

# The Effect of Training Methods and Coordination on Football Skill of 14 – 15 Year Old SSB Baturetno's Players

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**Abstract:** The objectives of the study are to find out (1) the difference of the effects between block practice method and series practice method on football skill; (2) the difference between high coordination and low coordination in football skill; and, (3) the relationship between methods (block practice and series practice) and coordination (high and low) in football skill. The method used in this study is 2 x 2 experimental design. The samples of the research are 20 players, taken randomly from the population. The coordination instrument is Soccer Wall Volley Test, a soccer skill proficiency test developed by David Lee. The result of ANAVA data analysis is 0,05. The results of the study are (1) there is a significant difference between the effects of block practice method and series practice method on football skill. Block practice method gives a better result than series practice method; (2) there is a significant difference between the effect of high coordination and low coordination in football skill. High coordination gives better result than low coordination; (3) there is a significant relationship between method (block practice and series practice) and coordination (high and low) in football skill.

## 1 INTRODUCTION

It is important for football player to master the basic skill of football. Mastering the basic skill is a vital requirement for each player so that they can give their best performance. Soccer skills such as shooting, passing and ball control are very important in the development of soccer players so that they can handle any kind of situation in the real game (Hujigen, Gemser, Post & Visscher, p.2010).

Meanwhile, a player who has poor skill is probably caused by both internal and external factors. Internal factors are any factors that come from within the player itself, or other kind of skills that differentiate one player from the other. One of internal factors is coordination skill. Tessitore, Perroni, Cortis, Meeusen, Lupo & Capranica (2011) state that during a soccer match, players perform several dynamic movements (i.e., kicks, sprints, tackling, jumps), which require high strength and power of leg muscles, proper timing, and transfer of energy between segments. Much research has stressed the importance of fine multijoint control to improve soccer performance, suggesting that neural coordination should be trained to improve the player's abilities.

The level of an athlete's eye-foot coordination skill can affect the output of the training. Therefore, it takes serious and continual training to improve an athlete's basic football skill and technique. This is in line with what Tiu, Salipot, Maquiraya, Burkley, Castaneda & Gomez (2012, p.412) state, that eye-foot coordination is the most important thing in football. Ding & Feng (2014) add to this statement that agility and coordination is also important. Agility and coordination are combination of strength, endurance, speed, and flexibility and they have direct impact on players' skill and performance on the field.

Based on the early observation and interview with SSB Baturetno Bantul's coach, all the players were very discipline on carrying their tasks according to their positions and able to cooperate well. However, on the other hand, their controll skills were still poor, their passing technique were slow and not precise. The success rate of their passing is only 40% out of the total passing that were done during observation. Their shooting skills were also poor with low accuracy, and their ball control and dribbling were not flexible and smooth. The data from the last game shows that out of 12 shoot attempts, only 4 of them were accurate and

only 2 of them made points. If we see it from psychological perspective, we could see that the players' mentalities were not ready for the game as shown throughout the game. There are other factors that affect 14-15 year old SSB Baturetno players' performance; the training methods applied by the coach were not varied and less attractive to SSB Baturetno players, resulting in the lack of skill acquired by the players. We have learned that practice method and coordination are vital in football, so the coach is expected to conduct fun and joyful training for the players which facilitate them to progress. In this case, researcher is interested to find out if there is any effect of practice method and coordination on football skill of SSB Baturetno players aged 14-15.

## 2 RESEARCH METHOD

### 2.1 Type of Research

This research uses 2x2 experimental design as the research design. According to Arikunto (2010: 207), experimental research is a research that is meant to find out if there is an effect of something that is done to a research subject. The research design can be seen in Table 1:

Table 1. Factorial Research Design

Training method (A)	Block Practice (A1)	Series Practice (A2)
Coordination (B)		
High (B1)	A1. B1	A2. B1
Low (B2)	A1. B2	A2. B2

Annotation:

A1B1 : Athletes trained with block practice method and high coordination.

A2B1 : Athletes trained with series practice method and high coordination.

A1B2 : Athletes trained with block practice method and low coordination.

A2B2 : Athletes trained with series practice method and low coordination.

### 2.2 Population and Samples of the Research

The population of this research is 38 SSB Baturetno's players. Their coordination skills were tested using Soccer Wall Volley Test. This test is to find out the players' level of eye-feet coordination

skill. Then, based on their rank, the players were divided into two groups: upper group and lower group.

Based on the division, the researcher decided that there are 27% of the population who are in the upper group and 27% of the population were in the lower group (Miller, 2008, p.68), which means that there are 10 players with high eye-feet coordination and 10 players with low coordination. Then, these data were separated into two groups through ordinal pairing and the result is that there are 5 players from each group who had high eye-feet coordination skill. They were given block practice method and series practice method, and the same things were done to players who had low eye-feet coordination skill. Furthermore, each group was given a pretest using football skill test instrument before given the treatments.

### 2.3 Data Instrument and Data Collection Technique

The instrument used to assess the eye-feet coordination skill in this research is Soccer Wall Volley Test. This test is a standard test with high reliability (ICC = 0,97) in the context of assessing a football player's skill and accuracy of kicking a ball (Daneshjoo, Mokhtar, Rahnama & Yusof, 2013, p.492). The instrument used to assess the football skill is the "David Lee" improvement test. This test has 0.484 of validity and 0,942 of reliability (Irianto, 2010, p.152 – 156).

### 2.4 Data Analysis Technique

To test the hypothesis, the researcher used ANAVA two-way, and if a relationship is found, then a further test would be done with Tukey. The results are analyzed using SPSS version 20.0 for Windows with 5% or 0,05 of significance rate.

## 3 RESULTS

The results of the hypothesis testing will be presented by following these order: (a) the difference on the effect between block practice method and series practice method on training to improve the basic football skill; (b) the difference between the effect of high eye-feet coordination skill and low eye-feet coordination skill to the basic football skill; and (c) the relationship between practice method (block practice and series practice)

and coordination level to the improvement of basic football skill.

The description of the pretest and posttest of the players’ basic skill is provided in Table 2 below:

Table 2: Statistical Descriptive of the Pretest and Posttest of the Basic Football Skill

Group	Statistic	Pretest	Posttest
(A1B1)	Total	212.96	203.96
	Average	42.5920	40.7920
	SD	.82950	.57050
(A1B2)	Total	217.05	214.25
	Average	43.4100	42.8500
	SD	.22170	.40762
(A2B1)	Total	213.62	213.35
	Average	42.7240	42.6700
	SD	.84515	.38891
(A2B2)	Total	217.17	212.91
	Average	43.4340	42.5820
	SD	.18636	.46219

### 3.1 Precondition Test’s Results

#### 3.1.1 Normality Test

The normality test uses Kolmogorov Smirnov’s method. The data normality test given to each group is analyzed using SPSS version 20.0 for Windows with 5% or 0,05 of significance rate. The summary of the data is provided in Table 3 below:

Table 3. Normality Test

Data	P	Description	
Pretest	A1B1	0,977	Normal
	A2B1	0,902	Normal
	A1B2	0,934	Normal
	A2B2	0,703	Normal
Posttest	A1B1	0,740	Normal
	A2B1	0,913	Normal
	A1B2	0,740	Normal
	A2B2	0,957	Normal

Based on the statistical analysis of the normality test that was done using Z Kolmogorov Smirnov’s method, the significance rate of all of the pretest and posttest data shows  $p > 0,05$ , which means that the data distribution is normal.

#### 3.1.2 Homogeneity Test

The homogeneity test used in this research is the Levene Test. The results of the homogeneity test is provided in Table 4 below:

Table 4. Homogeneity Test

Group	Sig	Description
Pretest-Posttest	0,291	homogeneous

#### 3.1.3 Hypothesis Testing Results

The research’s hypothesis testing was done based on data analysis’ research and two-way ANAVA analytical interpretation. The result of the hypothesis test is provided in Table 5 below:

Table 5. ANAVA Test

Source	Type III Sum of Squares	F	Sig.
Practice Method	3.240	15.132	.001
Coordination	4.851	22.656	.000
Practice Method * Coordination	5.757	26.885	.000

Based on the ANAVA test’s result above, it can be seen that the  $p$  significance is 0,001. Because of  $p$  significance is  $0,001 < 0,05$ , this means that  $H_0$  is rejected. This also means that there is a significant difference on the effect of block practice method and series practice method on the improvement of the players’ basic football skill. Based on the analysis result, the researcher found that block practice method gives better result than serial practice method, with 0,805 second in difference. This means that the hypothesis statement “there is a significant difference on the effect between training with block practice method and training with series practice method to the improvement of the players’ basic football skill” is proven right.

Moreover, based on the ANAVA test’s result above, it can be seen that the  $p$  significance is 0,000. Because of  $p$  significance  $0,000 < 0,05$ , this means that  $H_0$  is rejected. This also means that there is a significant difference on the effect of high coordination skill and low coordination skill in the improvement of the players’ football skill. Based on the analysis result, the researcher found that players with high coordination skill get higher score than players with low coordination skill, with 0,985 second of posttest’s average difference. This means that the hypothesis statement “there is a significant difference on the effect between high eye-foot coordination skill and low eye-foot coordination skill to the improvement of basic football skill” is proven right.

Furthermore, based on the ANAVA test's result above, it can be seen that the  $p$  significance is 0,000. Because of the  $p$  significance  $0,000 < 0,05$ , this means that  $H_0$  is rejected. This means that the hypothesis statement "there is a significant relationship between practice methods (block practice and series practice) and eye-feet coordination skill (high and low) with the improvement of basic football skill" is proven right.

The diagram that shows the relationship between practice method (block practice and series practice) and eye-feet coordination skill (high and low) with the improvement of basic football skill can be seen in Figure 1 below:

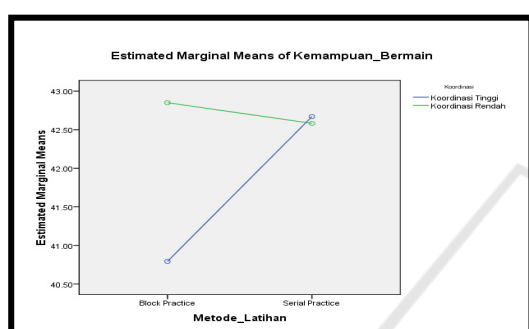


Figure 1. The Result of the Relationship between Method (Block Practice and Series Practice) and Eye-Foot Coordination (High and Low)

Thus, based on the Tukey test's result, the asterisk mark (\*) shows that the pairs that have relationship or the pairs that show significant difference are: (1) A1B1-A2B1, (2) A1B1-A1B2, and (3) A1B1-A2B2, while the other pairs that do not share difference on the effect are: (1) A2B1-A1B2, (2) A2B1-A2B2, and (3) A1B2-A2B2.

## 3.2 DISCUSSION

### 3.2.1 The Effect of Block Practice Method and Series Practice Method on Basic Football Skill.

Based on the hypothesis testing, it is found that block practice and series practice method have a significantly different effect on the improvement of basic football skill. Block practice method resulted in a better improvement than series practice method. This is caused by the fact that block practice method has lower contextual level, so that athlete can adapt to the given training. Meanwhile, in the series practice method, the arrangement of the skill practice contains more than one skill aspect with

practice arrangement order that is always the same or consecutive in every practice session.

### 3.2.2 The Effect of Eye-Feet Coordination Skill (High and Low) on Basic Football Skill.

The analysis shows that players with higher eye-feet coordination level show better basic skill than players with lower eye-feet coordination level. As we all know, football is a branch of sports that is relatively more difficult than other. For example, football players in the wing position are expected to be able to do crossing (cross passing) while running fast or sprinting. Football players who have a really good coordination can do this technique easily, while those who have poor coordination will find it difficult. The main purpose of coordination is to create a harmonious, rhythmic, and complex movement pattern. Thus, coordination practice is very important to improve those skills.

Eye-feet coordination is an integration between eye that holds the main function, which is to spot the ball and to study the game's situation when the player is kicking the ball, and feet that holds the function of moving or kicking the ball from the previous spot. This is why a good eye-feet coordination can result in a good game. We can judge a player's level of coordination skill by the smoothness, accuracy, speed, and efficiency of his or her movement. An athlete who has a good coordination will not only perform certain skill perfectly, but also will master new skill faster and easier. Having good coordination allows a player to move quickly from one movement pattern to the other, so that his or her movement will be more effective.

### 3.2.3 The Relationship between Practice Method (Block Practice and Series Practice) and Eye-Foot Coordination Skill (High and Low).

As stated above, there is a significant relationship between practice method (block practice and series practice) and eye-feet coordination skill (high and low) to improve basic football skill. The research shows that the group of players trained with block practice method and have higher coordination skill performed better than those who have lower coordination skill. This is because block practice method demands the players to do a series of harder movement than serial practice method does.

Meanwhile, group of players who have lower coordination skill are better be trained with series practice method. This is because the application of block practice method and series practice method are different, and the athletes' level of coordination skills are also different. Thus, their responses to the materials given with different practice methods will show the relationship between block practice method and series practice method with high level of coordination skill and low level of coordination skill on the improvement of football skill.

#### 4 CONCLUSION

Based on the research result and data analysis above, the researcher draws several conclusions. (1) There is a significant difference between the effect of block practice method and series practice method on the improvement of basic football skill. Block practice method gives better result than series practice method does. (2) There is a significant difference between the effect of high level of eye-foot coordination skill and low level of eye-foot coordination skill on the improvement of basic football skill. Athletes who have higher level of eye-foot coordination skill showed better performance than those who have lower level of eye-foot coordination skill. (3) There is a significant relationship between practice method (block practice and series practice) and the level of eye-foot coordination skill (high and low) for the improvement of basic football skill.

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