

APPLICATION OF PEER TEACHING LEARNING METHODS IN LEARNING LITERACY AND NUMERACY

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Abstract: Peer tutoring is a learning method that means students teach other students or students who act as teachers. The method of peer tutor learning (peer teaching) is a cooperative learning strategy where students have fostered a sense of mutual understanding and mutual respect. The purpose of this study is for students to play an active role and be able to solve problems together so that in students there is an even understanding of the learning material provided can be achieved, as well as to describe student literacy in detail using the peer teaching method in learning.

Keywords: learning; literacy; method; numeracy; peer teaching.

RESEARCH BACKGROUND

In fact, in every learning process that is done, it will be directed toward the goal to be achieved. In every learning process, there must be interaction between various learning components. These components include educators, students, and teaching materials (materials). The interaction must be truly intertwined so that the learning process that is created is in accordance with good learning guidelines.

The role of mentors in the teaching and learning process has a very important role in creating superior next generations. Not only do teachers have the obligation to teach, but they must also guide their students to help them deal with all their problems in the context of learning or difficulties in learning. With that, educators or teachers are required to always hone their skills and knowledge in the learning process. An educator must have high creativity in choosing learning media and methods that can attract the interest of students.

Airasian (2010) states that learning emphasizes models to make students aware of and responsible for their own knowledge and thoughts. The existence of teaching staff illustrates a meaningful system in the educational process, so educators have a big role and responsibility in the world of education. This implies that every member of the teaching staff is required to have academic ability and understanding as a learning agent.

In fact, along with the development of the times, which continue to experience changes from time to time, educators in schools are no longer filled with seniors. Now many "peers" are

starting to enter the world of education with all kinds of abilities that are no less great than those of their predecessors. Various innovations in the world of teaching and learning media that are increasingly new make the learning that is created more innovative and not boring.

Djamarah (2008) defines the learning method as a method used to facilitate achieving goals. The method is needed by educators so that the delivery of material is easily accepted for maximum results after the end of the teaching process. One method that can be used in teaching is peer teaching, which is a way of learning that involves students actively. One student will teach his friends who don't understand the material. After the educator gives a lecture, the educator divides students into groups consisting of 4-6 students with different levels of intelligence (Dianawati, 2015). With the peer teaching-learning method, learning must be centered on students as the main focus, so as to create students who are able to interact with other students and respect each other. The peer tutoring learning method is a learning model that can provide assistance and direction to peers in creating conducive learning. Hamalik, 2009 (in Hayati, 2017). Peer tutors (peer teaching), namely students appointed by educators who have above- average intelligence, are in charge of helping peers achieve maximum learning outcomes. (Arikunto, 2008).

Peer teaching, or the learning method that carries the peer tutoring system, is one of the methods of learning in which students foster a sense of mutual understanding and mutual respect for one another. The steps of learning activities using the learning model peer teaching according to Mulyatiningsih (2011) are as follows: (1) The educators determine the team; each Teams consist of 3 to 4 students who have diversity in terms of skills. Each team will be assigned a peer tutor who has academic intelligence. (2) The teacher explains the procedure for working on practice questions with the Peer Tutor learning model, team accountability, and evaluation of learning with peer assessment and self-assessment. (3) Educators explain teaching materials and open discussion opportunities for all students related to teaching materials that are not understood. (4) The teacher gives group assignments; students who have not been able to complete practice questions can ask the tutor in their team for help. Five educators monitor the learning process and evaluate the abilities of each tutor and other students. (6) Educators, supervisors, and students evaluate learning to determine the next step.

The lecturer during the learning process with the Peer tutor model acts as a facilitator who oversees the smooth implementation of learning by providing direction and assistance if students experience difficulties in learning and providing limited guidance, meaning that the lecturer only intervenes when students really need it.

REVIEW OF RELATED LITERATURE

Hayati (2017) found that the lack of interest of students in learning can be seen from several things, such as the fact that there are still many students who are not yet independent in preparing their learning and must always be given directions before starting learning, sometimes even reluctant to find out further related to learning material, the attitude of acceptance of s tudents who are not very interested in hearing the teacher's explanation regarding learning material, the lack of student response after the teacher explains the learning material, and the lack of concern and responsibility of students in completing the exercises given. (Hayati, 2017).

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In education, innovation and creativity are important considerations in this sophisticated era. To keep abreast of science and technology developments, innovation and creativity are needed in strategies, methods, teaching materials, and other education-related matters that can address problems in education, especially in teaching and learning activities. Teaching and learning activities can be fun and not boring if the teacher is innovative and creative, so that students are encouraged to be active in learning. In fact, now learning is done using non-cooperative lecture methods that are not in accordance with the needs of students or the development of science and technology (Noersasongko, 2009).

Cooperative Learning Theory

Cooperatives have a sense of working together to achieve common goals (Etin Solihatin & Raharjo, 2008: 4). This learning arises from the idea that students will find it easier to learn and understand difficult concepts if they discuss them with their friends. (Trianto, 2010: 56).

Lie (2002) defines cooperative learning as a learning system that gives students the opportunity to work together with other students on structured tasks, and the teacher acts as a facilitator. Abdurrahman and Bintoro said that cooperative learning is learning that is systematic and consciously develops mutual, one-to-one, and one-to-one interactions between students as life training in real society. (Made Vienna, 2009:189–190).

Cooperative learning emphasizes active interaction among all students, with the hope that students will be more courageous in asking questions and expressing their opinions to teachers and other students. Cooperative learning is very well implemented because students can help each other and work together to solve the problems they face. (Isjoni, 2009:15).

The cooperative learning model is expected to improve students' academic learning outcomes, increase tolerance and acceptance of individual differences, and develop the social skills of each student. (Isjoni, 2009:39-41).

Learning Method Theory Peer Teaching

The peer teaching or peer tutoring learning method is an interactive learning method between one student and another student. This learning method emphasizes students' understanding of a material and how it is delivered. Learning through peer tutors makes students who already understand the learning material teach their peers who do not understand the material. In addition to honing students' understanding, this method also trains students' speaking skills and encourages all students to actively communicate. (Melvi, 2012).

Students who are given learning through the lecture method are less active in participating in learning, which then results in a lack of enthusiasm in participating in the learning process, and students get bored quickly. When the teacher asked whether there were students who did not understand or whether there were questions, the students were silent or answered sufficiently. However, the lack of understanding of students regarding what the teacher teaches is seen when given exercises. Whereas students who use peer tutors are more active in their learning because if there is something they don't understand, they will immediately ask their peer tutors and won't hesitate to ask repeatedly until they really understand. Students do not feel pressure or confusion like when asking directly to the teacher and are motivated to continue to be active in communicating about learning material. (Yusup & Sari, 2020:8)

The increase in student learning activity is found in indicators of paying attention to material explanations from teachers, paying attention to material explanations from peer tutors, listening to material explanations from teachers, listening to material explanations from peer tutors, asking questions to friends, being able to express opinions during discussions, and making notes on material already in part 1. Most students have participated in learning. (*Nuki Hastuti, 2018*).

Numeracy, Literacy, and Learning Theory

Numerical literacy is the knowledge and skills to use various numbers and symbols related to basic mathematics to solve practical problems in everyday life and then analyze the information presented in various forms and interpret the results of the analysis to predict and make decisions (*Ministry of Education and Culture in Mahmud & Pratiwi, 2019*).

Ekowati et al. (2019) define numeracy literacy as a person's ability to reason. Reasoning includes being able to analyze and understand a statement through activities that involve manipulating symbols or mathematical language that is found in everyday life and expressing these statements in writing or orally. (*Ryzal Perdana & Meidawati Suswandari, 2021:10*)

Aspects that must be mastered in numeracy literacy include aspects of form counting, relation numbering, and arithmetic operations. Counting is a skill that requires you to identify the amount of something and count it verbally. Numerical relations are related to the ability to distinguish the quantity of something, such as less, higher, more, and so on. And arithmetic operations in the form of the ability to complete basic mathematical operations in the form of subtraction and addition. Those three aspects are deep aspects of learning mathematics that must be introduced at an early age. (*Mahmud & Pratiwi, 2019*).

STUDY METHOD

This writing uses literature studies. By using literacy and numeracy objects. The subject of the research is students who are currently in school. In this study, the data collection tool is to utilize existing journals, electronic media such as digital libraries, the internet, and even Google Scholar.

RESULT AND DISCUSSION

Definition of Peer Teaching

Peer teaching is a method that can help activities that prioritize students, such as independent learning or discussion, and informal groups that aim to ensure whether they are appropriate and can be effective and efficient (Bruffee, 1995). Learning methods that do not involve students being active will result in a boring and monotonous learning atmosphere. So that it makes students who initially intend to learn but after going through a boring learning process become lazy to take part in learning. Therefore, the learning method that should be used is peer teaching (peer tutors) or peer learning.

The learning method of friends or peer tutors is student-centered learning, so that students can learn from other students who have the same age status and also maturity or self-esteem that is much different from their own. This makes students not feel pressured or forced to

accept the ideas and attitudes of the tutor or teacher, who acts as their own peers. There are other types of peer teaching, such as cross-age tutoring. Cross-age tutoring involves students who are brought together at various ages. If the student is older, he acts as a tutor, while for students who are younger, he acts as a tutee.

According to some experts, the following are the benefits of the peer teaching learning method:

1. Peer tutors are a group of students who have finished learning materials so that they can help other students who have difficulty learning and understanding teaching materials (Suherman et al., 2003).
2. Providing assistance to students by peers whose purpose is to eliminate awkwardness. Learning with peers also uses language that is easier to understand; learning with peers also does not cause reluctance or embarrassment, so that students can tell what difficulties they experience in learning (Sukmadinata, 2007).
3. Peer tutoring or peer assessment is the easiest and most suitable way to overcome the difficulties of several schools in computer learning that do not yet have complete facilities and infrastructure, a lack of tutors or teaching staff, a large number of students in the classroom, as well as limited funds. So that we can take advantage of learning from *peers* who are able to overcome difficulties in computer learning so that they can improve the abilities of students in accordance with today's learning (Suharsimi Arikunto, 2011).

Benefits of Peer Teaching

Peer teaching or peer tutors have a main function, namely, to improve the competence of the lesson being studied by carrying out interesting learning practices. By applying the peer-to-peer learning method, students who do not understand and digest the lessons that have been learned can be overcome. The benefits of peer teaching in general are:

- The brain is well informed
- The brain works actively
- Get maximum learning results

Make the learning process conducive and fun.

The material memory becomes stronger.

Definition of literacy

Literacy is divided into two parts, namely reading and writing. Literacy is a realistically complete skill, especially cognitive skills, namely reading and writing, which are not far from the events during which these skills were acquired and obtained (UNESCO). It can be concluded that literacy is a person's understanding that is obtained by reading and writing to produce information. Comparison between reading culture and the level of educational progress in a nation. With the condition of education, it can determine the parameters of the quality of a nation and make reading activities very important for the progress of the nation.

The meaning of writing is that the reader can understand the message from the writer by conveying a language (Tarigan et al., 1986: 21). Reading and writing are complementary activities. Because when we want to write, we need to read the contents, and if no one is reading it, there is no need to write, or nothing can be read if nothing is written.

Based on a survey conducted by the International Education Achievement (IEA) in early 2000, it showed that the reading quality of Indonesian children ranked 29th out of 31 countries studied in Asia, Africa, Europe, and America. Thus, it is not surprising that the Human Resource Quality Index (HDI) in Indonesia is also low. This is in accordance with a survey conducted by UNDP in 2005, which found that Indonesia's HDI was ranked 117 out of 175 countries.

Reading habits in Indonesia are low due to several factors, namely, the cultural heritage of reading. The ancestors did not pass down the culture of reading. We are only used to listening to fairy tales or stories told orally by parents and others. This causes the absence of the habit of reading and writing.

Literacy and Numeracy Relationship in Peer Tutors

Numerical literacy is the ability or sense of competence to increase knowledge and skills by using mathematics or numbers in all aspects of life. In aspects of life, a characteristic of numbering is that it involves numbers or arithmetic operations. Numerical literacy is closely related. Which is the ability that must be trained and improved through writing, reading, mentioning, sorting, and comparing numbers.

However, now many students do not like mathematics because it is full of calculations, which causes them to feel bored with learning. Therefore, teachers or tutors must be able to master methods that can be fun and conducive. Which aims to improve numeracy literacy in students by using peer teaching-learning methods (peer teaching). In the application of peer tutoring, students teach other students, or one of the students has a role as a tutor by teaching other students.

With this method, cooperative learning is made for students who will respect and understand each other by being guided by other students who work together. With this methodological strategy, the teacher acts as a facilitator by providing strong material to students. We can see that in our daily learning, they feel freer to study with their friends and don't look pressured, which makes the difference between studying with students and teachers. In applying the peer tutor method, students are trained to mention and compare numbers in weight counting lessons. With the lesson on calculating body weight, we need a supporting tool, namely, digital scales, as a learning medium. That way, we can more easily find out our weight because we will immediately see the number, which is different from manual scales. Those who can obtain students are able to write down and convey information about the weight of the students.

CONCLUSION

Peer teaching is a learning method that involves providing assistance and direction to peers. The peer tutor learning model is about procedures for working on practice questions, team accountability, evaluation of learning with peers, and self-assessment.

REFERENCES

- Abdullah, Ramli. (2016). Pembelajaran dalam perspektif kreativitas guru dalam pemanfaatan media pembelajaran. *Lantanida journal*, 4(1).
- Galih, Prasetya Mi'raz. (2017). *Penerapan metode pembelajaran peer teaching untuk meningkatkan hasil belajar siswa kelas x pada mata pelajaran dasar pemrograman di SMK 2 Salatiga*. (Tugas akhir skripsi). Universitas Negeri Yogyakarta, Yogyakarta.
- Hazin, Mufarrihul., et all. (2021). Pendampingan psikososial dan modul pembelajaran sekolah dasar untuk mengatasi learning loss. *Jurnal Pengabdian dan Edukasi Sekolah*, 1(2), 178-189. doi: 10.46306/jub.vli2.34
- Isjoni. (2009). *Pembelajaran Kooperatif Meningkatkan Kecerdasan Komunikasi Antar Peserta Didik*. Yogyakarta: Pustaka Pelajar.
- Isra, H., Sitompul, D, N. (2017). Pengaruh Model Pembelajaran Peer Teaching Terhadap Peningkatan Aspek Afektif Mahasiswa Pada Mata Kuliah Akutansi Keuangan Program Studi Perbankan Syariah Universitas Muhammadiyah Sumatera Utara. *Jurnal Masharif Al-Syariah: Jurnal Ekonomi Dan Perbankan Syariah*. 2(2).
- Manizar, Elly. (2015). Peran guru sebagai motivator dalam belajar. *Tadrib*, 1(2).
- Perdana, R., Suswandari, M. (2021) literasi numerasi dalam pembelajaran tematik siswa kelas atas sekolah dasar. *Absis: mathematics educational journal*. 3(1). 10. doi: 10.32585/absis.v3i1.1385
- Solihatin, E., & Raharjo. (2008). *Cooperatif Learning Analisis Model Pembelajaran IPS*. Jakarta: PT Bumi Aksara.
- Trianto. (2010). *Mendesain Model Pembelajaran Inovatif-progresif: Konsep Landasan Dan Implementasinya Pada KTSP*. Jakarta: Kencana.
- Wina, M. (2009). *Strategi Pembelajaran Inovatif Kontemporer*. Jakarta: PT Bumi Aksara.