

Effectiveness of Applying Jigsaw Type Problem Based Learning Model to Improve Student Activity and Learning Outcomes at SMAN 12 Makassar

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Abstract

This study aims to observe the improvement of student engagement in learning through the application of the Jigsaw-type Problem Based Learning (PBL) model. The method used in this research is qualitative, with the subjects being students from class X.6 in the 2024/2025 academic year. The implementation of the Jigsaw-type PBL model in the Sociology learning process emphasizes finding solutions to the problems presented, as an effort to understand the subject matter and enhance student engagement. The data collection techniques used include observation, documentation, and literature review. Based on the research findings and data analysis, it can be concluded that the application of the Jigsaw-type PBL model effectively increases student engagement in class X.6 at SMA Negeri 12 Makassar during the 2024/2025 academic year.

Keywords: *Jigsaw type PBL model; Student activity.*

INTRODUCTION

Education has developed into an important component in human life. It is undeniable that education makes a significant contribution to the intellectual, professional, social, and spiritual development of humans. Education is an effort to develop teaching strategies and learning tactics calmly and responsibly so that students can actively actualize their potential, according to the National Education System (Sisdiknas) No. 20 of 2003. In addition to having a strong sense of religious spirituality, mastery of skills, good views, intelligence, and noble morals, the goal is to ensure that students have the skills needed for themselves, society, the state, and the country.

The learning process is characterized by individual changes that are cognitive,

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psychological, and effective. Collaboration between students, as well as between students and teachers, is very important for active participation in educational activities. Learning activities are activities carried out by students both inside and outside the classroom to improve their academic achievement (Ulun, 2013). Students' efforts to reach their full potential during the learning process are known as learning activities.

Student learning methods Asking for help from teachers or fellow students when experiencing difficulties, fully participating in group discussions, and being able to report your progress are examples of active learning. Meanwhile, Gagne claims that (Martinis, 2013), factors that influence student learning activities include giving homework or attention, explaining learning objectives (dash proficiency), assessing their learning skills, providing stimuli (topics, problems, and concepts to be discussed in class), giving advice on how to learn the material, encouraging their participation in class activities, providing feedback, and conducting tests and taking materials at the end of learning.

Students' ability to participate in class activities, students' inability to communicate with teachers when they do not understand the material, students' ability to find information needed to solve problems, students' participation in group discussions according to teacher directions, students' ability to practice problem-solving techniques, and students' ability to apply knowledge gained from problem solving are some examples of learning activity indicators.

The educational approach known as PBL (Problem Based Learning) focuses on problem solving using students' various skills, both individually and in groups, and by applying real-world situations to make problems more contextual, relevant, and intelligent. (Tan Onn Seng, 2000). Increasing students' capacity to apply ideas to new or unfamiliar situations, incorporating Higher Order Thinking Skills (HOTS), increasing learning motivation, encouraging independent learning, and fostering critical thinking skills are the goals of PBL. According to Tan (in Amir, 2009), the characteristics of PBL include: (1) using problems as teaching aids; (2) using real-world problems with a broad perspective; (3) requiring diverse perspectives; (4) encouraging students to learn in new areas; (5) using various sources of knowledge; and (7) using communicative, collaborative, and cooperative learning methods. According to Arends (2012), the components of the PBL learning model are: (1) student orientation to the problem; (2) student organization for learning; (3) student participation in individual or group projects; (4) student development and evaluation of course outcomes; and (5) analysis and evaluation of problem-solving processes.

Jigsaw learning is a collaborative learning approach that is carried out in a group setting. To start this type, here are some examples: (1) involving students in different groups; (2) providing



different resources and responsibilities to each participant; (3) involving students from different groups who have studied the material that has been discussed in new groups to discuss it; (4) each student returns to the group with the same understanding of the material that has been taught; (5) each expert participant presents the results of their discussion; and (6) the teacher assesses the presentation.

Based on the observation results, there are several problems that arise in class XII and X SMA Negeri 12 Makassar, namely: (1) students are less satisfied with the slow learning process, (2) students do not respond to teachers, and (3) students do not understand the material well. This can be seen during group discussions, lack of cooperation between students with different cognitive abilities with other students, lack of time, and lack of enthusiasm in solving problems. In addition, students also experience obstacles in communicating effectively, such as lack of interest in topics that require attention and failure to provide appropriate responses. Learning models and styles that are appropriate to the quality of students are needed to overcome these obstacles in the learning process. In addition, students also experience obstacles in communicating effectively, such as lack of interest in topics that require attention and failure to provide appropriate responses. It is necessary to choose a learning model and style that is appropriate to the quality of students so that these learning obstacles can be overcome. Therefore, the researcher is interested in conducting research with the aim of seeing how effective the PBL Jigsaw Type problem-based learning model is for Class X.6 SMA Negeri 12 Makassar.

RESEARCH METHODS

To understand the PBL jigsaw problem-based learning model, this study uses a qualitative method. Sugiyono (2018) emphasized that qualitative research methods are based on literature and are used for experiments conducted in a state of knowledge. Researchers act as the main tool in this approach, and the method for collecting and analyzing data is carried out with a qualitative approach that focuses on meaning. Researchers can investigate and understand the context of implementing the PBL type more thoroughly and explore the relationship between various related elements by using a qualitative approach. Observation is the research approach used. One type of qualitative research is observation, or natural observation, which is observing everything in a particular location without changing anything. Understanding and appreciating the behavior of people or groups in certain situations is the main goal. Another approach is literature study, which requires collecting information through literature analysis from various sources, including books, papers, research reports, scientific journals, and other online sources that are relevant to the



research subject.

RESULTS AND DISCUSSION

Results

Based on the results obtained from interviews, observations, and other supporting data related to strategies and the use of learning media at SMA Negeri 12 Makassar, namely:

1. Students are bored with continuous learning

Students assume that accounting education is an interesting and not very challenging type of education to learn. The monotonous nature of the teaching method causes them not to actively develop a desire to learn. According to Sitorus (2021), "students can be considered less successful in learning accounting if there is no significant change in behavior in achieving the results or goals that have been set." One of the factors that influences learning outcomes is the teaching strategy. In addition, the achievement of learning objectives in the classroom is also influenced by the teacher as a teacher and source of knowledge for students. A teacher must be able to coordinate learning activities in the classroom and use effective teaching strategies so that the learning process runs according to the rules.

2. Students do not respond to the teacher

Students who do not respond to their teachers are generally influenced by several factors. They may not be able to trust themselves or carry out their responsibilities, which makes them lazy and unable to participate actively. Other factors may be caused by a less than ideal learning environment, such as less than ideal teaching methods or a classroom environment that is not conducive to interaction. In addition, a lack of understanding of the material can make students reluctant to contribute because they may not feel fully capable of doing so.

3. Students do not fully understand the material

In the implementation of educational activities, students are faced with various challenges and difficulties in understanding the content provided by the guide. This may occur because all students show the same level of intelligence with cognitive as emotional. Therefore, the function of the masters in the educational process is very relevant and is considered capable of solving various problems that arise. This can be done through various methods of enseñanza and the use of appropriate media for the content delivered. Even so, many times I realized that I could not do it verbally, the masters had intended for a lot of time



with various learning difficulties. In fact, it involves most students who want to pay attention to their small aspects, such as lecturer instructions for their studio at home or receiving lecturer instructions if there is material they do not understand. Therefore, the application of education in the learning process can be an alternative and new method to overcome student learning problems. Students must be able to meet student needs to improve their learning experience, encourage learning motivation to get the best results from teachers, and build effective communication with students, mentors, the community, and other students.

The following are the steps in implementing Jigsaw type problem-based learning strategies and media:

1. Group Division Process



Figure 1. Group Division

This picture illustrates the group division activity. We have formed a total of six groups, each consisting of five or six people. Each group has a minimum of two to three female students as its members.

2. The Process of Dividing Tasks in Each Group That Has Been Formed



Figure 2 Division of Tasks

This picture illustrates the number of tasks in each group that we have completed, along with the results of our work on the tasks that we have completed using the problematic LKPD. At this stage, SMA 12 Makassar students are quite cooperative in completing the tasks that we have listed below. We encourage them while working on the tasks so that they can easily adjust if there are things that are difficult to understand.

3. Each Group Presents the Tasks They Have Completed



Figure 3. Presentation of Material

This image shows each group presenting the results of the problem-solving process they have discussed, along with feedback from our peers. In this presentation, each group presented very good and diverse solutions.

4. Photo Session with Students and Teachers



Figure 4. Group Photo

Together with the students and teachers who guided us during the observation activity at SMA 12 Makassar, we took this picture. This class consists of 36 students, consisting of 18 female students and 18 male students. However, there were some students who had difficulty going to school while participating in this observation activity.

DISCUSSION

One teaching strategy that can overcome this problem is the problem-based learning (PBL) paradigm, which is used in the teaching process. According to Yatim Riyanto (2010), "problem-based learning is a model designed and developed to improve students' ability to solve problems". The Problem-Based Learning Model combines debate, research, investigation, and issues. In addition, this strategy combines real advice with an enlightening classroom atmosphere and provides genuine support that encourages each student to learn actively and increase their knowledge. Thus, it is hoped that each student will be able to utilize the available resources to improve their business knowledge and skills independently from other students who have more advanced skills. The jigsaw model in problem-based learning (PBL) is a type of cooperative learning that encourages students to actively participate in class and work together to ensure that learning materials are used to get the best possible results. The benefits of jigsaw-based PBL are that it gives students the confidence to learn and work together, which improves their ability to communicate, both individually and in groups, when PBL is taught using jigsaw-style materials.

One type of skills-based learning that takes place in a group setting is called jigsaw learning. The following are the learning objectives for this type of learning: (1) Students are first divided into groups, (2) each group is then given different materials and assignments, (3) and finally, after studying the content, the other group members return to their groups to discuss the information and assignments, (4) Each participant returns to their original group after the discussion is complete, and they take turns teaching one student a topic related to the material they have studied, (5) Each participant then discusses the results of their discussions, and (6) the instructor grades the presentations.

Based on research conducted at SMA Negeri 12 Makassar, the application of the Problem Based Learning (PBL) model using the jigsaw method makes the learning process more effective so that students do not need to pay attention when solving problems. This PBL model encourages students to solve problems independently based on their own abilities in facing challenges and allows them to understand and develop solutions related to economic problems in class. In addition, an abstract economic concept can be better understood when students are involved in active and creative learning. As a result of this activity, students can provide ideas for solving problems and demonstrate good behavior and judgment. Students can demonstrate mathematical reasoning if they are able to solve problems in mathematics class without experiencing difficulties.

In the learning process, the Jigsaw PBL paradigm is applied in class. This model is carried



out by analyzing problems, answering questions, facilitating discussions, and creating dialogue. In addition, Problem-Based Learning (PBL) is an educational approach that encourages students to develop critical thinking skills, provides practical experience, and integrates classroom learning with academic knowledge in an unbiased manner.

All physical tools and materials used by teachers during the learning process are included in educational media. The media used in education can help teachers explain the material. In addition, the use of educational media can increase students' attention span, which will make it easier for them to understand the material being taught (Miftah et al., 2018).

One strategy to improve student learning outcomes with the Problem Based Learning approach is the use of Student Worksheets (LKPD). Gabriella et al. (2021) define LKPD as a learning tool or media that contains teaching materials accompanied by assignments that must be completed by students. To improve student learning outcomes and foster more effective communication between teachers and students, this LKPD is used to improve and facilitate learning activities. (Yurnalis et al., 2014).

Student Worksheet (LKPD) is one of the media used in PBL learning. Problem-Based Economics LKPD is quite easy to adapt and successful for students. To improve students' understanding, skills, and perspectives, LKPD provides presentation materials and guides that can be used as learning exercises. Because of the conditions and situations that exist independently in learning activities, LKPD also helps teachers in teaching by building strong bonds between students and teachers. This makes the learning process more interesting.

According to research by Istni et al. (2022), students who use the problem-based learning paradigm based on LKPD have critical thinking skills of 80 to 90 points. Around 62% of students stated that they have critical thinking skills, while 9% or 3 students stated that they have very good critical thinking skills. On the other hand, no students are in the very poor category, and only 1% or one student is in the poor category. This study examines how problem-based learning (PBL) strategies implemented in LKPD can be used cooperatively to improve critical thinking skills. Students gave responses that were quite in accordance with the Jigsaw PBL learning model. Learning is much more innovative than the paradigm that is often used. Students also find it easy to adapt to this paradigm because the learning material is interesting and straightforward. According to research by R. Wenas, J.R., & Pangemanan, A.S. (2022), the use of the jigsaw learning model succeeded in improving students' mathematics learning outcomes.



CONCLUSION

Based on data analysis, there is an increase in student activity in economic learning with the Problem Based Learning (PBL) model which is similar to the jigsaw puzzle in the independent curriculum. Based on this study, student activities from the beginning to the end of economic learning with the jigsaw type PBL model ran smoothly and there was an increase in student activity during the learning process. This allows students to develop their critical thinking skills through interaction, analysis, deflection, and collaboration, making it easier for them to understand and learn various other concepts. The implementation of the economic learning plan with the jigsaw model can be classified as very effective, so that during the learning process students can be involved in various activities that can improve their learning experience. In addition, most of the X grade students of SMA Negeri 12 Makassar have a positive opinion of the IPS learning paradigm that uses jigsaw-based PBL. This is based on the average student response of 77.2%, which shows that most students responded well to jigsaw-based PBL in economics subjects.

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