
Mediating each other's learning: The peer tutor learning model and student learning outcomes

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Abstract

This research aims to determine whether learning with the peer tutor model effectively improves student learning outcomes in social studies at Adabiah Padang Junior High School. This research uses a quantitative design. The research subjects were grade VIII students at Adabiah Padang Junior High School, which had 80 students. Data were collected using direct observation methods, observation sheets, and in the form of test questions. The collected data was analyzed using descriptive analysis, and the average score and the percentage completeness of student learning outcomes were calculated. Based on the research results, the value of learning outcomes and student completeness has increased. The post-test results in the three classes show an increase in the average of the three classes and the number of students or the percentage of complete students. Only a few students did not reach the minimum completeness after implementing the peer tutor learning model. Peer tutoring on student learning outcomes is practical enough for social studies learning.

Keywords

Effectiveness, learning outcomes, peer teaching, social studies learning

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Introduction

Education is the main thing that will sustain the progress of a nation. The progress of a nation can be measured by its quality and education system. The better a country's education level, the better its human resources. Thus, education and the progress of a nation are inseparable. Current educational issues include most students' inability to apply what they learn. This is because the learning they have received so far has only highlighted the level of memorization of a series of topics or subject matter, but not followed by a deep understanding, which can be applied when they encounter new situations in their lives. Therefore, the role of education in improving human resources is vital. Social science is one of the subjects at school that can help human resources develop well (Lesilelo, 2018). Learning is the heart of the educational process. Good learning tends to produce graduates with excellent learning outcomes and vice versa.

Learning is a process that involves a series of activities for teachers and students based on reciprocal relationships that take place in educational conditions to achieve specific goals (Asmani, 2011). In junior high school, students learn social science using a correlated approach, which means that the subject is built up by drawing on a few different fields in a limited way and then connecting it to real life in society (factual/accurate). It is hoped that students will gain a broader and deeper understanding of the field of science studied so that they are always required to be actively involved in the learning process (Rusman, 2014; Zein, 2016). However, in reality, there are still many obstacles in the implementation of social studies learning; although the 2013 curriculum has been explained to make students the center of learning, there are still many who make the teacher the center of learning in class, as well as in learning social studies subjects; in this case, it can make students have no interest in learning activities in social studies subjects. The same applies to social studies learning conditions at Adabiah Padang Junior High School. Adabiah Padang Junior High School seeks to support student learning well, but with this excellent school condition, there are still problems. This can be seen from the percentage of completeness of the following daily test scores of students in class VIII Adabiah Padang Junior High School.

Table 1. *Percentage of completeness of odd semester mid scores*

No	Class	Completed	Incomplete	Percentage of completeness	Percentage of incompleteness
1.	VIII.1	14	18	43.75%	56.25%
2.	VIII.2	11	14	44.00%	56.00%
3.	VIII.3	13	10	56.52%	43.47%

Source: Document of the grade VIII social studies teacher of Adabiah Padang Junior High School 2023/2024

Based on Table 1, the students who have not reached the Minimum Ability Criteria (KKM) are 42 students. It shows that students still do not understand the subject matter and are less interested in social studies subjects. The statement is consistent when the researchers see social studies learning in progress: most students look bored, some students chat with their classmates, some are sleepy, some are playing alone, some are listening to the teacher's

explanation but do not seem to concentrate, and some are sleeping in the classroom. As a result, when given a question by the teacher, not all students can answer, and some cheat on their friends' answers when doing exercises or daily tests.

Based on these conditions, efforts to optimize learning at Adabiah Padang Junior High School are to innovate models or methods commonly used by teachers that are considered less effective with models that can be more effective in activating all students in learning (Rusman, 2014). To meet the demands of the *Merdeka* curriculum, students must be more active in learning because students, as social beings, also need cooperation between students in terms of learning resources and ways of learning to understand social studies material delivered by the teacher so that students will indirectly form an attitude of social care for their friends (Susilawati, 2021).

Based on this, the researchers aim to enhance learning by implementing the peer tutor learning model, particularly in social studies subjects. The peer tutor learning model is a cooperative learning strategy where mutual respect and understanding are fostered among students who work together (Topping et al., 2017). The nature of peer tutors is recruiting one student to provide one-on-one teaching to other students in completing the task given through the participation of the role of tutor and tutor. Tutors have more abilities than tutors, but there are several variations of tutorials, and the distance of knowledge between tutors and tutors is minimal (Reziyustikha., 2012).

The peer tutor method needs to be applied because there is no competition between students in this learning, but they work together to solve problems and ways of thinking. Through this learning model, students can dialogue and interact with fellow students openly and interactively (Indrianie, 2015). It also aligns with Fajrin and Sadam (2020). According to the results of his research, the peer tutoring model is compelling enough to be applied to social studies learning. Implementing peer tutors as collaborative learning certainly involves direct interaction between fellow students. Thus, a collaborative learning environment is created where students can learn from each other, share knowledge, and support each other. This cooperative learning can increase students' motivation and interest in understanding the subject. Moreover, Topping (2005) found that peer tutors can improve students' reading and writing skills. Mayfield et al. (2015) also found that peer tutors can improve students' understanding of science concepts. Considering Vygotsky's (2006) theory of constructivism in learning, it says that to build knowledge, people must remember and re-express experiences, compare and decide what is similar and different about things, and have a selective conscience—the ability to choose which experiences they want to remember. Therefore, constructivist learning helps students internalize and transform new information. Transformation occurs by producing new knowledge, which in turn will form a new cognitive structure.

Literature Review

Peer teaching

The term "peer tutoring," or peers, is related to teaching and learning methods with the help of a competent student to teach other students. This method requires students to discuss with their friends actively or do group assignments with the guidance or direction of

competent friends, whether the assignment is done at home or school. Students who act as peer tutors can demonstrate only one role or several roles at once, depending on the responsibilities given by the teacher. Students who act as teachers (pure teachers) can be involved in compiling and conveying information and skills, providing feedback, and evaluating other students who are their guides (Ferris & Hedgcock, 2023).

Peer tutors are called mediators if they need more autonomy or power in their group. A peer tutor can act as a teacher's assistant if, apart from teaching his friends, he also has administrative tasks such as checking whether assignments are complete, determining what assignments are still missing, preparing grade forms, and so on. Peer tutors act as work partners if they are involved in the teacher's project work and are given the authority to control and assist students so that the work results meet the work standards set in the project. Peer tutors can act as coaches if they work cooperatively by encouraging other students to submit assignments, providing informal feedback, and writing down assignments that must be done. Peer tutors can act as role models if, in the learning process, they are asked to demonstrate their skills in front of other students or, for example, in taking practical exams (Ferris & Hedgcock, 2023).

Peer tutoring is a student-centered learning activity because members of the learning community plan and facilitate learning opportunities for themselves and others. Learning will be successful if there is reciprocity between peers who jointly plan and facilitate learning activities and can learn from other group learning activities. Peer tutoring learning can be done with the following steps:

- The teacher organizes study groups of 3-4 people with various abilities. Each group has at least one student who has a high ability to become a peer tutor.
- The teacher explains how to complete assignments through group learning using the peer teaching method and the authority and responsibilities of each group member.
- The teacher explains the subject matter to all students and provides opportunities for questions and answers if the material is unclear.
- The teacher explains the assignment by noting that students who have difficulty completing it can ask for guidance from friends appointed as tutors or teachers.
- The teacher observes learning activities and provides competency assessments.
- Teachers, tutors, and students evaluate the teaching and learning process to determine the next round's follow-up activities.

Peer teaching is a learning method that is currently trending. Peer teaching is indeed a method that ensures students do not get bored, while teachers do not get bored either. Peer teaching in Indonesian is known as peer tutoring. Gordon (2005) stated that peer tutoring is a procedure for students teaching other students. The first type is teachers and learners of the same age. The second type is a teacher who is older than the learner. Another type occasionally occurs when the teacher's age changes.

According to Boudouris (2005), peer tutoring is a learning strategy that helps meet students' needs. This is a cooperative approach rather than a competitive one. A sense of mutual respect and understanding is fostered between students who work together. Students involved with peer tutoring will feel proud of their role and learn from their experiences. This helps strengthen what they have learned and gained from the responsibilities assigned. When they study with peer tutors, students also develop better abilities to listen, concentrate, and understand what is learned meaningfully. Explanations through peer tutors to friends are

more likely to be successful than teachers. Learners see problems differently than adults, and they use more familiar language.

VanLehn (2011) revealed that peer tutoring is a situation where a clever student helps other students' study at the same grade level. This statement suggests that peer tutoring is a cooperative way to learn. Some students, usually more intelligent than the other students, act as teachers, and others, either the same age as the teacher or older than the learner, act as students. The goal is to help students in the same grade level improve their listening, focus, and understanding of what they are learning by using more familiar language.

Learning model

Teachers often experience various problems; it is necessary to have a learning model to help teachers in the teaching and learning process. Models are designed to represent actual reality, even though the model itself is not the reality of the actual world. A learning model is a pattern used to guide learning in groups or tutorials (Mestre, 2012). According to the opinion above, a learning model is a plan or pattern used as a guide in planning learning in class or in tutorials. The function of the learning model is to guide teaching designers and teachers in implementing learning (Irviana, 2020). That differs from the first opinion; some say the teaching model is a set of ideas that includes organized steps and plans for students learning to meet specific goals. These goals help teachers during the teaching and learning process. Based on several opinions above, the learning model is a framework used in learning to achieve specific goals. Teachers use the learning model as a guide in group learning.

Learning outcomes

According to Bowen (2013), learning outcomes are patterns of actions, values, understandings, attitudes, appreciation, and skills. Furthermore, Wiliam (2011) stated that the learning outcomes that are the object of class assessment are new abilities that students acquire after they follow the teaching and learning process on specific subjects. In the national education system, formulating educational objectives refers to Bloom's classification of learning outcomes, generally cognitive, affective, and psychomotor. A learner's reality manifests as a shift in behavior, such as transitioning from ignorance to knowledge and from comprehension to understanding (Denicola, 2018). According to Rumapea et al. (2017), learning outcomes can be viewed from two sides, namely the student's side and the teacher's side. From the student's perspective, learning outcomes are a better mental development level than before studying. Entwistle and Peterson (2004) divided three types of learning outcomes: skills and habits, knowledge and understanding, and attitudes and ideals. This opinion shows the changing results of all learning processes. The learning outcomes will remain with the students because they have become part of their lives (Rubel & Jones, 2016).

Learning outcomes are a benchmark used to determine students' level of success in understanding learning material (Pascarella et al., 2010). Learning outcomes are behavior that arise, for example, from not knowing to know, the emergence of new questions, changes in the habitual stage of skills, the ability to appreciate, the development of social and emotional characteristics, and physical growth. It indicates that assessment is a way to determine how

well the peer tutoring model for learning social studies has been implemented. According to Hoque (2016), learning outcomes are classified into three domains: affective, cognitive, and psychomotor. Three domains proposed by Benjamin Bloom, namely the cognitive domain, affective domain, and psychomotor domain, are domains that students can carry out. Students can obtain these three domains through teaching and learning activities. This research measured the cognitive domain because it relates to students' mastery of the subject matter. The leading indicators of student learning outcomes are as follows.

- The capacity to absorb the learning materials individually and in groups has been achieved. Measuring the achievement of this absorption capacity is usually carried out by determining the Minimum Learning Completion Criteria (KKM).
- Behavior outlined in the learning objectives that have been achieved by students, both individually and in groups. However, according to Flatten (2011), the indicator that is widely used as a measure of success is absorption capacity. So, indicators of student learning outcomes are more inclined towards achieving students' absorption capacity for learning because they impact measuring the achievement of completeness in their education.

Methodology

This type of research is quantitative. Quantitative research emphasizes the analysis of the deductive and inductive process and the analysis of the dynamics of the relationship between observed phenomena using scientific logic. The research method used for this research is the descriptive quantitative research method. Descriptive quantitative research is a type of research that aims to describe or explain phenomena or characteristics of populations or samples using numbers or quantitative data. This research focuses on collecting, analyzing, and interpreting numerical data from respondents or research objects (Neuman, 2013).

This research design uses three class groups that will be given treatment with a peer tutor learning model. After each class is treated with a peer tutor learning model, post-test questions will be given to see student learning outcomes at the end of the learning process, and observation sheets will be used to assess students' communication skills.

Figure 1. *The design form of the research design*

O ₁		O ₂
O ₃	X	O ₄
O ₅		O ₆

Source: Emzir (2014)

Description:

- O1 = Initial test of trial class I before treatment (pretest)
- O2 = Final test of trial class I after treatment (posttest)
- O3 = Initial test of trial class II before being given treatment (pretest)
- O4 = Final test of trial class II after treatment (posttest)
- O5 = Initial test of trial class III before being given treatment (pretest)
- O6 = Final test of trial class III after being given treatment (posttest)
- X = treatment given (treatment)

This design has three groups, each of which researchers have selected based on specific provisions and objectives. The first group was given an initial test (pretest) to determine students' initial ability, followed by treatment (X), and after that, they were provided with a posttest test question. The second and third groups were also given an initial test (pretest), then treatment with a peer tutor learning model, and finally a post-test question to see student learning outcomes and observation sheets to assess student communication skills in learning (Sugiyono, 2009).

Results and Discussion

The implementation of the research began with observation in the form of consultation with the social studies teacher, especially class VIII. The consultation was about the learning model that the teacher and the researchers would use. Then, the average data of the student's past learning outcomes and class observations were used to choose which class would be used as a test group (treatment) in the research. The next activity is a trial of questions to determine the pretest and posttest questions that will be used for the class that will be given treatment (treatment). In contrast, the trial of the questions is carried out by randomly selecting 10 students each from the three classes that will be given treatment later; this is because there is no other class choice to be given a trial test since there are only three classes in class VIII at Adabiah Padang Junior High School.

Furthermore, research activities in the form of coordination related to the time of conducting research are adjusted to the school schedule and related to lesson plans so that teachers understand the learning model that will be applied in research because the teaching teacher who teaches already has the ability and experience compared to the researcher. On the other hand, the researchers are solely responsible for observing and documenting each learning activity, regardless of whether it proceeds as planned. The research process in the classroom was carried out in three stages: the pretest, peer tutor learning, and posttest.

This research aimed to measure the effectiveness of social studies learning using the peer tutor model with social mobility material. Two sub-variables are used to measure how well the model works: the first is the communication skills of students who are watched using observation sheets and the indicators that appear; the second is the learning outcomes of students who are given a final test in the form of a post-test question after the treatment.

The three tested classes used the same treatment: a pretest to see what the students already knew and a posttest to see if the peer tutor model changed how well the students learned after it was implemented. Here are the student learning outcomes derived from the pretest and posttest scores:

Table 2. *Pretest and posttest test results*

Kind of test	Class	Average value	Number of students completed			
			Incomplete	Complete	Percentage of incomplete students (%)	Completed students (%)
Pretest	VIII.1	73.75	11 students	12 students	56.25%	43.75%
	VIII.2	70.40	15 students	10 students	60.00%	40.00%
	VIII.3	77.57	18 students	14 students	52.17%	47.82%
Posttest	VIII.1	82.44	4 students	28 students	12.5%	87.5%
	VIII.2	81.92	3 students	22 students	12.00%	88.00%
	VIII.3	83.83	2 students	21 students	8.69%	91.30%

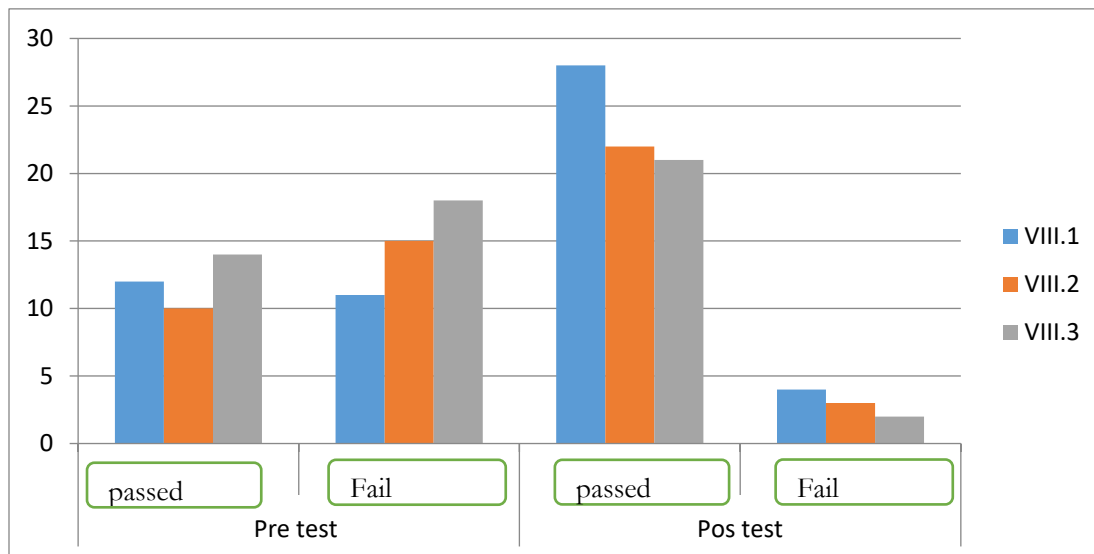
Table 2 above presents the pretest results for class VIII. One student achieved an average score of 73.75 out of the total number of students in that class, with a percentage of students completing as many as 56.25% who did not complete and 43.75% of students who completed. For class VIII.2, the pretest results are based on the total score of all students; if averaged, it reaches 70.40 with student completeness if the percentage is 60.00% of students who did not complete and only 40.00% of students who completed, while for class VIII.3 we can also see that from the total number of student scores divided by the number of students, the average student score from that class is 77.57 for student completeness, 52.17% of students did not complete, and there were 47.82% of students who were categorized as complete.

The above table shows the post-test results, the last test students took after using the peer tutoring learning model. For class VIII.1, the average score was 82.44, calculated by dividing the total scores by the number of students who took the test. The posttest also showed that 12.5% of students did not finish, while 85.5% did. The posttest results reached an average of 81.92, with a student completion rate of 12.00% for students who did not complete and 88.00% for students who completed. Meanwhile, from class VIII.3, students' posttest results reached an average of 83.83, with 8.69% of students completing and 91.30% of students completing.

The value of learning outcomes and student completion, as shown by the pre- and post-tests, has increased for the three classes that use the same learning model for testing or treatment. Taking a look at the post-test results from all three classes, we can see that only a few students did not meet the minimum requirements after the peer tutor learning model was put into place. This is because the average score went up, and so did the number of students who completed it and the percentage of students who did so.

The following is a comparison diagram of the completeness of learning outcomes during the pretest and posttest from the three classes that have been treated with the same learning model.

Figure 1. Diagram of the completeness of student learning outcomes.



Before and after treatment with the same learning model in the three tested classes, student learning outcomes increased with the diagram above. After implementing the peer tutor learning model from the three classes, the completeness of student learning outcomes generally experienced a significant increase.

The learning of social studies that has been carried out by students using the peer tutor model can be seen in the improvement in student learning outcomes as seen from the pretest and posttest results. The findings prove that using this peer tutor model requires students to be active in learning because they must communicate and interact socially with their friends to understand and achieve learning (Annisa, 2017). It means that in learning, active activities with knowledge are built by the students, and the tutor helps to assist in understanding the learning material and to form an attitude of openness among the students to work together and understand the learning material according to the subtopic research of each group. Cooperation between students will help them understand the lessons, impacting learning outcomes (Sulastri et al., 2014).

The advantage of this peer tutor learning model is that it can foster a sense of cooperation and mutual assistance in understanding the subject matter and solving problems, so a competitive spirit among students will not dominate this learning. Besides acquiring knowledge and experience, the important values are that students will learn how to work with their peers and all students in the classroom in various tasks (Newton & Ender, 2010).

In implementing this peer tutor model, the atmosphere of learning activities becomes livelier. This can be seen from the number of students responding to the issues being discussed, and the students are no longer shy about asking questions unclear from the teacher's explanation to the tutors (Slavin, 2020). This is based on the opinion of other experts that peer tutors are one or more students appointed by the teacher to assist the teacher in guiding classmates (Arikunto, 2010). Learning peer assistance can eliminate awkwardness, as peers' language is easier to understand (Sato, 2013).

Several factors support and hinder the implementation of the peer tutor model, namely the following supporting factors, among others: the interaction between teachers and students, the student's interest in participating in learning is relatively high, teachers and students are more familiar with the learning process so that there is a lively, active, and comfortable atmosphere between students and students and students and teachers, and the involvement of peer tutors in learning groups in the classroom makes the classroom atmosphere more intriguing and more active. Meanwhile, the inhibiting factors include a lack of preparation from the tutors, less conducive learning activities due to too many students, and inadequate learning resources, as can be seen from the fact that students only use module books as their guide, so teachers have to try to find other relevant and engaging learning resources (Budiyanti., 2023).

Conclusion

Based on the results of the analysis and discussion above, several conclusions can be drawn. Implementing the peer tutor learning model at Adabiah Padang Junior High School can enhance students' interest and motivation in teaching and learning. This is because the researchers discovered that the subject teachers in this school had not previously implemented the peer tutor model in their teaching methods. There was an improvement in social studies learning outcomes for grade VIII students at Adabiah Padang Junior High School in Padang because the students could adapt to the peer tutor model. This is proven by the learning outcomes of grade VIII students at Adabiah Padang Junior High School. The average score for social mobility material before using the peer tutor learning model was 73.75 for class VIII.1 and 70.40 for class VIII.2, while class VIII.3 had an average score of 77.57. The average score for all three classes was still below the established minimum learning standard of 80. However, after applying the peer tutor model to all three classes with the same treatment, the student's learning outcomes in class VIII.1 increased to an average of 82.44, in class VIII.2 to 81.92, and in class VIII.3 to an average of 83.83. This increase in student learning outcomes is evident in the average grade of each class, surpassing the established minimum learning standard of 80. Therefore, the results of the eighth-grade students at Adabiah Padang Junior High School showed that there was an improvement in all three classes that were tested using the same model that had been studied. This means that the peer tutor (peer teaching) model works well for learning, especially when it comes to social studies.

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