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Student Responses to Learning Models Involving Interpersonal Intelligence

Mulyati[1*], Hamsu Abdul Gani[2], Hamzah Upu[3]
Makassar State University
Coressponding Author: Hamsu Abdul Gani hamsuabdulgani@yahoo.co.id

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A B S T R A C T

This study aims to determine students' responses to the application of problem-based learning models involving interpersonal intelligence in mathematics. This study uses a qualitative descriptive approach, with data collection through observation, interviews, and distributing questionnaires to grade XI SMK students. The findings of the study indicate that students' responses to the application of problem-based learning models involving interpersonal intelligence are generally very positive. This model can help students develop 21st century attitudes and skills that are essential for students to become independent and competitive learners

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INTRODUCTION

21st century education requires students to have not only cognitive abilities, but also social and emotional skills. In the context of learning mathematics and other subjects, student success depends not only on the ability to think logically, but also the ability to work together, communicate and understand others, all of which are part of interpersonal intelligence.

The problem-based learning model is a learning model that emphasizes problem solving through group work and discussion, which naturally encourages social interaction. This makes the problem-based learning model have great potential in developing students' interpersonal intelligence, namely the ability to understand and establish social relationships effectively with others, as stated by Gardner in the Multiple Intelligences theory of Amrullah & Suwarjo (2018).

LITERATURE REVIEW

However, in its implementation, the involvement of interpersonal intelligence elements in problem-based learning is still rarely an explicit focus in the process of designing and implementing learning models. In fact, the success of problem-based learning is highly dependent on the quality of interaction between students in solving problems together. So that it can stimulate students' abilities and skills, especially thinking skills, this finding according to, Megalia et al. (2024), Ningrum et al. (2024). Therefore, it is necessary to conduct an in-depth study of how students respond to the problem-based learning process which specifically involves and develops interpersonal intelligence (Sari et al, 2015). This study is important to provide an empirical picture of students' perceptions and experiences during problem-based learning that emphasizes social interaction. The findings of this study are expected to be strategic input for teachers in designing learning that is not only effective in academic achievement, but also supports the formation of students' attitudes and social interactions.

METHODOLOGY

This study uses a descriptive method with a qualitative approach. The location of the study was determined at SMK Techno Terapan Makassar with 30 students of class XI. The selection of subjects was carried out by purposive sampling, based on recommendations from subject teachers in the class. The data collection technique used was through the distribution of student response questionnaires. The questionnaire instrument in this study includes five indicators, namely Active Involvement in Group Discussions, Collaboration Ability, Learning Motivation, Effective Communication, Self-Reflection in Social Relations developed by name (year). This questionnaire consists of positive and negative statements, arranged in the form of a closed questionnaire using a Likert scale with the category Strongly Agree (SS) worth 4, Agree (S) worth 3, Disagree (TS) worth 2, and Strongly Disagree (STS) worth 1. The data analysis process is carried out through three stages, namely data reduction, data presentation, and drawing conclusions. Data reduction includes the process of compiling a summary, selecting relevant information, simplifying data and eliminating

unnecessary information. This stage is applied specifically to student response data.

RESULT AND DISCUSSION

This study aims to explore students' responses to the Problem Based Learning learning model in Mathematics subjects at SMK Techno Terapan Makassar. Data were obtained from distributing questionnaires to 30 Class XI students as respondents. The questionnaire instrument consisted of 30 statements with four answer choices, namely Strongly Agree (SS), Agree (S), Disagree (TS) and Strongly Disagree (STS). This questionnaire was designed based on five main indicators, namely Active Involvement in Group Discussions, Collaboration Ability, Learning Motivation, Effective Communication, Self-Reflection in Social Relations. The results of filling out the Questionnaire for Class XI Students of SMK Techno Terapan Makassar are presented in the table

Table 1. Average Percentage of Student Responses to Learning Models Involving Interpersonal Intelligence

Indicator	Average Response Percentagea	Response Criteria
Active Involvement in Discussion	90,12%	Positive
Ability to collaborate	77,24%	Positive
Motivation to learn	86,10%	Positive
Effective communication	79,22%	Positive
Self-reflection in social relationships	80,43%	Positive

Table 1 presents data on the responses of students at SMK Techno Terapan Makassar which shows that problem-based learning in mathematics subjects received positive responses from students. Most students gave positive responses that supported the implementation of the problem-based learning model that involved interpersonal intelligence.

The indicator of active involvement in discussions was 90.12% with positive criteria. Student involvement can increase learning activity. This can be seen from the number of students discussing, giving ideas and listening to friends when solving problems. This is in line with Roskawati (2022) and Amara (2021) that the problem-based learning model increases student learning activity that student involvement in the learning process and the role of teachers as facilitators can make interesting learning solutions, improve student understanding and encourage critical thinking.

The indicator of collaboration ability was 77.24%, students were able to work together to divide roles and complete group assignments with responsibility. This is in line with the findings of Husain (2020) that the application of problem-based learning can increase student collaboration and have an effect on improving learning outcomes.

The indicator of learning motivation is 86.10%, with the application of the problem-based learning model that involves Linguistic intelligence, students feel enthusiastic and motivated to learn through group work, students are more

active in participating in the learning process, helping to increase student confidence in learning, this is in line with the findings of Megalia et al. (2024) that the problem-based learning model can improve students' collaboration skills. Effective communication indicator of 79.22% with the application of the PBL model, students can convey ideas clearly and openly accept responses from others, this can help students become more involved, increase learning motivation and learning more meaningful, this is in line with the findings of Awaliah (2023) which states the implications of the importance of learning methods that actively involve students and build relevant skills to face challenges in the real world. Self-reflection indicator in social relations of 80.43% in the application of problem based learning, students are aware of their role and self-development in group work and are able to evaluate interactions. This is in line with the findings of Tifani et al. (2023) that problem based learning can improve social skills needed in learning and everyday life.

Recent research on students' responses to learning models involving interpersonal intelligence underscores the vital role of social interaction in education. Interpersonal intelligence—defined as the ability to understand and interact effectively with others—has a significant impact on academic performance and collaboration. The problem-based learning (PBL) model supports this development by fostering prosocial behavior, encouraging students to collaborate in solving real-world problems, and cultivating skills such as communication, empathy, and shared decision-making (Amrullah & Suwarjo, 2018; Hartatik et al., 2023).

Students with high interpersonal intelligence demonstrate better group interaction, communication, and problem-solving skills, particularly in subjects like mathematics, where peer collaboration is common (Hartatik et al., 2023). These skills enhance knowledge construction and foster respect for diverse perspectives. Moreover, PBL nurtures a sense of community, aligning with vocational education goals that integrate theory with practical, collaborative applications (Puspitasari et al., 2023).

Diverse group dynamics further strengthen knowledge exchange, with interpersonal intelligence serving as a key enabler for effective teamwork, especially in heterogeneous classroom settings (Andriani et al., 2024). Contextual learning models reinforce this by connecting classroom content with real-life applications, thus enhancing both cognitive and socio-emotional development (Susiaty & Hodiyanto, 2019).

Interpersonal relationships also support students' mental health and academic resilience. Strong peer connections contribute to emotional well-being, persistence, and reduced stress—factors essential for learning engagement (Niu et al., 2022). Correlational studies have further shown that interpersonal intelligence is positively associated with academic achievement in the social sciences, reinforcing the need to integrate emotional and social development into vocational curricula (Nahda & Fathoni, 2023).

Teachers who model strong interpersonal skills foster inclusive and supportive learning environments, motivating students to develop similar behaviors and promoting holistic development (Suprayogi & Andestia, 2023).

Findings from SMK Techno Terapan Makassar confirm that PBL enhances student engagement, motivation, collaboration, communication, and self-reflection. As 21st-century education emphasizes teamwork, leadership, and emotional intelligence, integrating interpersonal intelligence into teaching is crucial—especially in vocational settings where these skills impact employability. Future studies should examine its long-term effects and support teacher training in socially interactive learning.

CONCLUSION AND RECOMMENDATION

The results of this study, that the application of the problem based learning model involving interpersonal intelligence has a positive impact on students' positive responses. This is reflected in the increase in namely Active Involvement in Group Discussions, Collaboration skills, Learning motivation, Effective communication, Self-reflection in social relationships. This finding not only contributes to strengthening mathematics learning but also creates holistic education and plays a role in forming positive character of students as a whole.
Based on the researcher's findings, it is recommended that the student response questionnaire be distributed more widely,

FURTHER STUDY

This study is limited in terms of coverage because it is focused on one school only, it is hoped that in the future it will examine more widely the student response to the application of the problem based learning model

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