The Effect of Reciprocal and Inclusion Teaching Styles on Volleyball Underhand Pass Learning Outcomes

Slamet Riyadi 1, Dewi Susilawati *2, Yudha M Saputra 3, Herdiansyah 4
1,2,3,4 Physical Education, Universitas Pendidikan Indonesia, Sumedang, Indonesia

Abstract

The lack of learning to pass down is a problem that must be considered because if you are not skilled in passing down, most likely the goal of the volleyball game will not be achieved optimally and maximally. It is a challenge for the school and researchers to discover the factors that cause the lack of bottom-passing learning in the volleyball game. Based on the research hypothesis, this type of research is a quasi-experimental research consisting of two research groups: the group with the reciprocal learning model and the group with the inclusion learning model. This study aimed to obtain an overview of the improvement of volleyball bottom passing learning outcomes. In this study, the reciprocal learning model group (Group A) and the inclusion learning model group (Group B) Based on the results of hypothesis testing, the results were accepted or proven. The truth of the effects of hypothesis testing is also supported by research data using the t-test, which shows a calculated value greater than t-kritik (2.90 > 1.71). Thus, the hypothesis is accepted. It can be concluded that the average increase in mastery of learning with the reciprocal method is higher than the inclusion learning method. The reciprocal method significantly affects the learning outcomes of volleyball bottom passing. The inclusion method substantially affects the learning outcomes of volleyball bottom passing. There are differences in reciprocal methods and inclusion methods on volleyball bottom passing learning outcomes, and reciprocal methods are more effectively used in volleyball bottom passing learning games.

*Corresponding email : dewisusilawati@upi.edu

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INTRODUCTION

Education is a process of human formation that lasts a lifetime. Education has pedagogical means. Therefore, education is complete with physical education because motion is a characteristic of life (Gray et al., 2022). Therefore, although increasing motion is a characteristic of life, one of the means to increase movement is through physical education activities (O’Connor, 2019). According to (D’elia et al., 2020), “Physical education is essentially an educational process that utilizes physical activity and health to produce holistic changes in individual qualities, both in physical, mental and emotional terms.” As an integral part of overall education, physical education is expected to support student development through physical development or physical movement (Raibowo & Nopiyanto, 2020). Therefore, physical education must be systematically programmed as learning activities to meet learners’ physical, intellectual, mental, and social growth and development needs (Hudah et al., 2020). According to (Sumarsih et al., 2022), a more detailed definition of sports and health (PJOK) as contained in the curriculum is as follows: An integral part of the national education program, it aims to develop aspects of physical fitness, movement skills, critical thinking skills, social skills, reasoning, emotional stability, moral action, healthy lifestyle and introduction to a clean environment through debriefing learning experiences using physical activities selected and carried out systematically based on the values of faith and piety to God Almighty.

One compulsory teaching material in physical education subjects is the game of volleyball (Gil-Arias et al., 2021). The game of volleyball, according to, is a very familiar sport in schools and other general communities (Triandi & Hariyadi, 2021). Two opposing groups can play this game, each with six players. In volleyball, we must first master the basic techniques because they are the most important thing when we want to do a sports movement (Saputra & Gusniar, 2019). The bottom passing technique is one of the basic volleyball techniques that every player must master; in addition to volleyball players, students must also learn the bottom passing technique (Jumadi et al., 2021).

MTs. Darul Hikam is one of the Yayasan schools in Kota Cirebon. In addition to pursuing the academic field, this school also holds various kinds of non-academic activities, one of which is participating in competitions organized by the Ministry of Religious Affairs, namely the Madrasah Science and Sports Competition (AKSIOMA), including the sports that are completed are: futsal, badminton, table tennis, athletics, and volleyball. However, this is different from the achievements of other branches. The volleyball branch still needs to be more enthusiastic, especially the volleyball bottom passing technique in extracurricular volleyball learning at MTs. Darul Hikam Cirebon City. Based on observations, the phenomenon that arises is that there are still students who need to be more successful in learning to pass under volleyball. This can be seen from students who receive lower passes deviating left or right, and some receive bottom receipts not reaching friends (the bounce of the ball is only a little not far from where he is standing). If the above phenomenon is left unchecked, then this can impact the quality of volleyball games in MTs. As stated earlier, bottom passing is essential in volleyball (Sgrò et al., 2020). Lack of learning to pass down is a problem that must be considered because if you are not skilled in passing down, the goal of the volleyball game will
most likely not be achieved optimally and maximally (Sahabuddin et al., 2020). It is a challenge for schools and researchers to discover the factors that cause the lack of bottom-passing learning in volleyball games. From some of the factors above, it can be concluded that learning in the game of volleyball consists of several factors that influence it, one of which is passing down. According to the authors, the reciprocal and inclusion teaching styles can improve bottom-passing learning in volleyball games (Pamungkas & Wibowo, 2020). The reciprocal teaching style method is a teaching method that provides opportunities for students to give feedback to their friends (Gani et al., 2020). While the inclusion teaching style method introduces several levels of tasks, the inclusion method provides different levels of functions (Rekaa et al., 2019). The student is encouraged to determine his appearance level (Ferawati et al., 2022).

In this study, researchers were interested in using two methods to compare students' bottom-passing learning in volleyball games. So, based on the description above, researchers are interested in conducting a study entitled "The Effect of Reciprocal and Inclusion Teaching Styles on Volleyball Bottom Passing Learning Outcomes."

METHODS

Based on the research hypothesis, this type of research is quasi-experimental (Fraenkel et al., 2012). They comprised two research groups: the group with the reciprocal learning model and the group with the inclusion learning model. This study aimed to obtain an overview of improving volleyball bottom passing learning outcomes. In this study, the reciprocal and inclusion learning model groups were selected not randomly. Hence, this study’s design was nonequivalent (Pretest and Posttest) Control Group Design (Cohen et al., 2018). According to, nonequivalent (Pretest and Posttest) Control Group Design is the most popular approach in quasi-experiments. Both groups are selected, not randomly. Both groups were given a pretest and a posttest. So, the design used is quasi-experimental.

Participant

Proper identification of research participants is essential to psychology and social sciences, especially for generalizing findings, comparing replications, and using evidence in research synthesis and secondary data analysis. Identification of participant samples of vital demographic characteristics for humans, such as age, Gender, ethnic and racial groups; level of education, socio-economic; generation or immigrant status; disability status; sexual orientation, gender identity; and language preferences and topic-specific characteristics that matter.

Sampling Procedure

Describe participant selection procedures, including (a) sampling methods if a systematic sampling plan is used; (b) the percentage of the sample approached that participated; and (c) the number of participants handpicked into the sample. Describe the settings and locations where data is collected and any agreements and payments made to participants. When applying inferential statistics, consider the statistical strength associated with hypothesis testing.

Materials and Equipment

In preparing your manuscript, you must inform the reader about the material (for example, questionnaire stimulus words) and equipment (for example, devices for recording data surgical tools) you use (Sugiyono, 2013). In general, if the researcher tends to be familiar with
your materials and equipment, you need to mention it. However, if you create your materials, you must give a very detailed description of them. If you use relatively unknown materials or equipment others make, describe them and show the reader where to get them. If you use a personality inventory or questionnaire, it is worthwhile to indicate the level of reliability reported by previous researchers.

**Procedure**

This information combines actual procedures with materials and equipment because it is only possible to tell what participants are doing by showing what they are doing it with. There are some reasonably standard elements in this procedure. They include (a) the variables that are manipulated and measured, including both independent and dependent variables; (b) any conditions or groups you wish to compare; (c) how participants are assigned to, or placed in, groups; (d) the role of the researcher in the session, (e) the directives participants receive, (f) the activities in which participants are involved. Finally, include a statement with the procedure that the participant gave informed consent. When you write your procedure section, you can determine whether you obtained informed consent. This is not part of the data collection process, so you can argue that it does not fall under this subsection.

**Data Design and Analysis**

This section will contain brief information about the analysis methods (for example, two-factor ANOVA) that you have used to analyze the collected data (Cohen et al., 2018). In qualitative research, this section allows you to tell the reader of the set whether your study uses ethnography, case studies, phenomenological, narrative analysis, historical inquiry, grounded theory, or generic qualitative methods that do not subscribe to a specific qualitative philosophy. If the research design is complex or stimuli require detailed descriptions, additional subsections or subheadings to divide subsections may be needed to help readers find specific information.

**RESULT**

Based on the problems discussed in this study, the author presents the results of obtaining pretest data and posttests of volleyball underhand passing learning with reciprocal and inclusion methods in Class VIII MT students, Daru’l Hikam Cirebon City. In the pretest of underhand passing learning in volleyball games in the group with the inclusion method, the highest score was 43, and the lowest score was 5, with an average of 17.4. In the posttest results of the underhand passing learning, the highest score was 47, and the lowest was 15, with an average score of 26.4. In the Pretest of underhand passing learning in volleyball games in the group with the inclusion method, the highest score was 32, and the lowest score was 5, with an average of 13.6. The posttest results of the underhand passing learning obtained the highest score of 47 and the lowest score of 15, with an average score of 26.4. In the posttest of underhand passing learning, the highest score was 46, and the lowest was 9, with an average score of 20.4. In the pretest of learning underhand passing in volleyball games in the group with the inclusion method, the highest score was 43, and the lowest score was 5, with an average of 17.4. In the posttest results of the underhand passing learning obtained, the highest score was 47, and the lowest was 15, with an average score of 26.4. In the pretest of underhand passing learning in volleyball games in groups with the inclusion method, the
highest score was 32, and the lowest score was 5, with an average of 13.6. In the posttest results of the underhand passing learning obtained, the highest score was 46, and the lowest was 9, with an average score of 20.4.

To test a hypothesis using the statistical formula $t$, the data from each test must be normally distributed. Data normality testing using normality test, the results can be seen in Table 4.1 below.

### Table 1.
Data Normality Test Results from Each Test

<table>
<thead>
<tr>
<th>Test Group</th>
<th>Average</th>
<th>Standard Deviation</th>
<th>Variant</th>
<th>$L_{\text{Max Value (Normalitas)}}$</th>
<th>$L_{\text{Kritik}}$</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal Method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>17.44</td>
<td>10.56</td>
<td>111.51</td>
<td>0.1385</td>
<td>0.1730</td>
<td>Normal</td>
</tr>
<tr>
<td>Posttest</td>
<td>26.40</td>
<td>9.38</td>
<td>87.98</td>
<td>0.1517</td>
<td>0.1730</td>
<td>Normal</td>
</tr>
<tr>
<td>Improvement</td>
<td>8.96</td>
<td>2.84</td>
<td>8.07</td>
<td>0.1558</td>
<td>0.1730</td>
<td>Normal</td>
</tr>
</tbody>
</table>

The table above shows that at a real level ($\alpha = 0.05$) and degrees of freedom $= k - 3$, all numbers $L_{\text{maksimal}}$ smaller than $L_{\text{Kritik}}$ on the normality test using the Lilliefors test (Appendix). So, it is clear that the data from each test comes from the normal distribution.

<table>
<thead>
<tr>
<th>Test Group</th>
<th>Average</th>
<th>Standard Deviation</th>
<th>Variant</th>
<th>$L_{\text{Max Value (Normalitas)}}$</th>
<th>$L_{\text{Kritik}}$</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion Method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>13.60</td>
<td>8.36</td>
<td>69.89</td>
<td>0.1525</td>
<td>0.1730</td>
<td>Normal</td>
</tr>
<tr>
<td>Posttest</td>
<td>20.44</td>
<td>9.67</td>
<td>93.51</td>
<td>0.1574</td>
<td>0.1730</td>
<td>Normal</td>
</tr>
<tr>
<td>Improvement</td>
<td>6.84</td>
<td>2.29</td>
<td>5.24</td>
<td>0.1643</td>
<td>0.1730</td>
<td>Normal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Group</th>
<th>Statistical Calculation Results $F$</th>
<th>$\frac{1}{F^2(V_1, V_2)}$</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal Method</td>
<td>1, 37</td>
<td>1,98</td>
<td>Homogen</td>
</tr>
<tr>
<td>Inclusion Method</td>
<td>1, 27</td>
<td>1,98</td>
<td>Homogen</td>
</tr>
<tr>
<td>Improved</td>
<td>1,54</td>
<td>1,98</td>
<td>Homogen</td>
</tr>
</tbody>
</table>

From the table above, the distribution of $F$ at the real level ($\alpha = 0.05$ and $dk = 25 - 1$, all $F$ numbers count smaller than $\frac{1}{F^2(V_1, V_2)}$. The data from each group is homogeneously distributed. Hypothesis testing was carried out to determine whether or not there was a comparison of the effect of the reciprocal method and the inclusion method on underhand passing learning in volleyball games in grade VIII students of MTs. Darul Hikam Cirebon City, so in this study, it is necessary to formulate a null hypothesis, namely, there is no comparison of reciprocal methods and inclusion methods towards volleyball...
underhand passing learning in grade VIII students MTs. Darul Hikam Cirebon City. The results of hypothesis testing can be seen in Table 3 below.

**Table 3**
Testing Results of Pretest and Posttest and Comparison of Reciprocal Methods and Inclusion Methods to Underhand Passing Learning Volleyball

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value X Test period</th>
<th>t count</th>
<th>( \frac{w_1f_1 + w_2f_2}{w_1 + w_2} )</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal Pretest</td>
<td>= 17, 413, 6</td>
<td>3, 17</td>
<td>1,71</td>
<td>Significant</td>
</tr>
<tr>
<td>Posttest</td>
<td>= 26.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusion Pretest</td>
<td>= 13, 617, 4</td>
<td>2, 67</td>
<td>1,71</td>
<td>Significant</td>
</tr>
<tr>
<td>Posttest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The hypothesis testing criterion is to Accept zero Hypothesis if \( t' \leq \frac{w_1f_1 + w_2f_2}{w_1 + w_2} \). Based on the results of data processing (attachments), it can be seen that the value \( t_{\text{count}} \) in the reciprocal method group is 3.17, \( t_{\text{count}} \) in the inclusion method group is 2.67, and \( t_{\text{count}} \) the ratio of the reciprocal method group and the inclusion method is 2.90 so that the count \( t \) is greater than \( \frac{w_1f_1 + w_2f_2}{w_1 + w_2} = (1.71) \). Thus, the reciprocal and inclusion methods significantly affect learning underhand passing in volleyball in grade VIII students MTs. Darul Hikam Cirebon City. The difference in the increased results can be seen in the following table.

**Table 4**
Test the difference in improved exercise results

<table>
<thead>
<tr>
<th>Variable</th>
<th>X</th>
<th>t count</th>
<th>( \frac{w_1f_1 + w_2f_2}{w_1 + w_2} )</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal Method</td>
<td>8.98</td>
<td>2.90</td>
<td>1.71</td>
<td>Significant</td>
</tr>
<tr>
<td>Inclusion Methods</td>
<td>6.84</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 above shows that the \( t_{\text{count}} \) exceeds \( \frac{w_1f_1 + w_2f_2}{w_1 + w_2} \). Thus, there is a difference between the reciprocal method group and the inclusion method group, meaning that the reciprocal method is more effectively used than the inclusion method against underhand passing skills in volleyball games.

**DISCUSSION**

Based on the results of hypothesis testing using a statistical approach, the research hypothesis proposed by the author is: "The reciprocal method is more effective than the inclusion method against volleyball underhand passing learning in grade VIII MTs students. Darul hikam kota cirebon" turned out to
be accepted or proven. The correctness of the results of hypothesis testing is also supported by research data using t-tests that show value $t_{\text{count}}$ greater than $t_{\text{critik}}$ (2.90 > 1.71). Thus, the hypothesis is accepted. It can be concluded that the average increase in mastery of learning basic techniques of group volleyball games whose learning with reciprocal methods is higher than the average increase in mastery of basic technical skills in volleyball games whose learning is with inclusive learning methods.

Teachers must strive for effective and attractive teaching strategies to achieve good learning outcomes in physical education (Utamayasa, 2021). According to (Yoda & Astra, 2019), teaching and war strategies are a way to get around the learning system so that the objectives of the learning process can be achieved effectively and efficiently. There are several strategies or teaching styles, including reciprocal teaching styles. (Junaidi & Yudiana, 2016) Said the organization of teaching styles is reciprocal in pairs. Each member of this couple has their role. One of them plays the role of the perpetrator, while the other acts as the observer. The reciprocal teaching style uses the foundation of feedback theory or feedback. This theory assumes that information about learning outcomes is based on actions taken by observers. Information that causes improvement is called negative feedback, while information that solidifies learning outcomes is called positive feedback (Schmidt & Lee, 2014).

The reciprocal style is a teaching style that allows students to give feedback to their friends (Yaka Saputra et al., 2018). The responsibility for providing feedback shifts from teachers to students. This shift allows students to increase social interaction between their peers. (Schmidt & Lee, 2014) "reciprocal teaching methods are defined as teaching styles that demonstrate social relationships among peers and conditions for rapid feedback." The reciprocal method has the main characteristics of learning, including (1) Having the opportunity to repeat practice with individual observers, (2) Practicing tasks based on conditions given by immediate peer feedback, (3) being able to discuss with peers the specific aspect of the task; (4) See and understand the parts and sequences in performing tasks; and (5) Practice assignments without the teacher asking for feedback or explanation when any errors are corrected (Edwards, 2010).

Based on the study’s results, the reciprocal method and the inclusion method have a sufficient contribution in contributing to the bottom passing skills, and the reciprocal method is more effective. Based on this fact, it can be seen that the reciprocal method is needed to improve bottom passing skills, especially for learning in schools.

CONCLUSION

Based on the results of research that has been conducted regarding comparing the effect of reciprocal methods and inclusion methods on the learning outcomes of volleyball bottom passing in grade VIII MTs students. Darul Hikam Cirebon City can draw the following conclusions.

1. The reciprocal method significantly affects the learning outcomes of volleyball bottom passing in grade VIII MTs students. Daru'l Hikam Cirebon City.
2. Method inclusion significantly affects the learning outcomes of passing under volleyball in grade VIII MTs students. Daru'l Hikam Cirebon City.
3. There are differences in reciprocal and inclusion methods on
volleyball bottom passing learning outcomes in grade VIII MTs students. Daru'l Hikam Cirebon City and reciprocal methods are more effectively used in learning to pass volleyball games in grade VIII MTs students. Daru'l Hikam Cirebon City.

Based on the results of this study, reciprocal teaching styles can be applied in Physical Education and Health learning activities, especially in the learning material of passing down volleyball games. This reciprocal teaching style can improve the learning outcomes of students in Physical Education and Health lessons, especially the bottom passing material in volleyball games in grade VIII MTs students. Darul Hikam Cirebon City, so that it can help teachers in the learning process. As research that has been carried out in the educational environment, based on the conclusions drawn, it certainly has implications in the field of education, especially in choosing the right teaching style for the material to be taught and the level of student development and subsequent research.

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