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## Developing Students' Critical Thinking through Problem-Based Learning in English Class at SMK Putera Puteri Cendekia

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### ABSTRAK

Penelitian ini mengeksplorasi implementasi Problem-Based Learning (PBL) dalam pengajaran bahasa Inggris dan kontribusinya dalam mengembangkan kemampuan berpikir kritis siswa di SMK Putera Puteri Cendekia. Karena pendidikan kejuruan semakin menekankan kompetensi abad ke-21, berpikir kritis menjadi penting untuk mempersiapkan siswa menghadapi tantangan dunia nyata. PBL memberikan pendekatan yang berpusat pada siswa di mana siswa terlibat dengan masalah kontekstual melalui penyelidikan, kolaborasi kelompok, dan refleksi. Penelitian ini menggunakan metode deskriptif kualitatif, yang melibatkan satu guru bahasa Inggris dan siswa kelas XI. Data dikumpulkan melalui observasi kelas, wawancara, dan catatan lapangan untuk menangkap dinamika PBL dalam praktiknya. Hasil penelitian menunjukkan bahwa siswa secara aktif berpartisipasi dalam menganalisis masalah, menyusun argumen, dan menyajikan solusi yang logis. Guru memainkan peran penting sebagai fasilitator dan rekan peneliti selama proses berlangsung. Meskipun ada beberapa tantangan, termasuk waktu yang terbatas dan kemampuan bahasa Inggris yang berbeda-beda di antara para siswa, implementasi PBL menumbuhkan lingkungan yang mendukung dan menarik. Secara keseluruhan, PBL terbukti menjadi strategi yang efektif untuk meningkatkan pemikiran kritis dalam pengajaran bahasa Inggris di sekolah kejuruan.

**Kata Kunci:** *Problem Based Learning, berpikir kritis, pengajaran bahasa Inggris, siswa SMK, keterampilan abad ke-21*

## ABSTRACT

*This study explores the implementation of Problem-Based Learning (PBL) in English language teaching and its contribution to developing students' critical thinking skills at SMK Putera Puteri Cendekia. As vocational education increasingly emphasizes 21st-century competencies, critical thinking has become essential for preparing students to face real-world challenges. PBL provides a student-centered approach where learners engage with contextual problems through inquiry, group collaboration, and reflection. This research employed a qualitative descriptive method, involving one English teacher and Grade XI students. Data were collected through classroom observations, interviews, and field notes to capture the dynamics of PBL in practice. The results indicated that students actively participated in analyzing issues, constructing arguments, and presenting logical solutions. The teacher played a crucial role as a facilitator and co-investigator throughout the process. Despite several challenges, including limited time and varying English proficiency among students, the implementation of PBL fostered a supportive and engaging environment. Overall, PBL proved to be an effective strategy to enhance critical thinking in English language teaching within vocational school settings.*

**Keywords:** Problem-Based Learning, Critical Thinking, English Teaching, Vocational Students, 21st-Century Skills

## INTRODUCTION

The world has entered the 21st century, marked by the emergence of the Industrial Revolution 4.0. This era is characterized by the integration of information technology, artificial intelligence, and the Internet of Things (IoT) into almost all aspects of human life. In this context, the main challenge of education is how to prepare human resources who not only have academic knowledge, but also multidisciplinary skills to be able to compete globally (Priantari et al., 2020). The Industrial Revolution 4.0 also gave birth to a new phase in the world of education known as Education 4.0, namely an education model that integrates digital technology into the learning process, allowing the learning process to take place flexibly without time and place constraints. However, if education only focuses on cognitive aspects without paying attention to the development of thinking skills and attitudes, then the graduates produced will have difficulty adapting to the demands of the times. Therefore, today's education is required to not only develop knowledge, but also foster critical thinking skills as part of essential soft skills in this century (Wegner, 2008).

Critical thinking is an individual's ability to obtain, evaluate, and analyze information, and make decisions that can be logically accounted for (Tinio, 2003 in Fakhriyah, 2014). This ability does not grow automatically, but must be trained continuously through a supportive learning environment. In the context of learning in high school, especially in English subjects, this ability is still not the main focus. English learning is still dominated by memorization and mastery of grammar, while high-level cognitive aspects such as critical thinking and problem solving do not receive adequate portions.

To answer these challenges, teachers need to create learning situations that can stimulate students' critical thinking skills. One approach that is believed to be effective for this purpose is Problem-Based Learning (PBL). This learning model places students in real problem-solving situations as a starting point for learning. Through this process, students are trained to explore information, analyze situations, collaborate in groups, and communicate rational solutions (Duche et al., 2001). PBL allows for a paradigm shift from teacher-centered learning to student-centered learning (Yazidi, 2014), so that students are encouraged to build their own knowledge based on the experiences and data they find. Various studies have been conducted to examine the effectiveness of the PBL model in improving students' critical thinking skills. Sastrawati et al. (2011), Anggara et al. (2013), Lukitasari (2013), Nurhayati (2014), and Fakhriyah (2014) reported that the implementation of PBL generally resulted in a significant increase in students' critical thinking skills at various levels and subjects. In English learning, Emiliasari et al. (2019) showed that PBL is able to develop critical thinking skills through stages such as problem identification, group discussion, information search, and solution presentation.

In addition, the process of implementing PBL is also not free from challenges, both from the teacher and student side. Limited learning time, the teacher's role changing from instructor to facilitator, and students' ability to understand the material and express opinions in English are obstacles that are often faced in practice. Therefore, a deeper understanding of the implementation of PBL in English learning in vocational schools, as well as the strategies used by teachers to overcome these obstacles, is important to explore.

Through an understanding of the dynamics of learning, student responses, and teacher practices in the field, it is hoped that this research can contribute to efforts to develop English learning that is not only communicative, but also builds critical thinking patterns needed by vocational high school students to face the challenges of the world of work and real life more adaptively.

## **RESEARCH METHODOLOGY**

This study employed a qualitative descriptive approach to explore the implementation of Problem-Based Learning (PBL) in English classes and its contribution to developing students' critical thinking skills. This approach was chosen because it enables contextual understanding of classroom dynamics, including teacher roles, student responses, challenges, and critical thinking indicators (Nassaji, 2015). The research was conducted at SMK Putera Puteri Cendekia, involving one English teacher and Grade XI students selected purposively. Data were collected through classroom observations, semi-structured interviews, and field notes. The implementation of PBL was observed based on Tan's (2003) framework: meeting the problem, analyzing learning issues, discovery, solution presentation, and reflection. The researcher also used critical thinking indicators adapted from Ennis (1991), including elementary clarification, basic support, inference, advanced clarification, and strategy and tactics. Data were analyzed thematically using Miles and Huberman's (1994) interactive model data reduction, data display, and conclusion drawing—while data credibility was ensured through triangulation and member checking.

## FINDINGS AND DISCUSSIONS

This study aimed to describe the implementation of Problem-Based Learning (PBL) in English language teaching at SMK Putera Puteri Cendekia and its contribution to developing students' critical thinking skills. Based on classroom observation and teacher interviews, four major themes emerged: (1) the implementation of PBL, (2) the teacher's role as facilitator, (3) challenges in implementation, and (4) the impact of PBL on students' critical thinking.

### 1. Implementation of PBL in English Language Teaching

This study found that the implementation of Problem-Based Learning (PBL) in the English class at SMK Putera Puteri Cendekia followed structured and student-centered learning stages. The teacher initiated the process by presenting a contextual and open-ended problem, designed to be relevant to the students' real-life experiences. One of the observed examples included topics such as the negative influence of excessive social media use on academic motivation, which served as a stimulus for student discussion and inquiry. The teacher emphasized the importance of giving students autonomy in responding to problems, as long as their reasoning was logical and accountable. She explained:

*"I give them the freedom to respond in their own way, as long as their answers make sense and can be logically justified."*

This approach reflects the principle of student agency in PBL, where learners are encouraged to construct meaning through active engagement with the problem. Students were divided into small collaborative groups, where they analyzed the issue, searched for supporting information, and prepared their arguments. This classroom practice aligned with the five stages of PBL as proposed by Tan (2003): meeting the problem, analyzing learning issues, discovery and reporting, solution presentation, and reflection.

Classroom observations showed that students were actively involved in problem-solving activities. They utilized online sources, shared personal opinions, asked each other questions, and discussed different perspectives before presenting their group findings. The teacher supported them by guiding discussions, prompting deeper inquiry, and providing clarification when necessary.

These findings support Hmelo-Silver (2004), who highlighted that PBL fosters active learning and critical thinking by engaging students in authentic, collaborative problem-solving tasks. Moreover, Rahmawati and Cahyono (2022), Wulandari and Hidayati (2022), and Nugroho and Yuliani (2020) have affirmed that when learning is connected to students' real-world context, it leads to increased engagement and deeper understanding – two essential elements in critical thinking development.

### 2. The Role of the Teacher as Facilitator and Co Investigator

In the context of Problem-Based Learning (PBL), the teacher at SMK Putera Puteri Cendekia adopted a dynamic role that shifted from traditional instructor to a learning facilitator. Rather than delivering lengthy explanations, the teacher created opportunities for students to explore, question, and reflect on real-life problems using English as a medium of communication. She explained:

*"I no longer give long explanations. Instead, I support their thinking process and step in when they get stuck."*

This statement illustrates the shift from a teacher-centered to a learner-centered paradigm, where the teacher serves as a *cognitive coach*, a role emphasized by Barrows (1996) and further developed in Torp and Sage's (2002) framework. In this study, the teacher provided contextual problems, guided students during exploration, and clarified misconceptions without dictating answers.

In addition, the teacher offered strategic scaffolding to support students' English communication. She prepared vocabulary lists and model sentence structures, which students could use during group discussions and presentations. This type of linguistic support aligns with Vygotsky's (1978) sociocultural theory, particularly the concept of the *Zone of Proximal Development*, where learners benefit from temporary guidance to perform beyond their current ability.

The teacher also noted a change in classroom dynamics:

*"Students are more confident to speak up when I let them take control. They feel safer to ask questions and even to challenge each other's opinions."*

This environment fostered mutual respect and intellectual risk-taking—two critical conditions for developing critical thinking. Amalia and Sumarsono (2020) emphasize that effective scaffolding not only improves language performance but also builds learner autonomy and confidence in EFL PBL contexts.

The findings demonstrate that the teacher's role was not passive, but highly responsive to students' cognitive and emotional needs. By acting as a facilitator, co-investigator, and language mentor, the teacher created a space where students were both supported and challenged to grow as independent thinkers.

### 3. Challenges in Implementing PBL

While the implementation of Problem-Based Learning (PBL) showed promising outcomes, several challenges emerged during the teaching process, particularly in the vocational school context. These challenges centered on time constraints, language proficiency, and varied levels of student motivation.

The teacher identified time management as a major concern. Discussions and presentations often extended beyond the allocated lesson time, especially when students required more support during group work or took longer to gather information. She explained:

*"Sometimes we can't finish all the group presentations in one session. I often have to divide the topic into two meetings to avoid rushing the students."*

This aligns with Fakhriyah (2014) and Yusuf et al. (2020), who noted that PBL requires flexible scheduling and careful time allocation, particularly when learners are engaged in deep inquiry. Dewi and Marlina (2021) also emphasized that time flexibility is essential for maximizing student engagement and achieving meaningful learning outcomes in PBL environments.

A second major challenge was students' English proficiency, particularly in speaking and expressing complex ideas. Although many students understood the problem, they often struggled to articulate their thoughts in English. To address this, the teacher emphasized the importance of process over product in assessment. She stated:

*"What I evaluate is not just their English, but how they think and communicate their reasoning, even if they mix languages."*

This strategy reflects a formative assessment approach that values critical thinking and collaboration over linguistic accuracy. As Masek and Yamin (2011) noted, students' ability to express reasoning even in partial English is a valuable step toward developing both language and higher-order thinking skills.

Another challenge was inconsistent student motivation. Some students actively engaged with the tasks, while others remained hesitant due to low confidence or fear of making mistakes. The teacher observed that repeated exposure to collaborative tasks and encouragement to speak freely improved students' participation over time. This is consistent with research by Handayani and Fitriana (2023), who found that student confidence in PBL grows through supportive peer interaction and teacher guidance.

Furthermore, Putri et al. (2022) suggested that embedding motivational strategies in PBL design, such as giving students real choice, meaningful tasks, and roles within the group can foster sustained engagement, especially in EFL settings.

These findings indicate that while PBL is a powerful method for developing critical thinking, its success depends heavily on practical considerations such as lesson pacing, language scaffolding, and motivational support.

#### 4. Impact of PBL on Students' Critical Thinking Skills

The implementation of Problem-Based Learning (PBL) in the English classroom at SMK Putera Puteri Cendekia significantly contributed to the development of students' critical thinking skills. Throughout the learning process, students demonstrated various levels of reasoning, analysis, and reflection abilities that are central to critical thinking as conceptualized by Ennis (1991).

Classroom observations and teacher interviews revealed that students began to engage in thoughtful questioning, construct logical arguments, and propose creative solutions to real-world issues. The teacher noted:

*"I saw students begin to express opinions, challenge each other's ideas, and provide reasons for their answers. Some even came up with alternative solutions I hadn't thought of. They're starting to think more broadly."*

These behaviors correspond to the five indicators of critical thinking according to Ennis (1991):

1. Elementary Clarification

Students demonstrated the ability to restate problems in their own words and clarify key terms. For instance, when discussing the effects of social media, students reformulated the issue by identifying underlying causes such as peer pressure and screen addiction.

2. Basic Support

During group discussions, students provided supporting information from online articles, personal experiences, or class materials. They also questioned the reliability of sources, demonstrating evaluative thinking.

3. Inference

Students drew logical conclusions based on evidence. In one case, after researching the causes of cyberbullying, a group concluded that school-based digital campaigns could reduce harmful behaviors, based on patterns they observed in peer interactions.

4. Advanced Clarification

Students evaluated multiple solutions, weighing their pros and cons. They debated whether limiting screen time or promoting digital literacy would be more effective in solving the problem, showing an ability to assess assumptions critically.

#### 5. Strategy and Tactics

Finally, students proposed actionable plans, such as designing posters, starting peer-awareness campaigns, or using Instagram reels to spread positive messages. These solutions illustrated their capacity to apply reasoning in real-world contexts.

These findings affirm that PBL not only enhances students' content understanding but also cultivates higher-order thinking, as supported by Duch et al. (2001) and Bassham et al. (2010). Students are no longer passive recipients of knowledge but active participants in constructing meaning.

Moreover, recent studies (Sari & Prasetyo, 2021; Wulandari & Hidayati, 2022; Aisyah & Herlina, 2023) show that PBL strengthens students' ability to evaluate, argue, and make informed decisions key competencies in both academic and vocational settings. Rahmawati and Cahyono (2022) further emphasize that metacognitive awareness is often developed alongside critical thinking when PBL is implemented with consistent teacher support.

Overall, the data suggest that with well-designed tasks, ongoing guidance, and a supportive classroom environment, PBL can serve as an effective pedagogical model to foster critical thinking in English language learning at vocational schools.

### CONCLUSION

This study examined the implementation of Problem-Based Learning (PBL) in English language teaching at SMK Putera Puteri Cendekia and its role in fostering students' critical thinking. The findings showed that PBL was effectively applied through contextual problems that stimulated both cognitive and emotional engagement. The learning process followed structured phases and encouraged active participation and collaboration. The teacher acted as a facilitator and co-investigator, supporting students' thinking through scaffolding, especially in language use. Although challenges such as time constraints, language proficiency, and varying motivation were present, the teacher managed them by adjusting instruction and focusing on students' reasoning rather than language accuracy. Students showed significant improvement in clarifying problems, evaluating information, making logical inferences, and proposing solutions. They also gained confidence in expressing and defending their ideas. In conclusion, PBL is a suitable and impactful strategy for developing critical thinking in vocational English education when supported by consistent guidance and relevant, real-world problem design.

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