

Perception of Teachers Regarding Problem-Based Learning and Traditional Method in the Classroom Learning Innovation Process

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Abstract

The implementation of problem-based learning (PBL) method in the teaching of English at the junior high school level has proven to be beneficial and effective, as evidenced by the research findings. PBL focuses on the learning process itself by incorporating real-world issues and problems that are aligned with the school curriculum. This approach addresses various challenges that may arise during the learning process, such as lack of engagement, learning disabilities, language barriers, limited resources, and teacher-student relationships. Therefore, this research aimed to investigate perception of teachers regarding PBL and traditional method of teaching English at the junior high School level. The research design used was descriptive, and it involved data collection through interviews, as well as analysis. The data were gathered from various English teachers at different Junior High Schools in South Sumatra, with a total of 34 participants. A questionnaire was used to measure perception of teachers regarding both learning methods in teaching. The results showed a dominant preference for PBL as the selected method. Moreover, teachers also acknowledged a significant improvement in the learning outcomes of students. The contributions of PBL were twofold, 1) it promoted active learning by requiring students to take an active role during the learning process, and 2) it developed problem-solving skills by requiring the identification, analysis, and resolution of real-world problems.

Keywords: innovation classroom learning process, problem-based learning, project-based learning, traditional method

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1. Introduction

English skills are of paramount importance for students in higher education as language serves as a crucial medium for interaction and communication. It facilitates the effective expression of thoughts, ideas, concepts, and even emotions. Although English is often perceived merely as a means of conveying ideas, its significance extends far beyond that (Rabiah, 2012). In fact,

language forms the primary mode of communication, enabling the sharing and expression of thoughts and ideas with others (Aziza, 2020a). Given that English is globally recognized as the most widely spoken language, its significance cannot be undermined (Aziza, 2020). For graduates, proficiency in English skills becomes crucial as it enables effective written and verbal communication (Sofian Hadi and Izzah,

2018). It is essential to acknowledge that language proficiency is not limited to language majors but encompasses a broader range of disciplines in college education.

English, being an international language, is utilized by its users for international communication rather than being associated solely with its origin countries (Simamora et al., 2017). Therefore, it should be understood in terms of language skills. Both teachers and students play pivotal roles in ensuring the success of the language learning process (Arends & Kilcher, 2010).

During the process of teaching English, various challenges arise, including resource limitations, insufficient teacher training, and low students' motivation (Tella, 2007). The research conducted by Aldahmash and Alshumaimeri (2017) highlighted the common problem of students' motivation in learning, specifically among Saudi Arabian students who were learning English as a foreign language. The study identified various challenges that contributed to this issue, including limited exposure to authentic English, insufficient opportunities for practice, and a lack of motivation.

The two roles mentioned have a significant effect on the achievement of learning outcomes. According to Hadi & Izzah (2018), one crucial factor in improving the quality of education is enhancing the quality of teachers. Therefore, teachers play an important role in the lives of students by equipping with the necessary knowledge and skills for a successful future (Clement & Rencewigg, 2008). The use of effective teaching methods also greatly contributes to students' success and understanding of the learning material. Thus, the quality of a teacher is essential as it is closely tied to the quality of education (Alashwal, 2019). Consequently, teachers should employ a variety of teaching techniques or find

appropriate methods that effectively cater to the achievement of all students (Al-Rawi, 2013).

Currently, there is a continuous evolution of teaching methods aimed at improving educational practices. Segolsson & Hirsh (2019) emphasized the importance of learning from teaching professionals to expand our knowledge of effective teaching and ultimately enhance school and classroom outcomes. The advancements in communication technology, information technology, and educational technology have played a significant role in driving the exploration of new teaching methods, influencing the mindset of current generations. IT-based learning systems, as highlighted by (Dalia & Chowdhury, 2017), offer advanced ways to teach and learn that benefit both teachers and students. Governments and experts are continuously striving to discover ways and methods in order to improve the quality of education from year to year.

In general, teachers are well acquainted with the concept of student-centered learning methods. According to Erni (2012), Student-Centered Method (SCM) is a teaching technique that shifts the focus of activity from teachers to students. Bullard & Felder (2007) also defined SCM as encompassing active learning, collaborative learning, as well as inductive teaching and learning techniques. Therefore, applying the method to teaching is considered one of the effective ways to foster lifelong independent learners who take responsibility for their learning (Qutoshi & Poudel, 2014).

In Indonesia, there are currently two main methods of teaching namely traditional/conventional and problem-based learning (PBL). The traditional method, often referred to as the old method, involves a more dominant role for the teacher in the learning

process. Rather than facilitating knowledge distribution, the teacher focuses on repetition and memorization (Dimitrios et al., 2013). This approach prioritizes memorization over critical analysis in each learning session. On the other hand, PBL is a method that presents students with authentic and meaningful problem situations, serving as a basis for their investigation and inquiry (Aldarmahi, 2016; Silwana et al., 2021). PBL helps students develop independent learning, investigative, problem-solving, as well as behavioral and social skills.

Traditional education, which has persisted for over 600 years since the Middle Ages, has experienced minimal changes. However, the reliance on traditional teaching methods in the 21st century has proven to be ineffective (Serroukh & Serroukh, 2022). Recognizing the need for more effective learning approaches, educational methods have been continuously evolving. In this technologically advanced era, problem-based learning (PBL) has gained considerable relevance. According to Ebrahim et al. (2021), PBL not only enhances the quality of learning but also promotes higher-level cognitive development by engaging students in complex and novel problems. While traditional classroom instruction predominantly involves lectures, discussions, handouts, manuals, and transparencies, PBL has revolutionized modern education, particularly in schools (Munro, 2010). It embraces a problem-centered approach, using real-world problems as a focal point for the acquisition and integration of newly acquired knowledge (Barrett, 2017). PBL is an instructional strategy that encourages students to collaborate in solving problems and reflect on their experiences. The origins of PBL can be traced back to two significant developments in the past 25 years (Ebrahim et al., 2021).

A well-designed teaching and learning strategy plays a crucial role in mastering English language skills. Abulhul (2021) highlights that teaching methods that foster strong student-teacher connections can significantly enhance the learning experience. This approach not only boosts students' self-confidence but also stimulates their knowledge expansion and supports their overall learning journey. Additionally, it has a positive impact on instruction and contributes to the attainment of effective learning outcomes (Lito Mallillin, 2021). To achieve desired learning outcomes and objectives, instructional techniques and strategies are employed that actively engage students in the learning process (Lito Mallillin, 2021). The presence of clear learning objectives ensures that students are aware of what is expected from them. When the goal is to improve problem-solving, critical thinking, and reasoning abilities, it becomes necessary to move away from traditional teaching methods (Uworwabayeho, 2009).

PBL model has been recognized as an effective learning strategy evaluated for improving the problem-solving skills of students (Simamora et al., 2017). The role of teachers in implementing the method is crucial in enhancing learning outcomes (Nurtanto and Sofyan, 2015). Sabil et al. (2021) found that combining PBL with the Scaffolding technique yielded the best results compared to other learning models. On the other hand, Agustina et al. (2017) suggested that incorporating real-world issues in the learning design of PBL model could be achieved through the use of news from newspapers, YouTube, the internet, and television. Nurtanto, Sofyan, and Fawaid also emphasized the importance of integrating engineering problems into PBL classes through students' reading skills and

character development as examples of innovative learning practices in relevant areas of expertise. Simamora et al. (2017) outlined five phases of problem-based learning and they are summarized in Table 1.

Table 1. Syntax of Problem-Based Learning (PBL)

Phase	Teacher Activity
<i>Phase 1: Students should be given problem-solving orientation.</i>	The teacher discusses the instructional outcomes, describes students' understanding of diverse critical integrated logistics needs, and encourages them to participate in problem-solving activities
<i>Phase 2: Getting Students Ready for Research</i>	The teacher assists students in trying to define and organizing problem-related learning tasks.
<i>Phase 3: Contribute to independent and group studies</i>	The teacher motivates students to gather accurate information, perform experiments, and seek explanations and solutions
<i>Phase 4: Create, present, and serve treasures</i>	The teacher provides learners in designing and creating artifacts based on reports, to others. video recordings, and models, as well as assisting students in communicating students
<i>Phase 5: Analyze and evaluate the problem-solving process</i>	The teacher assists students in reflecting on their investigations and processes

How can teachers implement PBL? According to Abdalla & Gaffar (2011), the utilization of the method consists of three sessions, first, students are presented with a challenging problem, and they engage in group discussions to share the experiences and knowledge. Each group has assigned roles and responsibilities, including a group leader, and the session typically lasts 1-2 hours. Students are given several days to work on the problem independently under the guidance of teachers. The second session involves sharing the individual learning outcomes before they attempt to solve the problem. This session lasts approximately 1-2 hours, and at the end, students become more active thinkers, work collaboratively, take responsibility, explore information-gathering techniques, and receive feedback. In the third session, students present their findings to the group for discussion and feedback. They may also seek input from experts who were assigned to the problem earlier, and the session typically lasts between 1-2 hours. According to Schmidt (1983), it is advisable to strictly follow PBL and avoid using other

methods. The Maastricht PBL approach, commonly known as 7-jump approach, is often employed. It involves the following sequence, namely expressing concepts, describing the difficulty or problem, exploring or thinking critically, classifying information, formulating learning problems, self-directed learning, and engaging in discussion on new information.

On the other hand, traditional teaching referred to a face-to-face teaching method where instructors and students interacted in a classroom. Raja & Najmonnisa (2018) stated that traditional method, similar to traditional learning approaches, heavily relied on teacher instruction and limit students' participation opportunities. This method offers advantages, such as instant feedback, familiarization with both instructors and students, and the development of a social community (Dongsong, 2004; Fatma et al, 2020). However, it also has disadvantages, including teacher-centeredness, and constraints in time and space.

The instructors initiate classroom discussions and are solely focused on under-

standing the content from textbooks and notes in traditional learning methods (Li, 2016). McCarthy & Anderson (2000) also mentioned that students passively received information and simply repeated memorized facts in assessments. Adijaya et al. (2021) further found in their research that teachers rarely incorporated media into their teaching due to various factors. At every meeting, teachers did not use any media as they were always focused on covering the topics. However, it is worth noting that using media can greatly help students comprehend the subject.

Teaching English can still be quite perplexing, specifically for school teachers. There are differing perceptions regarding the implemented teaching methods (Kultsum et al., 2022). Firstly, there has been a paradigm shift in learning theory, where learning is now seen as a social activity that occurs within the culture, community, and previous experiences. Despite this scenario, some teachers still adhered to the cultural practice of using traditional method. This is the reason the government decided to implement problem-based learning methods. Based on these discussions, this current research aims to examine the perception of English teachers related to learning methods using traditional and PBL methods.

2. Method

This research employed a descriptive qualitative method to explore the perception of English teachers in implementing traditional and PBL methods in schools. According to Braun et al. (2019), a descriptive research referred to a research design that aimed to provide a comprehensive and accurate description of a particular phenomenon or event. Purposive random sampling was used to select the participants, who were English teachers from

various schools. The sample was selected randomly as a data collection technique. The selected teachers were those who had recently participated in the Teacher Professional Education Program, ensuring that all participants held permanent teaching positions and had at least five years of teaching experience. During the interviews, teachers were asked several questions regarding the implementation of teaching English using PBL and traditional method. The questions included 1) Which teaching method did you think was currently more effective, PBL or traditional method? 2) What were your reasons for implementing each of these methods? 3) What impacts did you observe from applying these learning methods? Consequently, the data collected from the questionnaires and interviews were analyzed.

Data were collected through two methods, namely questionnaires and interviews, and then organized, scored, and statistically analyzed. Statistical Package for Social Sciences (SPSS) was utilized to analyze the data and determine perception of teachers regarding the English teaching methods employed. Descriptive statistics, such as mean, median, mode, standard deviation, and variance were generated by SPSS based on the data set. Notably, additional questions were further asked during the interviews.

In order to collect data, a questionnaire was used as the research instrument. The perspectives of English teachers on the implementation of traditional method and PBL were examined through 12 questions. The questionnaires were adapted from Ebrahim et al. (2021) and described below:

1. PBL enhanced understanding of a subject more than traditional method.

2. PBL facilitated a better understanding of English subjects compared to traditional teaching methods.
3. PBL instilled greater confidence in drawing conclusions among learners than the traditional.
4. PBL was more effective than the traditional method for information search.
5. PBL enhanced scientific thinking and problem-solving abilities more effectively than traditional classroom instruction.
6. PBL promoted a cooperative learning environment more than traditional method fostering competition among students.
7. PBL did not significantly contribute to the intellectual or cultural maturity of students.
8. PBL improved communication skills more than traditional method.
9. PBL reduced the role of teachers in the educational process.
10. Learning served as a greater motivator for teaching English materials compared to attending lectures.
11. PBL facilities provided continuous updates, enabling students to stay current with the advancements in their field of expertise more than traditional learning methods reliant on books.
12. PBL proved to be more effective than traditional learning methods such as textbooks and teacher-centered approaches.

These 12 questions were used as the questionnaire instrument, and they included five answer choices, namely strongly agree, agree, neutral, disagree, and strongly disagree. Furthermore, the outcomes were interpreted using a Likert scale.

Table 2. Responses to Teachers' Questionnaire Score

Scale	Score
Strongly Agree (SA)	5
Agree(A)	4
Neutral (N)	3
Disagree (D)	2
Strongly Disagree (SD)	1

Based on the questionnaire, participants were expected to select a degree for each category. Once the surveys were returned, they were analyzed to determine the results. The categorization was then assessed based on the percentages of the responses of teachers. The questionnaire produced five categories for data classification, including strongly agree, agree, neutral, disagree, and strongly disagree. The percentage ranges for each category were adopted from Wenny, Parenreng, and Suhartono (2022). For example, the category of strongly agrees corresponded to a percentage range of 81%-100%. Meanwhile, the category of agree, neutral, disagree, and strongly disagree spanned the percentage ranges of 61%-80%, 41%-60%, 21%-40%, and 0%-20%, respectively.

3. Result and Discussion

a. Perception of Teachers Regarding the Implementation of PBL and Traditional Methods

The results of the responses given by teacher were shown in Table 3. A total of 12 questionnaires were distributed to assess the responses of school English teachers regarding the implementation, preference, and perception of teaching practices using PBL or traditional method. Each question provided five choices to determine the preferred method by teachers.

Table 3. Percentage of Teachers' Perception to the Problem-Based Learning and Traditional Based Learning

Question	Percentage				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. PBL is more effective than traditional method such as educational books and teachers.	27.78%	63.89%	8.33%	0.00%	0.00%
2. PBL improves understanding of a subject more than traditional method.	33.33%	63.89%	2.78%	0.00%	0.00%
3. PBL makes English subjects easier to understand than traditional method.	33.33%	55.56%	8.33%	2.78%	0.00%
4. PBL gives students more confidence in drawing conclusions than traditional method.	30.56%	66.67%	2.78%	0.00%	0.00%
5. PBL is more effective than the traditional method for searching for information.	33.33%	61.11%	5.56%	0.00%	0.00%
6. PBL strengthens my scientific thinking and problem-solving abilities more than traditional classroom instruction.	25.00%	72.22%	2.78%	0.00%	0.00%
7. PBL promotes a cooperative learning environment more than traditional method of competition among students.	41.67%	52.78%	5.56%	0.00%	0.00%
8. PBL does not improve students' intellectual or cultural maturity.	0.00%	11.11%	8.33%	63.89%	16.67%
9. PBL improves students' communication skills more than traditional method.	38.89%	50.00%	11.11%	0.00%	0.00%
10. The role of teachers in the educational process is reduced by PBL.	2.78%	58.33%	16.67%	19.44%	2.78%
11. More than attending lectures, PBL motivates me to continue teaching English materials.	13.89%	75.00%	11.11%	0.00%	0.00%
12. PBL facilities consistently provide me with updated information, enabling me to stay abreast of the latest advancements and experiences in my experimental discipline, rather than relying solely on traditional learning methods such as books.	27.78%	63.89%	8.33%	0.00%	0.00%

Each questionnaire statement sought perceptions on the preferred teaching method, the perceived improvement resulting from the application of each method, and perception of teachers regarding the implementation of PBL and traditional method. Table 3 showed that the highest percentage for each question was in the agreed category, followed by strongly agree. About 11 questions were answered by

over 50% of English teachers in the agree option. However, 1 question had a disagree response rate of 63.89%. This could be attributed to the form of the question stating that PBL did not increase the intellectual and cultural maturity of students. Therefore, it was concluded that the majority of school English teachers considered PBL to promote intellectual and cultural maturity.

Approximately 2.78% of teachers strongly disagreed that PBL made learning easier to understand than traditional method. Furthermore, 19.44% of the questionnaire responses indicated disagreement with the notion that the role of teachers was enhanced during the teaching process when using the method. These percentages had minimal effect on the overall preference of teachers for this type of learning approach. There were also neutral responses to each questionnaire item, accounting for no more than 17% of English teachers. The dominant neutral response was observed in the statement that PBL improved communication skills more than traditional method. This was followed by the statement that it motivated teachers to continue

teaching English materials rather than attending lectures, with a neutral response rate of 11.11%. Regarding the statement that PBL reduced the role of teachers in the educational process, 16.67% teachers selected the neutral option.

b. Perception Percentage Distribution of Teachers and Implementation of Problem-Based Learning Method

The following presented the frequency levels of teachers implementing PBL in their teaching. Three frequency levels were identified, namely low, medium, and high. Table 4 provided a detailed explanation of these levels.

Table 4. Percentage Distribution of Teachers' Perception to the Implementation of Problem-Based Learning Method

<i>Question</i>	<i>Teachers Perception</i>		
	<i>Low</i>	<i>Medium</i>	<i>High</i>
1. PBL is more effective than traditional method such as educational books and teachers.	0.00%	8.33%	91.67%
2. PBL improves understanding of a subject more than traditional method.	0.00%	2.78%	97.22%
3. PBL makes English subjects easier to understand than traditional method.	2.78%	8.33%	88.89%
4. PBL gives students more confidence in drawing conclusions than traditional method.	0.00%	2.78%	97.22%
5. PBL is more effective than traditional method for searching for information.	0.00%	5.56%	94.44%
6. PBL strengthens my scientific thinking and problem-solving abilities more than traditional classroom instruction.	0.00%	2.78%	97.22%
7. PBL promotes a cooperative learning environment more than traditional method of competition among students.	0.00%	5.56%	94.44%
8. PBL does not improve students' intellectual or cultural maturity.	80.56%	8.33%	11.11%
9. PBL improves students' communication skills more than traditional method.	0.00%	11.11%	88.89%
10. The role of teachers in the educational process is reduced by PBL.	22.22%	16.67%	61.11%
11. More than attending lectures, PBL motivates me to continue teaching English materials.	0.00%	11.11%	88.89%
12. PBL facilities consistently provide me with updated information, enabling me to stay abreast of the latest advancements and experiences in my experimental discipline, rather than relying solely on traditional learning methods such as books..	0.00%	8.33%	91.67%

Table 4 showed that English teachers predominantly utilized PBL at a high-frequency level in their teaching practices. It was evident that the percentage of responses for each questionnaire item exceeded 80% at the high level, with the exception of the question concerning the role of teachers in the educational process being reduced by PBL, receiving a 61.11% response at the high level. This suggested that the question carried an opposite meaning. It was concluded that the application of PBL did not diminish the role of teachers.

Furthermore, 80% of teachers at the low level indicated that PBL did not improve the intellectual abilities of students. This implied that the majority of teachers disagreed with this perception. The frequency results showed the existence of a medium category in the response of teachers to PBL. However, the percentage of responses at the medium level was not high, accounting for less than 17%. Three statements received medium-level responses from English teachers, namely 1) PBL improved the communication skills of students more than traditional method, 2) the role of English teachers in the educational process was reduced by PBL. 3) The learning motivated teachers to continue teaching English materials more than attending lectures.

c. Perception of Teachers and PBL Implementation through Interview

The following were the results of interviews conducted between the investigator and some teachers.

Question 1 : *Which teaching method do you think is currently effective between PBL or traditional method?*

Teacher 1: I prefer to implement PBL during my teaching.

Teacher 2: I sometimes combine or use the two methods interchangeably.

Teacher 3: I have been using PBL in my teaching method for many years.

Question 2: *What are your reasons for implementing each of these methods?*

Teacher 1: I prefer PBL because it enhances motivation and involvement among my students, and also promotes long-term knowledge retention.

Teacher 2: I believe that not all subjects or practices are suitable for PBL, and it requires extensive preparation and planning.

Teacher 3: In my opinion, it has proven to be effective in certain contexts, particularly for teaching foundational subjects such as mathematics and science subject.

Question 3 : *What impact do you perceive from applying the learning method?*

Teacher 1: Compared to traditional teaching method, PBL is more engaging and motivating. It allows students to apply what they learn in real-world situations, making their learning more meaningful and applicable to their daily lives.

Teacher 2: I have observed a significant positive impact on my students through the application of PBL, and I believe using this method has made me a more qualified teacher.

Teacher 3: Implementing PBL method helps students retain information and knowledge for a longer duration.

The results showed that students tended to enjoy the implementation of PBL in the classroom. The research of Sekarwangi et al. (2021) also supported the enthusiasm of students toward the method. In addition, both students and teachers showed positive behaviors, such as regular studying and active participation because of the method (Ijirana et al, 2021; Wijnen et al., 2017). This was evident from the results of the percentage, which consistently averaged over 80%. Other research also reached similar conclusions, with teachers preferring PBL

over traditional method. Sekarwangi et al. (2021) emphasized the importance of multimedia technology in PBL for successful learning activities. Hadi & Izzah (2018) found that the English language skills of students significantly improved when the method was implemented, thereby enhancing the overall learning process. Based on this discussion, the use of PBL was seen as beneficial in improving English comprehension of students.

According to Sabil et al. (2021), problem-based learning (PBL) has been found to yield superior outcomes when compared to other learning models.

Based on an interpretation, these results showed that the technology has a good impact on education, hence, most English teachers implemented it in their teaching practices. Jansen & van der Merwe (2015) suggested that some students lacked an attraction for digital technologies and required continuous guidance from teachers to effectively integrate them into their lessons. Allison (2022) argued that implementing assistive technologies in educational processes produced significant benefits compared to when not implemented. This is because most teachers understood and were familiar with applying technology to support teaching activities. Wright and Wilson (2011) concluded that the integration of ICT was widely promoted as a strategy to improve teaching and learning.

In addition, the samples were collected from teachers who had previously implemented student-centered learning, establishing a familiarity with the application of PBL that prioritized students' involvement. According to Ali (2019), PBL was a student-centered instructional approach, aiming to develop problem-solving skills as a lifelong habit through self-directed learning. It focused on problem-

solving and also fostered the development of other attributes and skills in students. Being a self-directed learning disposition, PBL engaged students in active learning strategies.

The results of the questionnaires and interviews also showed that only a few teachers apply traditional-based teaching methods based on the material and class being taught. Overall, the successful implementation of traditional teaching methods hinged on organization, engagement, and responsiveness to the needs of students. Teachers who were responsive to the needs of students could create a positive learning environment. By providing timely feedback, offering additional support to struggling students, and adapting their teaching to meet individual needs, teachers could enhance learning outcomes. Wang et al (2020) also found that students' engagement played a pivotal role in the effectiveness of traditional teaching methods. Teachers who employed interactive teaching strategies and promoted active student participation could boost students' motivation and improve learning outcomes.

Klug et al. (2014) emphasized the significance of classroom management and its long-term impact on continuous learning. Furthermore, Habók & Nagy (2016) claimed that planning and implementing a project required considerable time and meticulous attention to detail.

The interpretation also highlighted that most teachers understood and were accustomed to the technological advancement of the 21st century, as daily activities often involved the use of technology. This made English teachers adept at providing innovative learning materials and methods. Handayani (2022) stated the need for teachers to be prepared and responsive to the educational challenges

of the 21st century, where education evolved due to a significant technological revolution, with students and teachers being digital natives and immigrants, respectively. Teachers had to adapt to this change by familiarizing with information about 21st-century education. Habók & Nagy (2016) further stressed the importance of innovative learning for a successful education, with ICT serving as a supporting factor in the success of PBL. The sample consisted of young and highly motivated teachers who aimed to optimize the teaching process. Motivational factors and professional development through in-service teacher education were essential methods for improving educational quality (Nauman Ahmed et al., 2021). In addition, teachers had to strive to optimize their performance while fulfilling their tasks. The motivation of teachers was related to the challenging and complex responsibilities of achieving educational objectives. High ideals stimulated teacher activities, and lack of motivation could hinder the effectiveness of educators. Utomo (2018) identified the factors affecting the motivation of teachers as personal requirements, the need for pleasure, and the workplace. Consequently, the questionnaire results significantly showed that English teachers, who were accustomed to using technology in their teaching activities, favored PBL. According to Anggeraini (2018), interactive teaching was a crucial pedagogical practice, emphasizing interaction, communication, and consultation between teachers and students, as well as a positive atmosphere in the education and learning process. Liana & Nursuhud (2020) suggested that the use of interactive multimedia could improve the critical thinking skills of students. Electric interactive multimedia, developed based on PBL, served as a complementary tool in the learning process. The use of devices in

education could be combined with student-centered learning approaches, HOTS-oriented learning models, and interesting learning methods.

In addition, Sabzian et al. (2013) described the inseparable connection between technology and methods, indicating that PBL required the use of technology in the learning process. Williams et al. (2008) argued that teachers should incorporate technologies identified as important and appropriate methodologies in their teaching. PBL offered a variety of advantages to technology education. According to Sabzian et al. (2013), the optimal implementation occurred when both constructivist theory and technology were effectively integrated in classrooms because it enabled teachers to design a student-centered teaching model that met the need of students. De Simone (2014) concluded that PBL was an educational approach capable of allowing teachers to meet the requirements of the 21st-century education system.

Based on the questionnaire results, 97% of teachers agreed that PBL enhanced the scientific thinking and problem-solving abilities of students more than traditional method. This aligned with the discovery of Okoye et al. (2019) that effective implementation of PBL led to the development of problem-solving skills, higher-order abilities, and a more positive attitude toward learning. Additionally, the highest percentage of respondents agreed that teaching using PBL was more effective than traditional method. This finding was also supported by the discovery of Ringotama et al. (2022), which showed the positive impact of the method on the performance of students. Ribeiro (2011) further concluded that PBL facilitated the advancement of teachers in their instructional knowledge, particularly in

understanding students' knowledge, reasoning mode, and interests.

4. Conclusion

In conclusion, problem-based learning (PBL) has demonstrated a positive impact on students' performance, as revealed by the investigation. The majority of students had a positive overall perception of PBL compared to the traditional approach. Significant differences were observed in the use of PBL as it enhanced the learning process and encouraged active student participation. Students exhibited enthusiasm in following the guidance provided during the learning activities. However, the study also highlighted the need for further validation approaches to assess the use of PBL in improving clinical reasoning and problem-solving skills.

It is recommended to conduct additional research that focuses on both PBL and traditional methods among English school teachers to identify areas that require improvement. These areas include time management, teaching readiness, technical support, and the provision of appropriate materials to address the specific needs of students. Additionally, exploring additional information and explanations about PBL is necessary. The integration of problem-solving, critical thinking, collaboration, and the development of transferable skills through PBL creates a more meaningful, engaging, and relevant learning experience in the classroom. These contributions are vital in helping students succeed in their academic and professional pursuits in the future.

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