

# Learning Outcomes of Sepak Sila Sepak Takraw Using Mosston's Teaching Style and Motor Ability Support

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## Learning Outcomes of Sepak Sila Sepak Takraw Using Mosston's Teaching Style and Motor Ability Support

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10

### Abstract

The purpose of this study was to determine the difference in the effect of reciprocal teaching styles and teaching styles practice on learning outcomes of basic sepak takraw techniques seen in the differences in students' high and low motor ability. The research method uses an experimental method with a factorial design  $2 \times 2$ . The sample in this study amounted to 40 students who were divided into four groups ( $A_1B_1$ ,  $A_2B_1$ ,  $A_1B_2$ ,  $A_2B_2$ ) each group consists of 10 people. The results of the study stated that there was a difference in the effect of reciprocal teaching styles with practice teaching styles on the learning outcomes of sepak sila in groups of students who had high motor ability. There is a difference in the effect of reciprocal teaching styles with practical teaching styles on learning outcomes of basic sepak sila techniques in groups of students who have low motor ability. There is an interaction between teaching style and motor ability on student learning outcomes.

**Keywords:** Teaching style, motor ability and learning outcomes of sepak sila

### INTRODUCTION

In the learning process, teachers and students are two components that must have mutually supportive interactions so that student learning outcomes can be achieved optimally (Rustaman, 2011). Both factors are decisive in the success of learning the basic techniques of sepak takraw. The teacher's role in learning must play an active role in using any learning approach, act as an activator more than a facilitator or guide (Hattie, 2012). To maximize the role of physical education teachers in regulating the learning process between learning materials and students, it is known as the "Mosston" teaching style. Mosston's teaching style is a teaching style that is a reference in physical education programs and is widely applied by physical education teachers around the world (Jaakkola and Anthony, 2011; Cothran et al., 2005; Tones, Jones, and Keskitalo, 2011). The results of research findings in Indonesia regarding the use of the Mosston teaching style by physical education teachers in schools stated that the teacher in its application was not fully in accordance with the concept of Mosston (Setiawan & Nopembri, 2013) and other research findings state that some of the physical education teachers do not yet know the appropriate teaching style to use (Prasetyo, 2013).

16

The focus of this research is the use of practice teaching style (Style B) and reciprocal teaching style (Style C) in learning the basic techniques of sepak sila sepak takraw. These two styles are included in the reproduction cluster, the A-E style is a style that is often used by physical education teachers (Sympas and Digelidis, 2014) and this cluster is very suitable for use in motion learning (H.Z. et al. 2009; Hennings, Wallhead, and Byra 2010; Pitsi, Digelidis, and Papaioannou 2015). The application of the practice teaching style (Style B) is carried out based on the task exemplified by the teacher and the reciprocal teaching style (Style C) class is arranged in pairs in each group, some act as actors and some act as observers. These two teaching styles have differences in the learning process.

The research findings state that the use of Mosston's teaching style has a different effect on physical education learning outcomes (H.Z. et al., 2009 ; Chatoupis, 2005), the findings of this study will later become valuable information for physical education teachers to be used as choices and references in the use of teaching styles that are suitable for learning materials and the characteristics of students (Byra & Jenkins, 2000). Therefore, research on the use of Mosston's teaching style in physical education is always an interesting and useful thing to do (Byra & McCullick, 2002).

Apart from the use of the teaching style chosen and applied by the teacher, the student's own factor is also a supporting factor in learning outcomes. Moreover, related to the process of learning motion, a sport skill requires the ability to move, here are several terms in the ability to move, namely motor ability and motor educability. Motor ability is a supporting factor in the performance of motor skills (Battineli 2007; Edwards 2010; Magil 2007). While motor educability can be interpreted as a person's ability to learn new movements (*new motor skill*) (Nurhasan & Hasanudin, 2007). Of the two movement abilities, for the learning process of sepak sila motion requires good physical readiness. Harsono (2015) states that insufficient physical readiness will also slow or limit progress in learning techniques. Physical readiness here focuses on the motor ability of students. Components in motor ability, namely muscle strength, muscle endurance, strength, speed, cardiovascular endurance, flexibility, agility and coordination (Battineli, 2007). One of the reasons for making mistakes in learning movement skills is due to a lack of motor skills (Čoh, Golubović, & Bratić, 2004).

Because there is still limited knowledge and research on this topic, For this reason, information and knowledge about the effect of using the Mosston teaching style and motor ability possessed by students on the learning outcomes of sepak sila sepak takraw are very much needed by physical education teachers.

## METHODS

The research was conducted using the experimental method, consists of independent, moderator and dependent variables. The independent variable (teaching style) consists of 2, namely: reciprocal teaching style (Style C) and practice teaching style (Style B). The moderator variable (motor ability) consists of 2, high motor ability and low motor ability. While the dependent variable is the learning outcomes of sepak sila sepak takraw. The design used in this study is 2 x 2 factorial experiment.

The population of this research is the students of the Penjaskesrek study program at the Islamic University of Riau who are registered in the sepak takraw class, totaling 75 people. Determination of the sample by purposive sampling technique by looking at the high and low

motor ability levels of students by using the test barrow motor ability (stabding broad jump, soft ball throw, zig-zag run, wall pass, medicine ball put, sprint 50 meters). The results of the calculation of the motor ability score are sorted from the highest to the lowest score and then grouped using the formula verducci (1989) 27% highest score and 27% lowest score. Obtained  $75 \times 27\% = 20$  people. then grouped into 4 groups using simple random with the number of each group 10 people.

Tabel 1. Design factorial 2 x 2

Motor ability	Teaching style	
	Resiprokal (A <sub>1</sub> )	Praktice (A <sub>2</sub> )
High motor ability (B <sub>1</sub> )	A <sub>1</sub> B <sub>1</sub> ( 10 people )	A <sub>2</sub> B <sub>1</sub> ( 10 people )
Low motor ability (B <sub>2</sub> )	A <sub>1</sub> B <sub>2</sub> ( 10 people )	A <sub>2</sub> B <sub>2</sub> ( 10 people )
Total	20 people	20 people

Information:

A<sub>1</sub> : Reciprocal teaching style (*Style C*)

A<sub>2</sub> : Practice teaching style (*Style B*)

B<sub>1</sub> : High motor ability

B<sub>2</sub> : Low motor ability

A<sub>1</sub>B<sub>1</sub> : Group of reciprocal teaching style group that has high motor ability

A<sub>2</sub>B<sub>1</sub> : Group of practice teaching style group that has high motor ability

A<sub>1</sub>B<sub>2</sub> : Group of reciprocal teaching style group that has low motor ability

A<sub>2</sub>B<sub>2</sub> : Group of practice teaching style that has low motor ability

This researcher is assisted by two teaching staff at the Islamic University of Riau who have agreed and are willing to help in this research. he number of treatments in this study was 16 times with a time of 2 x 50 minutes for each treatment. The number of treatments in this study was 16 times with a time of 2x50 minutes for each treatment. After completion of the treatment in the study, Furthermore, to obtain data on the results of learning the basic techniques of sepak sila sepak takraw using a test instrument that has been validated and has a reliability of 0.71, which means that this test is feasible to use.

## RESULTS

Description of the data from the test results of the basic sepak sila technique series which was carried out after the samples had finished following the learning process using the reciprocal teaching style and practice teaching style. The total score obtained is the influence of the teaching style used. The following is a description of the data from each group.

Tabel 2. Description of research data for each group

Motor ability	Statistik	Teaching style	
		Resiprokal	Praktice
High	n	10	10
	$\sum X$	576,17	492,6

	<b>Max</b>	63,51	63,51
	<b>Min</b>	48,8	38,9
	<b>Range</b>	14,74	24,6
	<b>Sd</b>	4,52	8,17
	<b>Rata-rata</b>	57,62	49,26
	<b>n</b>	10	10
	$\sum X$	379,6	551,6
Low	<b>Max</b>	48,8	63,5
	<b>Min</b>	29,1	43,9
	<b>Range</b>	19,7	19,7
	<b>Sd</b>	7,25	6,15
	<b>Rata-rata</b>	37,96	55,16
	<b>n</b>	20	20
	$\sum X$	955,77	1044,23
Total	<b>Max</b>	63,51	63,51
	<b>Min</b>	29,11	38,94
	<b>Range</b>	34,40	24,57
	<b>Sd</b>	11,67	7,66
	<b>Rata-rata</b>	47,79	52,21

The data that has been obtained from each research variable is tested for prerequisites first. Namely the normality test and homogeneity test as a condition to proceed to the calculation using ANOVA. The results of the data normality.

Tabel 3. Normality Test Results

No	Group	N	L <sub>hitung</sub>	L <sub>tabel</sub>	Conclusion
1	Group A <sub>1</sub> B <sub>1</sub>	10	0,2139	0,258	Normal
2	Group A <sub>2</sub> B <sub>1</sub>	10	0,1458	0,258	Normal
3	Group A <sub>1</sub> B <sub>2</sub>	10	0,1887	0,258	Normal
4	Group A <sub>2</sub> B <sub>2</sub>	10	0,2120	0,258	Normal

From table 3 it can be seen that the four groups have normal data. Furthermore, the results of the homogeneity test of the data can be seen in table 4 below.

Tabel 4 .Homogenitas test results

Between-Subjects Factors			
		Value Label	N
Teaching Style	1	Resiprokal	20
	2	Praktice	20
Motor ability	1	Motor Ability Tinggi	20
	2	Motor ability Rendah	20



**Levene's Test of Equality of Error Variances<sup>a</sup>**  
 Dependent Variable: results Sepak sila

F	df1	df2	Sig.
1.633	3	36	.199

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

From the results of the analysis in the table Lavena's Test of Equality of error Variances, obtained  $F = 1.633$ ;  $db1 = 3$ ;  $db2 = 36$ , and  $sig = 0.199 > 0.05$  or  $H_0$  is accepted. Thus, data from each group comes from a homogeneous population. After the prerequisite test is met, it is continued with hypothesis testing by using two-way analysis of variance to find out the differences in learning outcomes of the basic techniques of sepak sila sepak takraw. the results can be seen in table 5 below.

Tabel 5 . Two-way ANOVA statistical calculation results

VARIAN	DB	JK	RK	F <sub>hitung</sub>	F <sub>TABEL</sub>
B	1	19,600	19,6	10,6586	4,08
A	1	8,100	8,1	4,4048	4,08
Interaction A*B	1	68	67,6	36,7613	4,08
in	36	66,20	1,839		4,08
Total Corrected	39	161,50			

The results obtained are  $F_0(A) = 4.405 < 4.08$  or  $H_0$  is rejected. This means that there are differences in the average learning outcomes of the basic techniques sepak sila sepak takraw between students who are taught with reciprocal teaching styles and practice teaching styles. The result of  $F_0(B) = 10,659 < 4,08$  or  $H_0$  is rejected. This means that there is a difference in the average results of learning the basic techniques of sepak sila sepak takraw for students who have high motor ability and students who have low motor ability. Furthermore, the results of  $F_0(AB) = 36,762$  with  $Sig = 0.000 < 0.05$  or  $H_0$  is rejected. This means that there is a very significant interaction effect between factor A (teaching style) and factor B (motor ability) on the results of learning the basic techniques of sepak suka sepak takraw for students. The results of the analysis show that the influence of the teaching style and motor ability variables on the learning outcomes of the basic techniques sepak sila sepak takraw is  $RSquared = 0,590 \times 100 = 59\%$ . The effect of the interaction between teaching styles (A) and motor ability (B) on learning outcomes of the basic techniques of sepak sila sepak takraw is presented in the following graph :

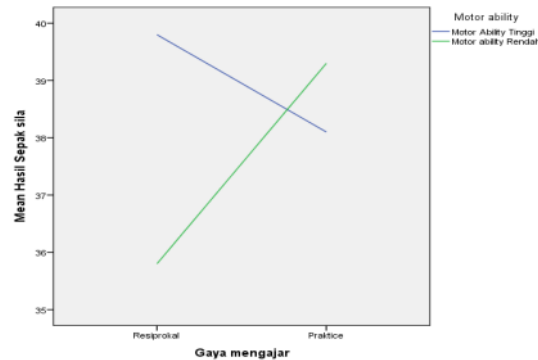


Chart 1. Interaction A\*B

After knowing the main effect and the interaction effect of teaching style with motor ability, then the researchers saw and analyzed the difference in test contrast between the treatment groups. It aims to see in detail or simpler (simple effect) differences between treatment groups. The calculation of the further test used Dunnet's t-test and as a comparison used  $t_{tab} = t(\alpha; d(D)) = t(0.05; 36) = 1.68$ . The summary of the results of this test is as follows.

Tabel 6. Advanced Test Results with t-dunnet

Contrast Value	(se)	t <sub>0</sub>	t <sub>table</sub>	Conclusion
A <sub>1</sub> B <sub>1</sub> – A <sub>2</sub> B <sub>1</sub>	0,606	2,805	1,68	significant
A <sub>1</sub> B <sub>2</sub> – A <sub>2</sub> B <sub>2</sub>	0,606	-5,776	1,68	significant

The results of further testing using the Dunnet t-test above obtained groups A<sub>1</sub>B<sub>1</sub>- A<sub>2</sub>B<sub>1</sub> with  $t_0 = 2.805$   $t_{table} = 1.68$  so that H<sub>0</sub> is rejected. This means that there is a significant difference in the results of sepak sila sepak takraw for students who have high motor ability who are taught with a reciprocal teaching style and those who are taught with a practice teaching style. Thus, the scores of the scores of the sepak sila sepak takraw learning outcomes for the reciprocal teaching style group were higher than the practice teaching style group for students who had high motor ability. While the group A<sub>1</sub>B<sub>2</sub> – A<sub>2</sub>B<sub>2</sub> with  $t_0 = -5.776$   $t_{table} = 1.68$  so H<sub>0</sub> is rejected. Thus, the average learning outcomes of sepak sila sepak takraw for the group of students who have low motor ability who are taught with practice teaching style are higher than the group of students who are taught with reciprocal teaching style.

**DISCUSSION**

This study aims to determine the effect of the application of reciprocal teaching styles and practice teaching styles on learning outcomes of the basic techniques sepak sila sepak takraw seen from the motor ability factor possessed by students. The results of the first hypothesis research state that the average value of learning outcomes of the basic techniques of sepak sila sepak takraw in the reciprocal teaching style group for students who have high motor ability is higher than the

practical teaching style group. The findings in the field in this reciprocal teaching style group, 1) students are active and productive in carrying out their respective roles as actors and observers, because with high motor ability they support the actor's role in carrying out the basic technical movements of sepak sila sepak takraw, 2) having a role as an observer is very supportive in the learning process at the cognitive and associative stages, 3) in this teaching style group, feedback is directly found by the actor from the observer, so that deficiencies, mistakes and mistakes in making movements can be immediately corrected. While in the practice teaching style group, 1) The subject matter is presented as a whole, making it easier for students, 2) In this group, students have many opportunities to repeat the motion, 3) students learn independently and individually, 4) examples of silage movements are found at the beginning of starting learning, 5) Feedback is not obtained immediately.

### CONCLUSIONS

The second hypothesis states that the average value of learning outcomes for the basic techniques of sepak takraw in the reciprocal teaching style group is lower than the practice teaching style group for students who have low motor ability. The findings in the field on these two teaching styles, 1) the motor ability factor is low in this group, has difficulty in implementing and following the direction of feedback by colleagues, 2) It often happens that this pair actually reinforces a wrong learning behaviour, 3) difficulty in carrying out the role of the perpetrator, create mutual distrust and be careless in carrying out their duties. For the Praktice teaching style, the low motor ability group in learning basic sepak sila sepak takraw techniques has advantages, that is 1) The subject matter is presented as a whole, 2) Students in this teaching style group have a lot of repetition time, 3) Students with low motor ability in this group can learn independently by themselves, without being disturbed by other friends.

For the next hypothesis, there is a significant interaction effect between teaching style and motor ability on learning outcomes of the basic techniques of sepak sila sepak takraw. Thus, it can be explained that apart from being influenced by the teaching style used, it is also influenced by the contribution of other internal factors, including the student's motor ability factor. Overall, the findings from this study have found that both motor ability and teaching style are both important variables in an effort to improve learning outcomes of basic techniques sepak sila sepak takraw penjaskesrek students Islamic University of Riau. These two variables support each other in an effort to achieve optimal learning outcomes. If motor ability functions as an internal factor that helps push, directing and mobilizing student learning behavior to achieve the optimal results of learning the basic techniques of sepak sila sepak takraw.

### SUGGESTION

In order to improve learning outcomes of basic sepak sila sepak takraw techniques in universities, especially the Physical Education Study Program, it is recommended for lecturers to choose and apply a teaching style that is adjusted to the level of motor ability of student. Because each teaching style has different characteristics that can be used according to the student's ability level. For other researchers who intend to continue this research, it is recommended to pay attention to the limitations that exist in this study, 1) control the independent variables outside the variables studied, the internal and external validity of the experiment can be avoided as much as possible, 2) carry out experiments at the same university and lecturer locations, so that the



independent variables in the form of environment and subjectivity in the form of individual differences in treatment providers can be controlled, 3) increase the number of samples so that the results achieved have more power in generalization, and 4) using standardized measuring instruments or the process of standardizing the instruments to be used is more mature.

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