Analysis Of Obstacles In Problem-Based Learning On The Development Of Students Critical Thinking Skills At SMA Negeri 7 Bone

Nuraeni Mansur[1*], Supriadi Torro[2], A. Octamaya Tenri Awaru[3], Najamuddin[4]

[1,2,3,4]Pendidikan Ilmu Pengetahuan Sosial, Program Pascasarjana,
Universitas Negeri Makassar, Indonesia.
[*] Corresponding author:
Email: nuraenimansur97@gmail.com

Abstract.

This study examines the obstacles in implementing the Problem Based Learning (PBL) model to improve students' critical thinking skills at SMA Negeri 7 Bone. The main challenges identified are limited learning resources, low student literacy, and high levels of student demotivation. Data were collected through interviews with teachers and analyzed using qualitative methods. The findings reveal that insufficient textbooks, weak internet access, and a lack of digital media hinder students' independent exploration and active participation. Low literacy skills reduce students' ability to analyze and understand information, while demotivation limits their engagement in learning activities. These factors collectively obstruct the development of critical thinking as intended by the PBL model. Addressing these issues requires a holistic approach involving improved learning resources, literacy programs, and motivational support to create an effective and active learning environment.

Keywords: *Problem Based Learning, Critical Thinking, Learning Resources, Student Literacy, Student Motivation.*

I. INTRODUCTION

Critical thinking ability is one of the crucial skills required to face the challenges of the 21st century[1]. Students who possess critical thinking skills can effectively solve problems, make decisions, and comprehend information deeply. However, in reality, many students still demonstrate low levels of critical thinking ability. This is reflected in evaluation results indicating that a significant number of students are unable to analyze, evaluate, or synthesize information deeply. One of the main causes is the continued use of traditional, teacher-centered learning approaches, where students primarily receive information passively without active engagement in the thinking process[2].According to Glaser, critical thinking involves three essential aspects: (1) an attitude of open-mindedness toward various problems and experiences, (2) mastery of logical and rational thinking methods, and (3) the ability to apply these methods in real-life situations[3]. Thus, critical thinking skills do not emerge automatically but must be developed through a specifically designed learning process. One of the approaches assumed to help improve the critical thinking skills of students at SMA Negeri 7 Bone is problem-based learning. This model begins by engaging students in solving real-world problems that have been predetermined or mutually agreed upon. The problem-solving process is expected to develop students' critical thinking and problem-solving skills, while simultaneously constructing new knowledge[4].The problem-based learning (PBL) model is considered one of the effective approaches to enhancing students' critical thinking skills.

Research by Lapuz and Fulgencio indicates that the implementation of PBL can encourage students to be more active, think reflectively, and engage directly in problem-solving activities[5]. In line with this, Suhirman explain that PBL has a positive impact on students' thinking processes, particularly in skills related to analysis, synthesis, and information evaluation[6]. Surur, also emphasize that PBL promotes learning independence and helps students construct knowledge through real-life experiences[7].In addition, the results of observations revealed that students were also less capable of posing questions and responding to the material being studied, which may indicate a low level of student engagement in the learning process and a lack of curiosity a fundamental element in the development of critical thinking. It was also found that most students demonstrated limited ability in expressing arguments or opinions and in solving problems, highlighting the need for improvements in instructional strategies to involve students more actively in discussions and problem-solving exercises that require them to think critically and creatively. To address the issue of students' limited critical thinking skills, an effective learning model is required.

Problem-based learning is an instructional model in which students learn critical thinking and problem-solving skills within the context of real-world situations while acquiring fundamental knowledge and understanding of the subject matter[8]. A similar opinion was conveyed by Smith, who stated that problem-based learning is an instructional model that presents various real-world problems for students to use as sources and tools for learning, aiming to provide experiences that enhance critical thinking abilities, problem-solving skills, and competencies without disregarding the knowledge or concepts that are the primary objectives of instruction[9]. Problem-based learning is considered one of the effective models for improving students' critical thinking skills. This model incorporates real-life issues and provides opportunities for students at SMA Negeri 7 Bone to determine what they will learn, thereby promoting more collaborative learning and contributing to the realization of quality education.At SMA Negeri 7 Bone, the implementation of the problem-based learning (PBL) model is highly relevant in addressing the challenge of students' low critical thinking skills. Through this approach, students are encouraged to solve real-world problems, collaborate with peers, and draw conclusions based on evidence and analysis.

This process is expected not only to enhance conceptual understanding but also to cultivate higher-order thinking skills needed in the modern era.This study is important to identify the factors that hinder the implementation of the problem-based learning (PBL) model in improving students' critical thinking skills. In addition to providing theoretical contributions to the development of learning models, this research also offers practical benefits for teachers, students, and education policymakers in efforts to enhance the quality of learning to be more active, reflective, and contextual. The primary focus of this study is to analyze the obstacles in the implementation of PBL at SMA Negeri 7 Bone and to formulate strategies that can be employed to overcome them.

II. METHODS

This study employed a qualitative approach with a case study design aimed at gaining an in-depth understanding of the factors that hinder the implementation of the problem-based learning model in improving students' critical thinking skills at SMA Negeri 7 Bone. The subjects of this study were the teachers at the school, as they are the primary actors in the implementation of instructional models in the classroom. Data were collected through in-depth interviews with teachers as key informants. This technique was chosen to directly explore information regarding teachers' experiences in implementing the problem-based learning model, including the challenges and obstacles they encountered. An interview is a process of obtaining information for research purposes through a question-and-answer session conducted face-to-face between the interviewer and the respondent, using an instrument known as an interview guide[10].The data obtained from the interviews were analyzed using a data analysis model. In this study, data analysis was conducted following Miles and Huberman's, which involves three stages: data condensation, data display, and drawing conclusions or verification. Data condensation is the process of selecting, focusing, simplifying, and organizing raw data into meaningful information[11].

III. RESULT AND DISCUSSION

Inadequate Learning Facilities

SMA Negeri 7 Bone faces a major obstacle in the implementation of the problem-based learning (PBL) model due to the limitations of its learning facilities. These constraints include a lack of textbooks aligned with the curriculum, limited internet access, insufficient LCD projectors, and a shortage of digital media such as videos and other multimedia devices. As a result, many teachers have to purchase additional books on their own, and students struggle to independently access learning materials.Although students are encouraged to use their mobile phones to access information from the internet, this effort is still hampered by limited data quotas and weak school Wi-Fi connections. In PBL, students are expected to actively search for information and develop solutions to contextual problems. However, the lack of facilities has led to students becoming overly dependent on teachers as the primary source of information rather than as facilitators, which contradicts the core principles of PBL.Interviews with 14 informants at the school revealed that almost all highlighted the main obstacles as the shortage of learning materials, poor internet connectivity,

and limited digital devices. Efforts made by teachers to overcome these challenges such as assigning group tasks using personal internet access or utilizing videos have not reached all students equally, due to disparities in access and capabilities.From Jean Piaget's perspective, constructivism emphasizes that knowledge is built through direct interaction with the environment[12].

PBL, as an approach that supports constructivist learning, is ideally designed to provide exploration opportunities for students. However, the limitations of learning facilities hinder meaningful interaction and immersive experiences in the learning process, which reduces the optimal comprehension of learning materials.The symbolic interactionism theory proposed by George Herbert Mead highlights the importance of symbolic interaction in the learning process[13]. In problem-based learning, students not only learn to think critically but also engage through communication and discussion. Unfortunately, the lack of facilities such as LCD projectors and digital media restricts opportunities to create a rich learning environment full of interaction and symbolic meaning for example, through the use of videos or presentations.Mead asserts that the "mind" develops through a "conversation of gestures" and language within a social context. When interaction is limited due to technical constraints, students' critical thinking processes are also disrupted. In this case, the limitations of learning facilities become an obstacle to the development of a reflective and critical "self", as the social interactions that should enrich understanding cannot take place optimally[14].

Low Literacy Skills Among Students

The low literacy skills among students at SMA Negeri 7 Bone have become one of the main obstacles in implementing the problem-based learning (PBL) model. Literacy in this context is not limited to reading and writing abilities, but also includes the capacity to comprehend, analyze, and effectively utilize information. Based on interviews with teachers, it was found that students tend to be passive and prefer instant answers from teachers or peers. This was confirmed by informants Ria Sari Safitri and Jamilah, who stated that a limited vocabulary and lack of access to reading materials are significant factors contributing to students' weak literacy skills.This condition is in direct contrast to the principles of PBL, which emphasize exploration, active participation, and independent problem-solving. From Jean Piaget's constructivist perspective, learning occurs when students actively construct knowledge through direct experience and interaction with their environment. However, if students' literacy abilities are weak, the process of constructing knowledge is also hindered. "If students lack the ability to comprehend and analyze information from texts or other sources, they cannot optimally construct knowledge in accordance with their cognitive development stages"[15].rom the standpoint of George Herbert Mead's symbolic interactionism theory, weak literacy skills directly impact the quality of social interaction in learning.

In PBL, students are expected to actively engage in discussions and exchange ideas. However, as noted by Imelda, Reni Satriani, and Meinarni Asvita, many students prefer to copy answers from the internet or peers without understanding the content. This indicates that the formation process of the "mind" and "self" is not running effectively, as "the communication that occurs lacks meaning and reflection"[13].Furthermore, students' tendency to spend more time on social media rather than reading or participating in discussions worsens the situation. This shift in focus from reflective learning processes to the consumption of instant information leads to a decline in the quality of learning. Such behavior contradicts the principles of PBL, which require in-depth exploration and collaboration to solve contextual problems. Without a strong literacy foundation, students are unable to understand the context of problems, let alone develop critical thinking skills, which is the primary goal of this model.Therefore, improving literacy must become a primary focus through various strategies, such as strengthening reading culture, providing relevant reading materials, and implementing reflective dialogue-based learning. If these efforts are not made, the application of PBL will not be effective. As emphasized by Piaget and Mead, "learning is an active and social process, not a passive one-way reception of information". Thus, enhancing literacy is the key to successfully developing students critical thinking skills through PBL.

High Levels of Student Demotivation in Learning

The high level of student demotivation in learning is one of the main obstacles in implementing the problem-based learning (PBL) model at SMA Negeri 7 Bone. This model demands the active participation of students in formulating problems, seeking solutions, and evaluating their learning processes. However, the

lack of both internal and external motivation to engage in the learning process causes many students to remain passive and unenthusiastic. This situation disrupts the primary objective of PBL, which is to develop critical thinking skills through meaningful exploration and learning experiences. Critical thinking is the ability to think reflectively and question every significant aspect involved in problem-solving[16].Student demotivation reflects a psychological condition marked by a lack of interest, enthusiasm, and curiosity toward learning. In the context of PBL, this becomes a serious obstacle since the approach relies heavily on students' active involvement in collaboratively exploring problems. Many students are reluctant to engage in discussions or problem exploration due to various factors such as boredom with certain subjects, pressure from social or family environments, low self-confidence, and distractions from other activities such as gaming or household responsibilities.From the framework of Piaget's constructivist theory, meaningful learning occurs when students actively construct knowledge through direct experience. When students experience demotivation, the processes of assimilation and accommodation of knowledge the core of constructivist learning cannot function optimally.

Constructivism emphasizes that every individual constructs their understanding based on interactions with their environment[15]. However, if students are uninterested or avoid learning activities, they lose opportunities to develop deep comprehension.From the perspective of George Herbert Mead's symbolic interactionism theory, student demotivation also affects the weakness of symbolic exchanges in the social interactions that are essential to the learning process[14]. When students do not receive emotional and academic support from teachers and peers, the learning process becomes meaningless for them. A lack of supportive and motivational communication from teachers can also hinder the development of students self-concepts, which, in Mead's theory, is crucial in forming active participation in learning.In PBL, the learning process is built through meaningful interactions such as discussions, group work, and collaborative reflection. However, demotivation causes students to fail to perceive the value of learning symbols such as assignments or discussions, considering them merely burdensome and irrelevant tasks. As a result, the learning process becomes a formality, lacking both in-depth understanding and emotional and intellectual engagement. The symbolic interactions that should shape the meaning and identity of learning also fail to develop optimally.To overcome this obstacle, a holistic approach involving teachers, schools, and parents is needed to create a positive and contextual learning environment. Efforts such as strengthening supportive social relationships, providing materials relevant to students' lives, and creating an enjoyable learning atmosphere can help increase learning motivation. These initiatives align with constructivist and symbolic interactionism theories, both of which emphasize that students are active subjects in meaningful and socially situated educational processes.

IV. CONCLUSION

The implementation of the problem-based learning (PBL) model at SMA Negeri 7 Bone faces several major obstacles, namely inadequate learning facilities, low literacy skills, and a high level of student demotivation. Students tend to be passive, lack independence in seeking information, and prefer instant answers rather than engaging in exploration. As a result, the learning activities do not proceed optimally due to the lack of active involvement in discussions and problem-solving tasks. Furthermore, students often demonstrate a tendency to copy answers without understanding the context, which diminishes the meaning and value of the learning process itself.

This situation hinders the achievement of learning objectives that emphasize the development of critical thinking skills. The learning process, which should encourage meaningful interaction and reflective experiences, is instead replaced by formalities devoid of in-depth understanding. Low literacy skills and student demotivation also reduce the students' ability to comprehend problems, seek appropriate solutions, and independently evaluate information. Therefore, it is necessary to create a more supportive learning environment, provide adequate reading materials, and implement learning strategies that can stimulate students' interest and enthusiasm for learning, so that the objectives of the problem-based learning model can be achieved effectively.

V. ACKNOWLEDGMENTS

We sincerely extend our gratitude to all the informants who generously took the time and made valuable contributions to this research. Without their participation, insights, and shared experiences, this study could not have been successfully completed. We deeply appreciate the trust they placed in us and sincerely hope that the findings of this research will contribute meaningfully to the advancement of knowledge and practice in related fields. Thank you for your kind cooperation and support.

REFERENCES

[1] B. Thornhill-Miller *Et Al.*, "Creativity, Critical Thinking, Communication, And Collaboration: Assessment, Certification, And Promotion Of 21st Century Skills For The Future Of Work And Education," ***J. Intell.***, Vol. 11, No. 3, P. 54, Mar. 2023, Doi: 10.3390/Jintelligence11030054.

[2] I. Ameliana, "Teacher-Centered Or Student-Centered Learning Approach To Promote Learning?," ***J. Sos. Hum.,*** Vol. 10, No. 2, P. 59, 2017, Doi: 10.12962/J24433527.V10i2.2161.

[3] F. S. Jaya, "Efektivitas Pembelajaran Pendekatan Saintifik Terhadap Kemampuan Berpikir Kritis Siswa (Studi Kuasi Eksperimen Pada Mata Pelajaran Ips Kelas Vii D Di Smpn 1 Pacet - Cianjur)," ***Oikos J. Kaji. Pendidik. Ekon. Dan Ilmu Ekon.***, Vol. 3, No. 1, P. 19, Feb. 2019, Doi: 10.23969/Oikos.V3i1.1405.

[4] H. Tanty, C. Fernando, J. Valencia, And V. Justin, "Critical Thinking And Problem Solving Among Students," ***J. Becoss (Bus. Econ. Commun. Soc. Sci.***, Vol. 4, No. 3, Pp. 173–180, 2022, Doi: 10.21512/Becossjournal.V4i3.8633.

[5] M. N. F. April Mercy E. Lapuz, "Improving Critical Thinking Skills Of Vocational School Students Using Problem-Based Learning," ***Int. J. Educ. Vocat. Stud.,*** Vol. 2, No. 5, Pp. 1–7, 2020, Doi: 10.29103/Ijevs.V2i5.2493.

[6] S. Suhirman, S. Prayogi, And M. Asy'ari, "Problem-Based Learning With Character-Emphasis And Naturalist Intelligence: Examining Students Critical Thinking And Curiosity," ***Int. J. Instr.***, Vol. 14, No. 2, Pp. 217–232, 2021, Doi: 10.29333/Iji.2021.14213a.

[7] M. Surur, I. N. S. Degeng, P. Setyosari, And D. Kuswandi, "The Effect Of Problem-Based Learning Strategies And Cognitive Styles On," ***Int. J. Instr.***, Vol. 13, No. 4, Pp. 35–48, 2020, Doi: Https://Doi.Org/10.29333/Iji.2020.1343a.

[8] M. A. P. Nugraha, J. S. V. Sinolungan, R. Nur, S. Nuridah, N. Nofirman, And D. Cahyono, "Conceptual Analysis Of Problem-Based Learning Model In Improving Students Critical Thinking Skill," ***J. Educ. Res.***, Vol. 4, No. 2, Pp. 466–473, Apr. 2023, Doi: 10.37985/Jer.V4i2.185.

[9] K. Smith *Et Al.*, "Principles Of Problem-Based Learning (Pbl) In Stem Education: Using Expert Wisdom And Research To Frame Educational Practice," *Educ. Sci.*, Vol. 12, No. 10, P. 728, Oct. 2022, Doi: 10.3390/Educsci12100728.

[10] J. D. Creswell, J. W., & Creswell, *Research Design: Qualitative, Quantitative, And Mixed Methods Approaches*. Sage Publications., 2017.

[11] J. Miles, M.B, Huberman, A.M, & Saldana, *Qualitative Data Analysis, A Methods Sourcebook, Edition 3. Usa*. Usa: Sage Publications., 2014.

[12] Bukhari, "Teori Belajar Kognitif Dan Implementasinya," ***J. Aktual. Pendidik.Islam***,Vol.14,No.2,Pp.1–12, 2019.

[13] A. K. Kholidi And A. Faizun, "Interaksionisme Simbolik George Herbert Mead Di Era New Normal Pasca Covid 19 Di Indonesia," *At-Ta'lim Stud. Al-Quran Dan Hadits, Pendidik. Islam. Pendidikan, Ilmu Sos. Dan Huk. Islam*, Vol. 2, No. 1, P. 5, 2022.

[14] H. A. Zanki, "Teori Psikologi Dan Sosial Pendidikan (Teori Interaksi Simbolik)," ***Scolae J. Pedagog.***, Vol. 3, No. 2, Pp. 115–121, 2020.

[15] A. N. Rangkuti, "Konstruktivisme Dan Pembelajaran Matematika," ***J. Darul 'Ilmi,*** Vol. 02, No. 02, Pp. 61–76, 2014, Doi: Http://Dx.Doi.Org/10.24952/Di.V2i2.416.

[16] A. O. T. Torro, S., Kasim, N., & Awaru, "Implementasi Model Problem Based Learning Berbasis Kearifan Lokal Dalam Meningkatkan Motivasi Belajar Siswa Sekolah Menengah Atas 7(2), .," ***Jppi (Jurnal Penelit. Pendidik. Indones.***, Vol. 7, No. 2, Pp. 197–202, 2021.