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The Implementation of Problem Based Learning Model Assisted by Scaffolding Method to Improve Students' Communication Ability at SMA Negeri 4 Palu

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ABSTRACT

This research aims to describe and evaluate the effectiveness of the implementation of problem based learning model assisted by scaffolding method to improving students' communication ability at SMA Negeri 4 Palu. The research used a classroom action approach implemented in two cycles with stages of planning, implementation, observation, and reflection. The research instrument used consists of a test containing three essay questions to measure written communication ability and observation sheet to measure oral communication ability, which are analyzed using descriptive methods. The total score percentage of students' oral communication ability in cycle I (73%) and cycle II (76%), an increase of (3%), with an average score of (75%) in the high category, while the total score percentage of students' written communication ability in cycle I (76%) and cycle II (80%), an increase of (4%), with an average score of (78%) in the high category. Based on the research results, it is concluded that the application of the problem based learning model assisted by the scaffolding method is very effective in enhancing students' communication ability both orally and in writing.

Keywords: Problem Based Learning, Scaffolding, Oral Communication, Written Communication

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INTRODUCTION

Education is a necessity that must be fulfilled in the process of life. The advancement of a nation is influenced by the quality of education of that nation itself because higher education can produce quality human resources (Mantiri, 2019). As the education curriculum changes, the complexity of that curriculum increases. This can be seen from the increasing demands for abilities on students. However, the fact is that the abilities possessed by students do not meet expectations. This is because, all this time, students' learning achievements have often only been emphasized on cognitive aspects without paying attention to other ability requirements such as communication ability.

Communication ability is a very important abilities for students to master, so that they can process the information they receive and convey that information accurately, leading to meaningful learning. Urwani et al. (2018) reveal that to obtain a concept, students need communication as a means in the process of sharing knowledge, ideas,

thoughts, or opinions between two or more people. The low communication skills of students can be seen from those who do not want to engage in presentations and question and answer sessions (Budiati, 2013). The low communication ability of the students during biology lessons lead to less effective learning. This is because students are less active during learning, making learning passive (teacher centered), less enjoyable, and making students less enthusiastic about learning. Low communication ability can cause learners to experience multiple perceptions or misconceptions, resulting in the learning objectives not being conveyed properly (Aeni et al., 2017).

Based on the observation results during the PPL activities at SMA Negeri 4 Palu, it was found that the communication ability of the students are still categorized as low, both orally and in writing. This is evident from the students who tend to be passive and reluctant to engage in discussions, presentations, or question and answer sessions. Only a few students dare to ask questions or respond to the teacher, while the majority prefer to remain silent or play.When writing, students struggle to convey ideas in a structured manner with numerous spelling and grammar mistakes. This low level of communication ability negatively impacts the learning process and results, and complicates the teacher's ability to assess students' understanding. This shows how important it is to improve communication ability to support the activity and learning outcomes of students.

One alternative solution that can be used is the implementation of the Problem Based Learning (PBL) model assisted by the Scaffolding method. Problem based learning is a learning model that presents a real and meaningful problem to students for open investigation and finding solutions. The issues studied are contextual problems found by students in their daily lives (Pramistyasari, 2022). According to Nurjanah et al. (2022), PBL involves students in solving a problem through the stages of the scientific method so that students can learn knowledge related to the problem and develop skills to solve problems and improve learning outcomes. PBL is one of the ideal models to meet the skills of the 21st century including communication skills (Ariyanti, 2020).

Scaffolding is an effort to provide assistance to learners in the form of motivation, reminders, instructions, or illustrations, outlining the steps to solution for problems, presenting examples, or other activities that guide learners to understand and learn independently (Mustofa et al., 2023). The application of scaffolding in learning positions students as individuals who have the freedom to learn and explore their abilities through the assistance or guidance of teachers. The flexibility of scaffolding can be interpreted as something tentative, where teachers can flexibly provide, delay, reduce, or even eliminate that assistance as students achieve learning independence (Suprihatin & Rosita, 2020). Scaffolding can be provided in the syntactic process of learning in PBL, so that both can optimize learning independence and enhance other 21st century skills such as creativity, collaboration, communication, and critical thinking (Amaliya et al., 2023).

Several research results indicate that the PBL and scaffolding models have many benefits in enhancing various skills or cognitive abilities. This is consistent with the research conducted by Angga (2022) which found that the PBL model is able to improve 4C abilities (critical thinking, communication, collaboration, and creativity) in students. Aprila & Fajar (2022) stated that the application of the PBL model can improve students' communication ability and learning independence. Research conducted by Widyawati

et al. (2023) shows that problem based learning and scaffolding significantly influence students' critical thinking ability. Likewise, the research conducted by Alipvia et al. (2022) shows that providing scaffolding has a significant impact on student motivation and learning outcomes. Sari et al. (2024) stated that the implementation of a scaffolding assisted problem based learning model can improve science literacy and student learning outcomes.

The combination of implementing the problem based learning model assisted by the scaffolding method is expected to make learning more effective, enjoyable, and capable of gradually training students' communication ability while also developing their potential. Thus, this study aims to describe and evaluate the effectiveness of the implementation of problem based learning model assisted by scaffolding method to improving students' communication ability at SMA Negeri 4 Palu.

METHOD

This study uses the classroom action research method conducted at SMA Negeri 4 Palu, located at Jl. Mokolembake No. 10, Lere Village, West Palu District, Palu City, Central Sulawesi Province. The subjects in this research are the students of class X-H at SMA Negeri 4 Palu for the academic year 2024/2025, consisting of a total of 25 students, which includes 14 boys and 11 girls.This research was conducted in two cycles including planning, implementation, observation, and reflection (Arikunto, 2012).

The research instrument used is a test consisting of three essay questions to measure written communication ability and an observation sheet to measure oral communication ability. The ability of written communication is measured based on 4 indicators, namely: 1) writing skills (structure and spelling); 2) content accuracy (relevance and depth); 3) use of evidence/examples; 4) suitability with context/topic (adapted from Gunawan & Heryanto, 2019). Meanwhile, oral communication ability are measured based on 6 indicators, namely: 1) discussion; 2) understanding of the content; 3) asking questions; 4) drawing conclusions; 5) fluency in communication; 6) language in the classroom (Adapted from Maidar et al., 2020). Data from the tests and observations of communication abilities were analyzed using descriptive methods. The data were analyzed by calculating the percentage of each indicator of communication ability, both written and oral. The table of score percentage criteria for students' communication ability can be seen in Table 1.

Table 1. Criteria for Percentage Scores of Communication Ability

Percentage Score Criteria	Category
80 - 100 %	Extremely High
60 - 79 %	High
40 - 59 %	Medium
20 - 39 %	Low
0 - 19 %	Extremely Low

Source: Adapted from Sugiyono (2014)

RESULTS AND DISCUSSION

The results of the analysis of the communication ability of students in class X-H at SMA Negeri 4 Palu showed that there was an improvement in communication ability both orally and in writing after the implementation of the problem based learning model assisted by the scaffolding method in the learning process, as observed from cycle I to cycle II. The percentage data of students' communication ability, both oral and written, from cycle I to cycle II can be seen in Table 2 and Table 3.

Table 2. Percentage of Oral Communication Ability

Indicators of Oral Communication Ability	Score Percentage		Improvement	Average Score	Category
	Cycle I	Cycle II			
Discussion	77%	81%	4%	79%	High
Understanding of the content	72%	75%	3%	74%	High
Asking questions	70%	73%	3%	72%	High
Drawing conclusions	69%	71%	2%	70%	High
Fluency in communication	76%	80%	4%	78%	High
Language in the classroom	74%	77%	3%	76%	High
Total	73%	76%	3%	75%	High

Based on the data in Table 2 above, it shows that there is an increase in the percentage of each indicator of students' oral communication ability from cycle I to cycle II with an average in the high category. The sequence of percentage scores for students' oral ability indicators from the easiest categories to the most difficult in order, namely: 1) discussion with cycle I score (77%) and cycle II score (81%); 2) communication fluency with cycle I score (76%) and cycle II score (80%); 3) language in class with cycle I score (74%) and cycle II score (77%); 4) understanding of material content with cycle I score (72%) and cycle II score (75%); 5) asking questions with cycle I score (70%) and cycle II score (73%); 6) drawing conclusions with cycle I score (69%) and cycle II score (71%). The total score for the percentage of students' oral communication ability in cycle I (73%) and cycle II (76%) shows an increase of (3%), with an average score of (75%) in the high category. This indicates that the implementation of the problem based learning model assisted by scaffolding method has a positive impact on improving the oral communication ability of students both individually and in groups.

This positive impact can be seen from students' increased confidence in expressing their ideas, the ability to ask and answer questions more effectively, and their improved participation in discussions and collaborative activities. The scaffolding method provides structured support, such as guidance, prompts, and feedback, which helps students gradually develop and strengthen their communication skills. Over time, as the support is gradually reduced, students become more independent and capable in articulating their thoughts clearly and confidently, both in one-on-one interactions and in group settings.

Table 3. Percentage of Written Communication Ability

Indicators of Written Communication Ability	Score Percentage		Improvement	Average Score	Category
	Cycle I	Cycle II			
Writing skills (structure and spelling)	80%	85%	5%	83%	Extremely high
Content accuracy (relevance and depth)	72%	75%	3%	74%	High
Use of evidence/examples	75%	79%	4%	77%	High
Suitability to the context/topic	77%	81%	4%	79%	High
Total	76%	80%	4%	78%	High

Based on the data in Table 3 above, it shows that there is an increase in the percentage of each indicator of students' written communication ability from cycle I to cycle II, categorizing from high to extremely high. The order of percentage scores for student writing ability indicators from the category that is easy for students to achieve to difficult in succession, namely: 1) writing ability with cycle I score (80%) and cycle II (85%); 2) relevance to context/topic with cycle I score (77%) and cycle II (81%); 3) use of evidence/examples with cycle I score (75%) and cycle II (79%); 4) accuracy of content with cycle I score (72%) and cycle II (75%). The total percentage score of students' written communication ability in cycle I (76%) and cycle II (80%), an increase of (4%), with an average score of (78%) categorized as high. This indicates that the implementation of the problem based learning model assisted by scaffolding method can enhance the students' written communication ability both individually and in groups.

Discussion

The data obtained from cycles I and II in this study indicate that the implementation of the problem based learning model assisted by the scaffolding method has a significant positive impact on improving students' communication skills, both oral and written. This improvement is evident from the increase in percentage scores on all indicators of both oral and written communication, which means that the learning designed by combining the problem based learning model with the scaffolding method is very effective in supporting the development of students' competencies. The ability of oral communication has improved evenly across all indicators from cycle I to cycle II with a high average score. Based on the research results, the sequence of achievement of the oral communication ability indicators of students from the easiest to the most difficult to achieve is as follows: 1) discussion with cycle I score (77%) and cycle II (81%); 2) fluency in communication with cycle I score (76%) and cycle II (80%);3) language in the classroom with cycle I score (74%) and cycle II (77%); 4) understanding of content material with cycle I score (72%) and cycle II (75%); 5) asking questions with cycle I score (70%) and cycle II (73%); 6) drawing conclusions with cycle I score (69%) and cycle II (71%). The discussion indicator scores the highest because this activity is collaborative and low pressure, allowing students to feel more comfortable in expressing their ideas.

The communication fluency indicator is in second place because it emphasizes the aspect of courage in conveying ideas. This is in line with the characteristics of the problem based learning model that emphasizes group work and social interaction to solve problems. Language indicators in the classroom take the third position because not all students are accustomed to the application of standard vocabulary and grammar. The indicators for understanding the content of the material have started to encounter difficulties because they require students not only to be able to speak but also to master the substance of the material presented, placing them in the fourth position. The fifth position, which is the indicator of asking questions, is also difficult because it requires a deep understanding and critical thinking ability to identify things that have not been understood. Finally, the conclusion taking indicator is the most difficult indicator because it requires students to analyze all the information, connect various ideas, formulate the essence of a discussion, and succinctly and logically restate all the information obtained.

The communication fluency indicator ranks second because it emphasizes students' courage and confidence in expressing ideas verbally. This aligns with the characteristics of the problem-based learning (PBL) model, which emphasizes collaborative work and social interaction as key components in problem-solving activities. The classroom language indicator is in third position, as not all students are accustomed to using standard vocabulary and grammar in academic settings. This indicates a need for more structured support in developing students' language proficiency. The indicator of understanding the content of the material occupies the fourth position, reflecting the additional cognitive demands placed on students—not only must they be able to communicate, but they must also demonstrate a solid grasp of the subject matter being discussed. In fifth position is the ability to ask questions, which proves to be a challenging skill as it requires students to engage in critical thinking, identify gaps in understanding, and formulate relevant and meaningful inquiries.

Finally, the ability to draw conclusions ranks as the most difficult indicator to achieve. This skill requires a higher-order cognitive process, including the ability to analyze information, synthesize various ideas, and articulate the essence of a discussion in a clear, logical, and concise manner. The complexity of this process explains why students tend to struggle more with this aspect of oral communication. The ability of written communication has also experienced significant improvement on all indicators from cycle I to cycle II, with a score range from very high to high. Based on the research findings, the order of achievement of the written communication ability indicators of the students from the easiest to the hardest to achieve is: 1) writing ability with cycle I score (80%) and cycle II (85%); 2) relevance to the context/topic with cycle I score (77%) and cycle II (81%); 3) use of evidence/examples with cycle I score (75%) and cycle II (79%); 4) accuracy of content with cycle I score (72%) and cycle II (75%). The indicators of writing ability (structure and spelling) are the easiest to master because students are accustomed to basic writing rules such as grammar, spelling, and sentence structure through routine practice, making them more proficient in applying them. The indicator of relevance to the context/topic is also relatively easy because it only requires the ability to stay focused on the given topic without the need for in depth analysis. The indicator of using evidence/examples is an indicator that has become more difficult as it requires the ability to select and connect relevant supporting information to the argument, which necessitates a deeper understanding of the material. Meanwhile, the indicator of content accuracy (relevance and depth) is the most difficult indicator because it requires students not only to understand the topic in depth but also to be able to organize ideas in a logical, critical, and meaningful manner, as well as to connect various concepts to produce relevant writings.

The writing ability indicator is the easiest to master, likely because students are already familiar with basic writing conventions such as grammar, punctuation, and sentence structure, which are reinforced through regular practice. The indicator related to relevance to the context

or topic is also relatively easy, as it primarily requires students to remain focused on the assigned theme without engaging in complex analysis. On the other hand, the use of evidence or examples presents a greater challenge. It requires students to not only identify supporting details but also integrate them effectively into their arguments, demanding a deeper understanding of the subject matter.

Finally, the indicator of content accuracy, which involves both depth and relevance, is the most difficult to achieve. This indicator requires students to demonstrate a comprehensive understanding of the topic, organize their ideas logically and critically, and connect multiple concepts in a coherent and meaningful way to produce insightful and relevant written work. These higher-order thinking skills demand not just linguistic competence but also cognitive maturity and academic discipline.

The improvement in the communication ability of the students, both oral and written, is clearly visible from the total percentage scores obtained, namely oral communication in cycle I (73%) and cycle II (76%), an increase of (3%), with an average score of (75%) categorized as high. Meanwhile, written communication in cycle I (76%) and cycle II (80%) shows an increase of (4%), with an average score of (78%) also categorized as high. This indicates that the implementation of the problem based learning model assisted by the scaffolding method can enhance students' communication ability both orally and in writing. This means that the learning strategy which combines this model and method is very effective in helping students become more confident and skilled in expressing their ideas, both individually and in group work. This is in accordance with several studies that show that problem based learning models and scaffolding methods are more effective and efficient in enhancing various ability possessed by students such as critical thinking, communication, collaboration, and creativity (Ariyanti, 2020; Hafely et al., 2021; Amaliya et al., 2023; Widyawati et al., 2023).

The communication ability possessed by students can train them to exchange opinions and thoughts with fellow students as well as teachers, build self confidence, and be courageous in expressing their views. When students are able to communicate their ideas, it makes learning and the classroom atmosphere more meaningful and active (Aulia et al., 2018). Students who are skilled in communication will find it easier and smoother to communicate matters related to school subjects, both verbally and in writing. Therefore, through problem based learning with gradual guidance from the teacher (scaffolding), it can train and enhance students' abilities to speak and write in a more structured and confident manner.

Students who are skilled in communication will find it easier and smoother to express ideas, opinions, and information related to school subjects, both verbally and in writing. Effective communication skills not only support academic success but also play a crucial role in students' ability to participate actively in classroom discussions, collaborate with peers, and convey their understanding of the subject matter with clarity. Therefore, the application of the problem-based learning (PBL) model combined with gradual guidance from the teacher (scaffolding) becomes a highly relevant and effective strategy. In this model, students are encouraged to engage in real-world problems that require critical thinking, discussion, and reflection. At the same time, scaffolding provides them with structured support—such as prompts, feedback, and modeling of language use—allowing them to gradually build their communication competence.

Through continuous practice in such a learning environment, students develop the ability to speak and write more clearly, logically, and confidently. They learn to organize their thoughts, choose appropriate language, and present their ideas in a structured manner. As the teacher reduces the level of assistance over time, students become more independent communicators capable of expressing themselves effectively

in both oral and written forms. This not only improves their academic performance but also prepares them with essential communication skills for future learning and real-life contexts.

CONCLUSION

Based on the results of the research and the discussions presented, it can be concluded that the implementation of the problem-based learning (PBL) model assisted by the scaffolding method is highly effective in improving students' communication skills, both oral and written. This effectiveness is evidenced by the significant increase in students' total percentage scores across both aspects.

For oral communication, the score increased from 73% in cycle I to 76% in cycle II, reflecting a 3% improvement, with an average score of 75%, which falls into the high category. Similarly, for written communication, the score improved from 76% in cycle I to 80% in cycle II, marking a 4% increase, with an average score of 78%, also categorized as high.

These results indicate that the integration of problem-based learning with scaffolding not only enhances students' mastery of subject matter but also effectively trains and strengthens their communication abilities in a structured and meaningful way. Furthermore, this learning model proves to be well-suited for identifying, measuring, and developing various student potentials and competencies, particularly in the areas of critical thinking, collaboration, and clear expression—skills that are essential for both academic success and real-world application.

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