular students MAN 1 Semarang, from the two-way Anova test that all three hypotheses were accepted. There is a significant difference in effect between the clear shoot and the bank shoot technique on basketball shots "Accepted" with the Sig. value = 0.000 < 0.05. There was a significant difference in effect between extracurricular basketball participants with high eye-hand and low hand-eye coordination on the shot results "Accepted" with the Sig. value = 0.000 < 0.05. There is an interaction between clear shoot and bank shoot hand-eye coordination of shooting results in basketball games "Accepted" with the Sig. value = 0.000 < 0.05. Conclusion there is the effect of clear and bank shoot on the shots, there is an influence of eye-hand coordination on the results of the shots, there is an interaction between clear and bank shoot with eye-hand coordination to the results of shooting in the basketball game on extracurricular students of Public Madrasah Aliyah 1 Semarang.

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INTRODUCTION

Basketball is a type of modern sport that is rapidly developing and attracts human attention, especially young people. Just like other big ball games, basketball is also a team game. Therefore, it requires good cohesiveness and cooperation between players where each player has high confidence, discipline, and work hard for the team. Also, some attitudes such as honesty, respecting opponents, and respecting the decisions of referees must be upheld by each player (Sumpeno, and Santoso, 2010).

According to Hartayani (2006) basketball is a fast, dynamic, interesting, and awesome game. Changes that occur every minute make this game interesting. Basketball has become one of the most popular games in the world and has become a game in the modern era.

According to Sumiyarsono (2002) basketball is a sport that uses large balls, is played with hands, the game of basketball has the aim of inserting as many balls as possible into the opponent's basketball, and holding the opponent away from putting the ball into his basketball by throwing, dribbling, and throwing shoot.

According to Muhajir (2007) basketball is a game played by two teams, each of which consists of five players. This type of game aims to find as many values or numbers as possible by putting the ball in the opponent's basketball and preventing the opponent from getting a score.

Mukholid, and Anwarudin (2007) in the actual game or official match, the game of basketball is done in a field (rectangle) with a size of 28x15 meters. The length of the field can be reduced but must be balanced. The diameter of the circle in the middle of the field is 3.6 meters, and the ring height is 2.75 meters, the diameter of the basketball ring is 0.45 meters, the size of the reflecting board is 1.80 meters x 1.20 meters. Standard balls that can be used in this game must have the following conditions: balls made of leather, rubber, or other synthetic materials, ball size = 7 (circumference 724-780 mm, and weight 567-650 grams) for men.

Shooting in a basketball game is divided into two types, namely outside shots and inside

shots. The outside shot consists of jump shoots, set shoots (non-jump shots), and free throws whereas internal shots consist of lay-up shots, under the basketball shoot, hook shoot (Oliver, 2007). One of the shots that are often used in basketball games is under the basket shoot. In doing the under the basket shoot technique, can use two ways: using a bounce board (bank shoot), and directly to the basketball ring (clear shoot). According to Ahmadi (2007) under the basket shoot is a shot from a dribble or passing position; this is the most common way of shooting in basketball.

In making a shot is very much related to coordination. Fenanlampir, and Faruq (2015) coordination is a very complex motor ability. Coordination is closely associated with speed, strength, endurance, and flexibility and is very important for learning, and perfecting techniques, and tactics.

Zarwan (2012) coordination is the ability of a person to combine several movements into one complete action. This movement can be seen when shooting; here are very many body components involved. Coordination of movements is by jumping, hovering, raising arms to shoot, and landing. Poor coordination can be detrimental because the movement is not efficient so that it will drain a large enough energy and get tired quickly, is not right on target, and influences, and allows injury.

Syafruddin (2013) states that a critical element for learning and mastering skills in sports is coordination. Coordination is one element of physical conditions that are relatively difficult to define precisely because its function is closely related to aspects of other physical requirements and is largely determined by the ability of the system.

Students of MAN 1 Semarang attended basketball extracurricular activities at Public Madrasah Aliyah 1 Semarang, totaling 28 students in 2019/2020. Facilities and infrastructure include ball, basketball hoop, uniform, and field.

Basketball extracurricular activities are held to deepen the mastery of basketball sports skills, which are carried out outside school hours

with time allocation arranged according to needs. According to Irsyada (2000) in determining or choosing a basketball learning strategy, it is necessary to consider the student's personalities, tools, time according to his tactics.

During basketball extracurricular exercises, researchers observed that the technique of shooting, which was performed by students who took extracurricular activities, was less than optimal when exercising. Although shooting is a relatively easy technique to do in basketball. But the reality on the field, many extracurricular students when shooting is still not following what is expected that there are still many balls that do not enter the basketball ring or deviate.

Mistakes made by players when shooting such as holding the ball of the hand must be placed under the ball to push the basketball and beside the ball to balance the basketball when they want to shoot and are less confident in shooting, as well as eye coordination of the hand and the lack of coordination. When the students of Public Madrasah Aliyah 1 Semarang shoot, they find it difficult to enter the basketball, when students want to shoot under the basket shoot looks very hesitant and do not dare to break through the opponent's defense, after researchers asked students it turns out they reasoned that they were afraid the ball is taken or blocked by the opponent.

The author is interested in discussing the problem of the results of shots in a basketball game. In this exercise, there are two shots namely under the basket shoot with bounce boards (bank shoot), and under the basket, shoot directly (clear shoot) with high and low eye-hand coordination when shooting on basketball. This exercise is carried out to find out which groups influence the results of basketball shots. With this exercise, the authors hope the results of shots on extracurricular students of Public Madrasah Aliyah 1 Semarang has increased.

METHODS

This study uses a 2x2 block factorial design, which is two variables measured at the same time to see the effects of each independent

variable, separately and simultaneously on the dependent variable and the results that occur due to the interaction of several variables. Because as an attribute variable in this study, in the form of eye-hand coordination that is high and low eye-hand coordination. So the two levels are not compared on each factor, and only distinguish the effect of the shot, clear shoot and bank shoot as the dependent variable on the results of basketball shooting, using pre-test, treatment, and post-test. This research was conducted at MAN 1 Semarang, starting on 18 June to 5 August with a population of 28 students, and the samples taken amounted to 24 students.

The sample in this study used a purposive sampling technique. Shooting test with a predetermined number of samples is 24 students, and students were divided into two parts to do bank shoot shots of 12 students, with two parts divided into six students with high eye-hand coordination and six students with low eye-hand coordination. Clear shoots were 12 students, divided into two parts by six students with high hand-eye coordination, and six students with low hand-eye coordination.

RESULTS AND DISCUSSION

This study aims to determine the clear shoot technique that is interacted with high (A_1B_1) and low (A_1B_2) hand-eye coordination, as well as with a high (A_1B_1) and low (A_1B_1) hand-eye coordination shot in basketball extracurricular at MAN 1 Semarang. Frequency distribution in eye-hand coordination where high eye-hand coordination was 12 people (50%), and low eye-hand coordination as many as 12 people (50%). The results of the high-low measurements are then divided into 2 groups: the first group with high hand coordination and the second group with low hand coordination, where the sequence numbers 1 to 12 are grouped by students who have high eye-hand coordination, and sequence numbers 17 to 28 are classified as students who have low hand-eye coordination. At the second meeting up to the 15th meeting students with high eye-hand coordination, and low-eye hand coordination was given treatment, or training to

follow an exercise program that was arranged by the researcher.

At the 16th meeting or the last meeting, the researcher conducted a final test, namely the post-test, by measuring the shot under the basket shoot for male extracurricular students at MAN 1 Semarang. The following is a table of shot data under the basket shoot test results in figure 1.

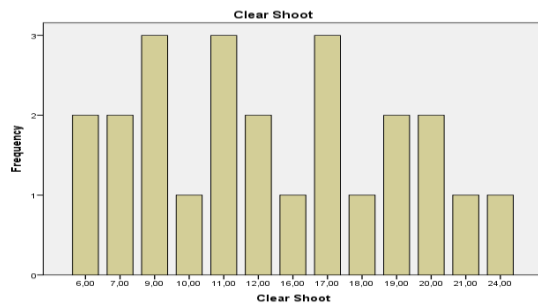


Figure 1. Frequency Distribution of Clear Shoot Technique in Basketball Games

Based on figure 1, the number of throws using clear shoot with the best value of test 1 and test 2 is done for 1 minute. The number of throws is known as 6 to 24 throws in 1 minute. Can be seen from 24 respondents, the most dominant throws are 9 throws, 11 throws and 17 throws in 1 minute.

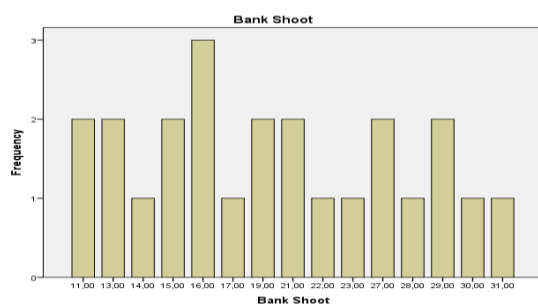


Figure 2. The Frequency Distribution of Bank Shoot Techniques in Basketball Games

Based on figure 2 obtained the number of throws using the bank shoot with the best value of test 1 and test 2 conducted for 1 minute. The number of tosses is 11 to 31 throws in 1 minute, and it can be seen from 24 respondents, the most dominant is 16 throws in 1 minute.

Before conducting the hypothesis test, researchers conducted a normality test aimed at finding out whether the data obtained were normally distributed or not. The parametric statistics used to test data normality are the Kolmogorov-Smirnov normality test with SPSS.

The normality test results using Kolmogorov-Smirnov, with $p_{value} = 0.074 > 0.05$. Then it can be concluded that the data is normally distributed after the data is said to be normal, it can be continued with Homogeneity test and hypothesis testing using two-way Anova.

Homogeneity test results using the Levene's test, obtained $p_{value} = 0.075 > 0.05$. Then it can be concluded that the homogeneous data after the data is normally distributed and homogeneous, the hypothesis testing is continued using two-way Anova.

Hypothesis testing uses a two-way design analysis of variance (Anova) with SPSS software. The alternative research hypothesis is accepted if the significance value is smaller than $\alpha_{symp.sig} < 0.050$. If the significance value is higher than α ($sig > 0.05$), the research alternative is rejected. Here is a hypothesis test using two-way Anova.

The first result, there is a difference in effect between the clear shoot technique, and the bank shoot on the shooting results of MAN 1 Semarang extracurricular participants being "accepted."

The second result, there is a significant difference in effect between extracurricular basketball participants have high eye-hand, and low eye-hand coordination in basketball shot results on MAN 1 Semarang men's basketball extracurricular participants "accepted."

The third hypothesis, there is an interaction between clear shoot, and bank shoot eye-hand coordination of the results of shooting in the basketball game on MAN 1 Semarang extracurricular participants "accepted."

Tests that produce data that are not relevant to the measurement objectives are said to be tests that have low validity (Ngatman, 2002). Hypothesis testing using two-way Anova is used to find out of the hypothesis proposed. Here are the results of testing using the two-way Anova.

Table 4. Test Results using Two-way Anova

Source of variance	Type III sum of square	df	Mean square	F _{value}	P _{value}
Corrected model	1402.417	3	467.472	58.186	0.000
Intercept	12352.083	1	12352.083	1537.459	0.000
Shooting	720.750	1	720.750	89.711	0.000
Coordination	65.333	1	65.333	8.132	0.007
Shooting* Coordination	616.333	1	616.333	76.715	0.000
Error	353.500	44	8.034		
Total	14108.000	48			
Corrected Total	1755.917	47			

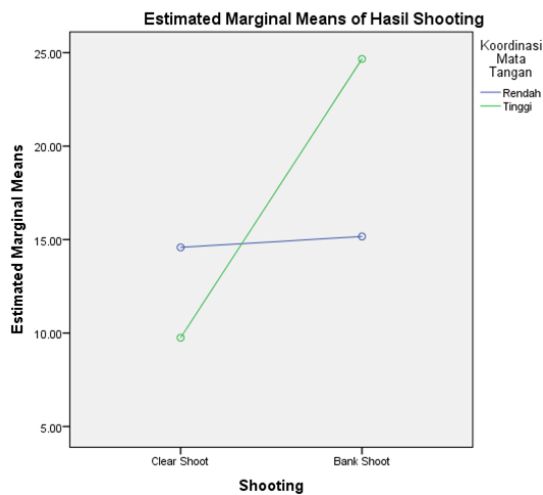


Figure 3. Shooting Interactions and Coordination

To see the interaction between shooting and coordination of basketball extracurricular students at MAN 1 Semarang can also be seen in figure 3. If the two lines intersect, then the opposite interaction occurs if the two lines are parallel, then it can be concluded that there is no interaction. Based on figure 3, it can be concluded that there is an interaction between the types of shots and eye-hand coordination on students.

Based on calculations, it can be seen that the data obtained are normally distributed and homogeneous. It can be seen that after treatment or training there are 53 students, 57% of students are in good category and others are in the moderate category. This data shows an increase in student shooting after treatment or training, which pre-test only 21.43% of students included in the moderate category, and others are classified as less category.

Two-way Anova testing also shows that clear shoot and bank shoot have Sig. = 0.000 < 0.05. Then the first hypothesis, there is a difference in the effect of the clear shoot and bank

shoot on the shot of basketball extracurricular male students at MAN 1 Semarang in the 2018/2019 school year "accepted."

This is in line with the opinion of Nugraha (2016) that bank shoot shots provide a better effect, and significantly increase the shooting results. Also, Sugiyanti (2013) also suggested that bank shoot shots have a significant impact on improving shooting capability.

It was concluded that there were differences in the effect of clear shoot and bank shoot on the results of shooting basketball extracurricular male students at MAN 1 Semarang in the 2018/2019 school year. Also, the average obtained from bank shoot shots is higher than the average obtained from clear shoot shots is 20.12 > 13.66. This shows that the use of bank shoot shots is better in basketball shots at students compared to the use of clear shoot shots. Therefore, it is recommended that teachers/trainers use bank shoot shots as an alternative to improving shooting results for students.

Also, the two-way Anova calculation shows that eye-hand coordination has a Sig. = 0.045 < 0.05. Then the hypothesis, there is a difference in influence between eye-hand coordination on the results of shooting basketball extracurricular male students at MAN 1 Semarang 2018/2019 school year "accepted." Sumintarsih (2012) states that coordination is the ability to carry out movements with various levels of difficulty or distress, with fast and efficient full accuracy. It was also further stated that eye-hand coordination would produce timings and accuracy. Thus it can be concluded that there is an influence between eye-hand coordination and shooting on basketball extracurricular male students at MAN 1 Semarang 2018/2019 school year.

Test using Anova test and obtained $F_{\text{value}} = 89.711$ with a significance value of 0.000. The results of this calculation are then consulted with a table with numerator $dk = 1$ and denominator $dk = 45$ and a significance level of 0.05 obtained $F_{\text{table}} = 4.06$ because $F_{\text{value}} = 89.711 > F_{\text{table}} = 4.06$ and significant value $0.000 < 0.05$. Then H_a : there is a difference in influence between the clear shoot technique and bank shoot on the results of shooting extracurricular basketball participants in MAN 1 Semarang "accepted."

Test using Anova test and obtained $F_{\text{value}} = 8.132$ with a significant value of 0.007. The results of this calculation are then consulted with table F with the numerator $dk = 1$ and the denominator $dk = 45$ and a significant level of 0.05 obtained $F_{\text{table}} = 4.06$. Because $F_{\text{value}} = 8.132 > F_{\text{table}} = 4.06$ and significant value $0.000 < 0.05$ among basketball extracurricular participants who have high eye-hand coordination and low eye-hand coordination in basketball shooting results "accepted."

Test by using Anova test and obtained $F_{\text{value}} = 76.715$ with a significant value of 0.045. The results of this calculation are then consulted with table F with the numerator $dk = 1$ and the denominator $dk = 45$ and a significance level of 0.05 obtained $F_{\text{table}} = 4.06$. Because $F_{\text{value}} = 76.175 > F_{\text{table}} = 4.06$ and significant value $0.000 < 0.05$. Then H_a : there is an interaction between clear shoot and bank shoot with eye-hand coordination to basketball shots "accepted."

There is an interaction between shots under the basket shoot and eye-hand coordination of the results of shots on basketball extracurricular students at MAN 1 Semarang using the Anova test, $F_{\text{value}} = 76.715$ with a significant value of 0.045. The results of this calculation are then consulted with table F with the numerator $dk = 1$ and the denominator $dk = 45$ and a significance level of 0.05 obtained $F_{\text{table}} = 4.06$. Because $F_{\text{value}} = 76.175 > F_{\text{table}} = 4.06$ and significant value $0.000 < 0.05$. So H_a : there is an interaction between clear shoot and bank shoot with hand-eye coordination of basketball shots "accepted."

CONCLUSION

Based on the results obtained, it can be concluded: (1) There is an influence of clear and bank shoot on the results of shooting in the basketball game on extracurricular students of Madrasah Aliyah Negeri 1 Semarang, (2) There is an influence of eye-hand coordination on the results of shots in the basketball game in Madrasah Aliyah Negeri 1 Semarang, (3) There is an interaction between clear and bank shoot with eye-hand coordination to the results of shooting in the basketball game on extracurricular students at Madrasah Aliyah Negeri 1 Semarang.

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