Education, Social Sciences, and Linguistics: Conference Series
https://journal.ummat.ac.id/index.php/ecs
Vol. 2 No. 3, October 2026, pp. 458-467

The Effectiveness of PBL-Based Differentiated Teaching Modules in Improving Reading Literacy of Elementary School Students

Nurwahidah[1], Nursina Sari[2], Yuni Mariati[3]
[123]Elementary School Teacher Education, University of Muhammadiyah Mataram, Indonesia
[1]nurwahidahparado01@gmail.com, [2]sarinursina1234@gmail.com, [3]yunimariati@gmail.com

Keywords:
Differentiated instructional modules,
Problem Based Learning,
Reading literacy, Elementary school, Systematic Literature Review.

ABSTRACT

Abstract: This study aims to analyze the effectiveness of differentiated instructional modules based on Problem Based Learning (PBL) in improving elementary school students' reading literacy, identify their implementation characteristics, and examine the factors influencing their successful application. The study employed a Systematic Literature Review (SLR) approach using scientific articles retrieved from Google Scholar, Scopus, the Directory of Open Access Journals (DOAJ), SciSpace, and Elicit. Literature searches were conducted using combinations of keywords related to differentiated instructional modules, Problem Based Learning, reading literacy, and elementary education. Article selection involved identification, screening, full-text review, and eligibility assessment based on predetermined inclusion and exclusion criteria. Data were analyzed using thematic analysis to identify, categorize, and synthesize relevant findings. The results indicate that differentiated instructional modules based on Problem Based Learning are more effective than conventional learning approaches in enhancing elementary school students' reading literacy. Their implementation contributes not only to the improvement of reading comprehension skills but also to the development of critical thinking, problem-solving abilities, and active student engagement in the learning process. The success of implementation is influenced by teacher competence, learning environment support, information technology development, and the availability of educational facilities and infrastructure. The synthesis reveals that studies concerning the integration of digital technology, the development of sustainable reading habits, and the long-term impact of module implementation remain limited. Therefore, future research should focus on developing more adaptive, innovative, and sustainable differentiated instructional modules based on Problem Based Learning to strengthen elementary school students' reading literacy.

Kata Kunci:

Modul pembelajaran yang dibedakan,
Pembelajaran Berbasis Masalah,
Literasi membaca, Sekolah dasar,
Tinjauan Pustaka Sistematis.

***Abstrak**: Penelitian ini bertujuan untuk menganalisis efektivitas modul pembelajaran yang dibedakan berdasarkan Pembelajaran Berbasis Masalah (PBL) dalam meningkatkan literasi membaca siswa sekolah dasar, mengidentifikasi karakteristik pelaksanaannya, serta mengkaji faktor-faktor yang memengaruhi keberhasilan penerapannya. Penelitian ini menggunakan pendekatan Tinjauan Pustaka Sistematis (SLR) dengan memanfaatkan artikel ilmiah yang diperoleh dari Google Scholar, Scopus, Directory of Open Access Journals (DOAJ), SciSpace, dan Elicit. Pencarian literatur dilakukan dengan menggunakan kombinasi kata kunci yang berkaitan dengan modul pengajaran yang dibedakan, Pembelajaran Berbasis Masalah, literasi membaca, dan pendidikan dasar. Pemilihan artikel melibatkan identifikasi, penyaringan, tinjauan teks lengkap, dan penilaian kelayakan berdasarkan kriteria inklusi dan eksklusi yang telah ditentukan sebelumnya. Data dianalisis menggunakan analisis tematik untuk mengidentifikasi, mengkategorikan, dan mensintesis temuan yang relevan. Hasil penelitian menunjukkan bahwa modul pengajaran yang dibedakan berdasarkan Pembelajaran Berbasis Masalah lebih efektif daripada pendekatan pembelajaran konvensional dalam meningkatkan literasi membaca siswa sekolah dasar. Penerapannya tidak hanya berkontribusi pada peningkatan keterampilan pemahaman bacaan, tetapi juga pada pengembangan pemikiran kritis, kemampuan memecahkan masalah, serta keterlibatan aktif siswa dalam proses pembelajaran. Keberhasilan penerapan dipengaruhi oleh kompetensi guru, dukungan lingkungan belajar, perkembangan teknologi informasi, serta ketersediaan fasilitas dan infrastruktur pendidikan. Sintesis ini menunjukkan bahwa penelitian mengenai integrasi teknologi digital, pengembangan kebiasaan membaca yang berkelanjutan, dan dampak jangka panjang dari penerapan modul masih terbatas. Oleh karena itu, penelitian di masa mendatang sebaiknya berfokus pada pengembangan modul pengajaran yang lebih*

adaptif, inovatif, dan berkelanjutan berdasarkan Pembelajaran Berbasis Masalah (Problem Based Learning) guna memperkuat literasi membaca siswa sekolah dasar.

Article History:

Received : 01-09-2026
Accepted : 31-10-2026

A. INTRODUCTION

Reading literacy is an essential ability that needs to be developed from the elementary school level because it acts as a foundation in the learning process and mastery of various fields of science (Ala Purnawati & Nurul Yakin, 2025). This ability is not only limited to reading texts, but also includes the ability to understand, interpret, analyze, and use information effectively in a variety of learning contexts. A good mastery of reading literacy allows students to acquire knowledge independently, understand the subject matter more deeply, and develop critical thinking and problem-solving skills (Yani et al., 2025). As a basic skill that underpins all academic activities, reading literacy has a significant contribution to student learning success in a variety of subjects. Improving reading literacy at the elementary school level is very important because it not only affects current learning outcomes but also determines students' readiness to face the increasingly complex demands of education and community development in the future (Halim, 2022).

The reading literacy ability of elementary school students in Indonesia is still an important issue in efforts to improve the quality of education (Kadek et al., 2024). Various educational evaluation results, both at the national and international levels, show that students' ability to understand, process, and interpret information from reading has not reached an optimal level. Many students still face obstacles in identifying key ideas, connecting information between texts, drawing inferences, and critically evaluating the content of the reading (Ummah et al., 2026). This condition shows that the reading process has not fully developed into an activity that encourages deep understanding and the formation of high-level thinking skills. This problem is influenced by various factors, including differences in student characteristics, lack of variety in learning strategies, and not yet optimal use of learning resources that support literacy development. This situation needs attention because reading literacy skills not only determine students' success in understanding the subject matter but also affect their ability to adapt to the demands of learning and knowledge development in the modern era (Muti'ah et al., 2025). Various innovative efforts are needed that are able to create a more meaningful and effective learning experience in supporting the improvement of reading literacy of elementary school students (Ramadhani & Mardhiah, 2025).

Differences in student characteristics are a common condition found in learning in elementary school, both in terms of academic ability, learning readiness, interests, and learning preferences (Fitriyah & Bisri, 2023). This diversity requires a learning approach that is able to provide appropriate learning opportunities for each student so that their potential can develop optimally. One of the approaches that is considered relevant to answer these needs is differentiated learning, which is learning that is designed by taking into account the variation in students' learning needs through adjustments to strategies, materials, activities, and assignment forms (Retired, 2023). This approach puts students at the center of learning by providing a more flexible learning experience that is responsive to individual circumstances. The implementation of differentiated learning not only contributes to increasing student participation and motivation, but also helps to create a more inclusive and meaningful learning environment (Lestari et al., 2023). With the fulfillment of diverse learning needs, students have a greater opportunity to achieve maximum learning goals, including in developing reading literacy skills as one of the important basic competencies at the elementary school level.

Adjustments to students' readiness levels, interests, and learning profiles aim to improve understanding, so this module is important so that it creates a more inclusive, adaptive, and oriented learning process to the individual needs of learners (Born, 2023). The development of differentiated teaching modules is generally carried out systematically through the stages of needs analysis, design, development, implementation and evaluation so as to produce learning tools that are in accordance with the characteristics of students and the

learning objectives to be achieved (Setyaningsih, 2024). Various studies show that the use of differentiated teaching modules has a positive impact on improving learning outcomes, student engagement and quality of concept understanding. Through the presentation of materials, activities, and assessments that are tailored to students' abilities, this module is able to provide a more meaningful learning experience and encourage students' active participation in the learning process. This implementation still faces a number of challenges, such as the limitation of teachers' competence in designing differentiated learning, the lack of resource support and the complexity of diverse classroom management (N. W. Safitri & Andriani, 2025). It is necessary to strengthen the capacity of teachers through continuous professional development programs and the provision of adequate supporting facilities so that the use of differentiated teaching modules can take place optimally and sustainably in improving the quality of learning in elementary schools (Ahmad, 2025).

Model Problem Based Learning (PBL) is one of the learning approaches that has the potential to improve students' reading literacy skills through active involvement in contextual and meaningful problem-solving processes (Yankees, 2025). In its implementation, PBL places students as learning subjects who actively search, understand, analyze, and use information from various sources to find solutions to the given problems (Fristadi & Bharata, 2015). This process indirectly encourages students to do reading activities in more depth, so that the ability to understand, interpret, and evaluate information can develop optimally. A number of studies have shown that the application of PBL contributes positively to improving reading skills, communication skills and the ability to manage information relevant to learning needs (Kadek et al., 2024). The success of PBL implementation is influenced by various factors, including learning motivation, reading interest, students' literacy experience, and conducive learning environment support. The integration of PBL with various collaborative learning strategies has also been proven to be able to strengthen student involvement and increase literacy achievement (Sutrisno, 2025).

The application of this model still faces several obstacles, such as limited competence this study aims to systematically examine various empirical findings regarding the effectiveness of differentiated teaching modules based on *Problem Based Learning* (PBL) in improving reading literacy of elementary school students, identify the characteristics of effective modules, and analyze factors that affect the success of its implementation. This research is motivated by the limited studies that specifically integrate differentiated learning with the PBL approach in the development of reading literacy in elementary schools. The available findings are still scattered in various contexts and have not been comprehensively synthesized, leaving a gap in research related to their effectiveness and application characteristics. The novelty of this research lies in the effort to synthesize various empirical evidence regarding differentiated learning, PBL models, and reading literacy in one integrated study framework to produce a more comprehensive understanding and provide recommendations for the development of adaptive literacy learning centered on the needs of students.

B. METHOD

This study uses *the Systematic Literature Review* (SLR) method to obtain a comprehensive understanding of the effectiveness of differentiated teaching modules based on *Problem Based Learning* (PBL) in improving reading literacy of elementary school students. This method was chosen because it allows researchers to identify, analyze, evaluate, and synthesize various research findings systematically resulting in more objective and evidence-based conclusions. The purpose of this study is to analyze the effectiveness of PBL-based differentiated teaching modules, identify the characteristics of their implementation, and examine the factors that affect their success in improving reading literacy of elementary school students. The research data is sourced from scientific articles obtained through Google Scholar, Scopus, Directory of Open Access Journals (DOAJ), Scispace, and Elicit. The literature search was carried out by utilizing a combination of keywords related to differentiated teaching modules, *Problem Based Learning*, reading literacy, and elementary school to capture publications relevant to the focus of the study.

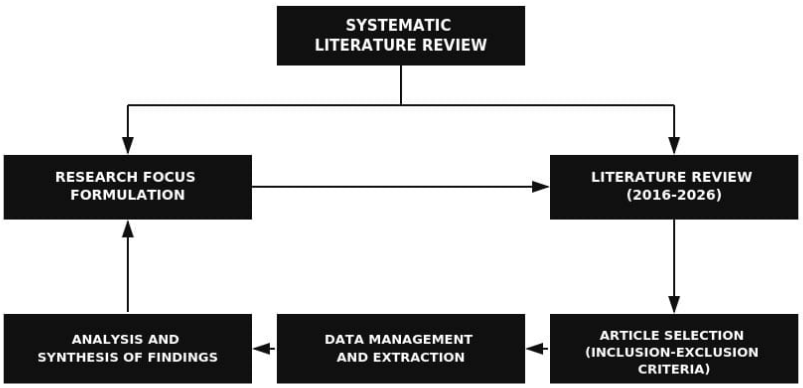

Figure 1: Systematic *Literature Research Flow Review*

Figure 1 explains the flow of the implementation of the Systematic Literature Review (SLR) method used in this study. The initial stage begins with the formulation of the research focus as a basis for determining the scope of the study and the direction of searching for relevant sources. The focus that has been set then becomes the basis for the implementation of the literature review which includes publications in the range of 2016–2026. Articles obtained through the literature search process are selected based on pre-determined inclusion and exclusion criteria. This stage aims to ensure that the sources used are related to the research topic and meet the necessary eligibility standards.

Articles that meet the criteria then enter the data management and extraction stage. At this stage, important information from each article is collected and organized systematically to facilitate the process of further review. The data that has been collected is then analyzed and synthesized to identify patterns, key findings, and relationships between relevant research results. The results of the synthesis are then used to strengthen and sharpen the focus of the research, so that all stages in the SLR method form an interrelated and continuous process in producing a comprehensive study and supported by adequate empirical evidence.

Data analysis is carried out through thematic analysis techniques by extracting, categorizing, comparing, and integrating findings from each selected study. This process is directed to identify patterns of findings related to the effectiveness of PBL-based differentiated teaching modules, their impact on reading literacy skills, the characteristics of the implementation applied, and various factors that support or hinder its success. To ensure the validity and reliability of the research results, all stages of the study are carried out systematically according to the established SLR procedures. The use of various reputable academic databases and the application of source triangulation are carried out to increase the credibility, consistency, and accuracy of the synthesis results so that the findings produced have a strong empirical basis and can be scientifically accounted for.

C. RESULTS AND DISCUSSION

The results of the synthesis of various studies show that differentiated teaching modules based on *Problem Based Learning* (PBL) are developing as one of the innovative learning approaches that have the potential to support the improvement of reading literacy of elementary school students. In order to obtain a more comprehensive picture, these studies were grouped based on the similarity of the focus of the study (*thematic synthesis*) into three sub-topics, including (1) the characteristics and development of differentiated teaching modules based on *Problem Based Learning* (PBL), (2) the role of differentiated teaching modules based on *Problem Based Learning* (PBL) in improving reading literacy of elementary school students, as well as (3) supporting factors, challenges, and the direction of development of its implementation. The grouping is the basis for identifying research trends, examining the main contributions, and mapping the scope of the study presented in Table 1.

Table 1. Grouping of Research Results Based on Study Focus, Authors, and Research Insights on the Effectiveness of Differentiated Teaching Modules Based on Problem Based Learning (PBL) on Reading Literacy of Elementary School Students.

No	Field/Focus	Name of the Author	Insights or Research Variables
1	Characteristics of differentiated learning	(Marantika et al., 2023) (N. Safitri et al., 2023), (Syisva et al., 2024) (Fauzia & Ramadan, 2023), (Wardani & Darmawan, 2024).	PBL-based differentiated teaching modules are oriented to the needs of students through adjustments to the content, processes, and products of advocates teachings. This approach provides an adaptive learning experience according to the characteristics and abilities of the students
2	Integration of PBL in learning	(Hermawan et al., 2024), (Triyanti et al., 2024), (Mubarok et al., 2026) (Minarti et al., 2023) (Farwati et al., 2017)	The application of PBL-based differentiated teaching modules is more effective than conventional learning in improving reading literacy skills, reading comprehension, high-level thinking skills, and active participation of students.
3	Teacher competence and diagnostic assessment	(Fitriah et al., 2025), (Ulfha et al., 2025), (Wahyuni & Haryanti, 2024) (Abdurrohman et al., 2025)	PBL combined with differentiated learning is able to create a more meaningful learning experience, increase student involvement, and develop critical thinking and problem-solving skills.

Table 1 explains differentiated teaching materials based on *Problem Based Learning* (PBL) in improving reading literacy of elementary school students forming three interrelated study domains. The first domain focuses on the characteristics and development of PBL-based differentiated teaching modules designed to accommodate the diversity of learners' needs. The second domain highlights its contribution to improving reading literacy through strengthening reading skills, critical thinking, and problem-solving. Meanwhile, the third domain examines various factors that affect the success of its implementation, including teacher competence, learning environment support, information technology development, and the availability of facilities and infrastructure. Overall, the three domains show that the development of research has shifted from studies oriented to learning effectiveness to a more comprehensive approach by considering pedagogical aspects, strengthening student competencies, and the readiness of the educational ecosystem. These findings indicate that the development of differentiated teaching modules based on Problem Based Learning in the future needs to be directed towards the integration of learning innovations and supporting factors to improve the reading literacy of elementary school students in a sustainable manner.

1. The Concept of PBL-Based Differentiated Teaching Modules in Elementary School Learning.

Differentiated teaching modules based on *Problem Based Learning* (PBL) shows the characteristics of learning that is oriented to the needs of students through adjustments to aspects of content, processes, and learning products (Nurbulan et al., 2025). The integration of PBL in the module provides students with the opportunity to build understanding through contextual problem-solving activities, thereby supporting the development of critical thinking, cooperation, and other 21st-century skills (Fonna & Nufus, 2024). The flexible nature of differentiated learning allows the application of modules to various subjects while still paying attention to the characteristics of the material and the diversity of students, so that learning can take place in a more meaningful and adaptive manner.

Various studies have shown positive benefits from the implementation of PBL-based differentiated teaching modules, the implementation of which still faces a number of obstacles (Artana, 2023). The process of identifying students' learning needs through diagnostic assessments and the preparation of learning activities that are able to accommodate student diversity requires adequate professional competence. The use of technology in learning also requires the availability of supporting facilities and teachers' digital literacy skills so that the use of e-modules can run optimally (Neyarasmi & Mardatillah, 2025). Studies that specifically discuss the contribution of PBL-based differentiated teaching modules to improving reading literacy of elementary school students are still limited, so further research is needed to strengthen empirical evidence regarding the effectiveness of this approach in the context of reading literacy development. .

Differentiated teaching modules based on Problem Based Learning (PBL) are one of the learning approaches that have the potential to create a more adaptive learning experience according to the

characteristics and needs of students. The application of this approach supports the development of critical thinking skills, collaborative, and various competencies relevant to the demands of 21st century learning. Optimizing its implementation requires teacher competency support, the implementation of appropriate diagnostic assessments, and the availability of adequate learning facilities. The limited research that specifically examines the contribution of PBL-based differentiated teaching modules to improving reading literacy of elementary school students indicates the need for a more in-depth study to strengthen the empirical foundation of the effectiveness of this approach in supporting the development of reading literacy skills.

2. Reading Literacy for Elementary School Students

Based on the results of the analysis of the research that has been reviewed, the reading literacy ability of elementary school students is influenced by various factors including the family environment, educational environment, and the development of information technology (Amelia et al., 2024). The findings suggest that reading literacy is a complex competency so its development requires the involvement of various parties in a sustainable manner. The role of parents through reading habits from an early age and the creation of an environment that supports literacy culture contributes to the formation of students' reading habits (Fitriani et al., 2025). Technological advances have expanded access to information sources while requiring students to have the ability to select, understand, and utilize information from various media so that the development of reading literacy needs to be aligned with the characteristics of students and the demands of the digital era (Putri et al., 2024).

A number of studies show that there is an interest in students' interest in reading activities, the formation of sustainable reading habits is still a challenge in literacy development (Ahyana & Fihayati, 2025). The use of digital technology provides ease of access to various sources of information, but less targeted use has the potential to affect the ability to comprehend reading deeply and develop critical thinking skills. The development of reading literacy is influenced by various interrelated aspects, while factors such as learning strategies, socioeconomic conditions, and the availability of literacy facilities in schools are still not discussed in depth. A more comprehensive study is needed to obtain a more complete picture of the factors that contribute to the development of reading literacy in elementary school students.

The reading literacy ability of elementary school students is influenced by various interrelated aspects including the family environment, educational environment, and information technology development. Parental involvement and reading habits from an early age have an important role in shaping literacy culture, while technological advances provide wider opportunities to access reading resources while presenting challenges in maintaining the ability to comprehend reading deeply and develop critical thinking skills. The complexity of these factors shows that strengthening reading literacy requires integrated support through collaboration between families, schools, and the wise use of technology to create a sustainable literacy culture.

3. The Effectiveness of PBL-Based Differentiated Teaching Modules

The findings of various studies indicate that the effectiveness of differentiated teaching modules is based on *Problem Based Learning* (PBL) in improving the reading literacy of elementary school students is not only reflected in the improvement of academic achievement but also in the quality of the learning experience obtained by students (Hulkin et al., 2025). The application of PBL encourages students to be actively involved in identifying and solving problems related to reading materials so that the reading process is not only oriented to obtaining information, but also to developing the ability to understand, analyze, and evaluate the content of the text in depth (Astuti, 2019). Differentiated learning approaches allow teachers to tailor learning strategies, materials, and activities to diverse student characteristics, readiness, and needs (Fitriyah & Bisri, 2024). The synergy between the two approaches results in a more meaningful, participatory, and student-centered learning process compared to conventional learning. The improvement of reading literacy achieved not only includes aspects of basic reading skills but also critical thinking skills and comprehensively understanding skills.

The majority of research shows that PBL-based differentiated teaching modules have a positive impact on improving reading literacy of elementary school students, there are several aspects that need to be considered in assessing the success of its implementation. The variety of research subjects that are still limited to certain grade levels causes the results obtained to not be fully generalized to all levels of basic

education. The effectiveness of this approach is highly dependent on the teacher's competence in designing learning that suits the needs of students, including the ability to conduct initial assessments, develop diverse activities, and facilitate the problem-solving process optimally (Abdurrohman et al., 2025). Other factors that also affect the success of its implementation include the availability of supporting facilities, the adequacy of learning time, and the readiness of the school environment to support learning innovation. Various research findings show that the implementation of PBL-based differentiated teaching modules makes a more effective and significant contribution than conventional learning, optimizing the results requires adequate resource support and continuous strengthening of teachers' professional capacity.

Differentiated teaching modules based on *Problem Based Learning* (PBL) have higher effectiveness than conventional learning in improving the reading literacy of elementary school students. The advantages of this approach are not only reflected in the improvement of reading comprehension, but also in the development of critical thinking skills, active involvement of students, and the creation of a more meaningful learning experience in accordance with the diversity of student characteristics. The success of its implementation is influenced by various supporting factors, such as teachers' competence in designing adaptive learning, the availability of adequate facilities, and the support of the school environment for the implementation of innovative learning. PBL-based differentiated teaching modules can be seen as a relevant learning strategy and have the potential to make a significant contribution to strengthening reading literacy in elementary schools if supported by the readiness of resources and optimal implementation.

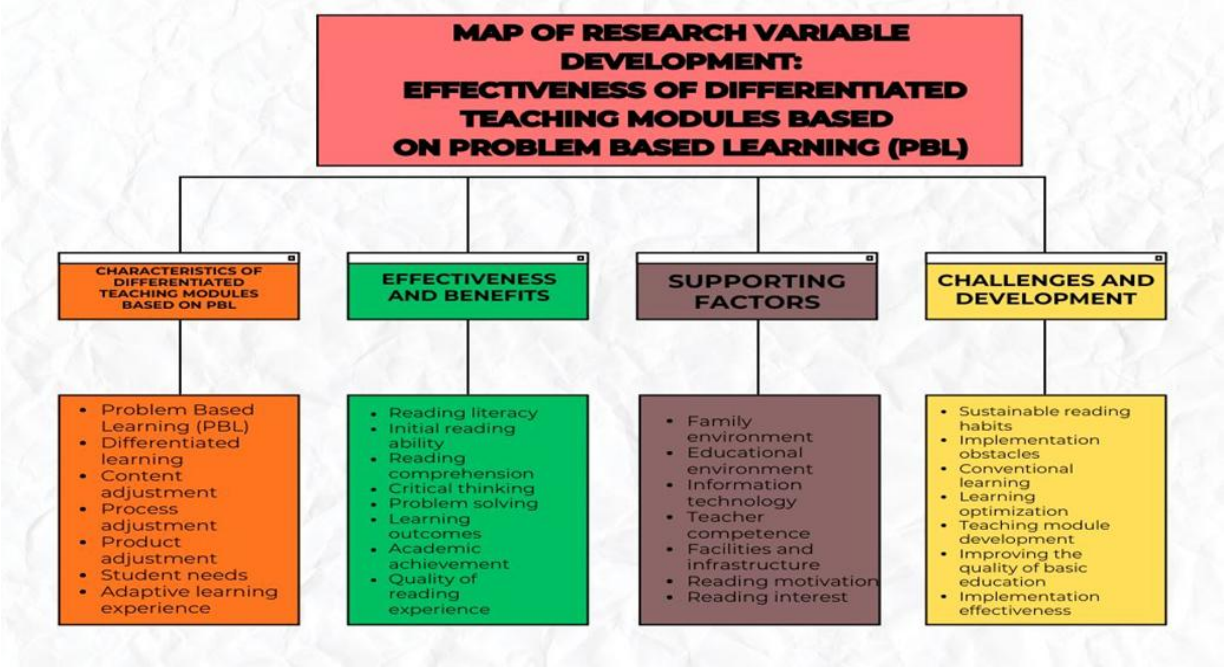

Figure 2. Map of the Development of Variables for Research on the Effectiveness of Differentiated Teaching Modules Based on Problem Based Learning (PBL)

D. CONCLUSIONS AND SUGGESTIONS

Differentiated teaching modules based on Problem Based Learning (PBL) have higher effectiveness than conventional learning in improving the reading literacy of elementary school students. These advantages are not only reflected in improving students' reading skills and academic achievements, but also in strengthening critical thinking skills, problem-solving skills, and creating a more adaptive learning experience according to the characteristics and needs of students. The success of its implementation is still influenced by various supporting factors such as teacher competence, the availability of learning facilities, the family environment, the school environment and the use of information technology in supporting the development of literacy culture.

The results of the synthesis also show that there is a research gap characterized by the dominance of studies that focus on improving learning outcomes and reading literacy skills in general, while research on the formation of continuous reading habits, strengthening reading motivation, and the integration of digital technology in differentiated teaching modules based on *Problem Based Learning* It is still relatively limited.

Research that examines the impact of the implementation of modules in the long term has also not been carried out. Future research needs to be directed towards the development of differentiated teaching module models based on Problem Based Learning that are integrated with digital technology as well as longitudinal studies on its influence on reading motivation, literacy culture, and higher level thinking skills of elementary school students, so as to produce more innovative, adaptive, and sustainable learning models in accordance with the demands of 21st century education.

ACKNOWLEDGMENTS

The author would like to thank various parties who have contributed through support, direction, and constructive input during the process of preparing this research. Awards were also given to data base service providers and scientific literature platforms, namely Scopus, DOAJ, Google Scholar, SciSpace, and Elicit, which have facilitated access to various academic reference sources so that the implementation of this research can take place optimally.

REFERENCES

Abdurrohman, Siskandar, Shunhajir, A., & Saifullah, I. (2025). The Effectiveness of Differentiated Learning in Maintaining the Quality of Learning of Students at SD Insan Cendekia Madani South Tangerang. https://journal.uniga.ac.id/index.php/JPAI/article/view/43025

Ahmad, A. (2025). Challenges and Strategies of Teachers in the Implementation of the Independent Learning Curriculum in Elementary Schools. Journal of Humanities, Social Sciences, and Education, 1(3), 65–75. https://doi.org/10.64690/jhuse.v1i3.59

Ahyana, I. S., & Fihayati, Z. (2025). The Effectiveness of School Literacy Programs in Increasing Reading Interest in Elementary School Students. Elementary School, 12(2), 857–866.

Ala Purnawati, & Nurul Yakin. (2025). Implementation of Science Literacy Skills in Integrated Science Learning in Elementary Schools. Action Research Journal, 2(2), 107–120. https://doi.org/10.63987/arj.v2i2.204

Amelia, D., Arafah, N. Q. B., Diaprina, S. R., & Maromy, T. C. (2024). Variables Affecting the Reading Literacy Ability of Indonesian Students: An Analysis Based on the MARS Approach. Journal of Education and Culture, 9(2), 205–217. https://doi.org/10.24832/jpnk.v9i2.4966

Artana, I. K. (2023). The study on the development of differentiated teaching modules is oriented towards a problem-based learning approach in the context of the implementation of the independent curriculum. WIDYALAYA: Journal of Education, 4(1), 56–64. https://jurnal.ekadanta.org/index.php/Widyalaya/article/view/259

Astuti, T. P. (2019). Problem Based Learning Model with Mind Mapping in 21st Century Science Learning. Proceedings of Biology Education, 3(1), 64–73. https://doi.org/10.21009/pbe.3-1.9

Farwati, R., Permanasari, A., Firman, H., & Suhery, T. (2017). Integration of Problem Based Learning in STEM Education Oriented to Actualization of Environmental Literacy and Creativity. National Seminar on Science Education. http://conference.unsri.ac.id/index.php/semnasipa/article/view/688

Fauzia, R., & Ramadan, Z. H. (2023). Implementation of Differentiated Learning in the Independent Curriculum. Journal of Educatio, 9(3), 1608–1617. https://doi.org/10.31949/educatio.v9i3.5620

Fitriah, U. L., Dewi, R. S. I., & Ekawati, R. (2025). Diving into the Readiness of Elementary Grade Teachers in the Adoption of Diagnostic Assessment in the Independent Curriculum. TAUGHT: Journal of Education and Learning, 4(1), 94–101. https://doi.org/10.54259/diajar.v4i1.3527

Fitriani, M., Oktrifianty, E., Fatiha, R. F. N., Sari, P. A., & Istiani. (2025). The Impact of Reading Habits on Achievement and Character Building. Journal of Basic Education, 9(1), 1–8. https://job.uho.ac.id/index.php/journal/article/view/80/33

Fitriyah, & Bisri, M. (2024). Differentiated Learning Based on the Diversity and Uniqueness of Elementary School Students. Journal of Basic Education Research, 9(2), 67–73. https://doi.org/10.26740/jrpd.v9n2.p67-73

Fitriyah, F., & Bisri, M. (2023). Differentiated Learning Based on the Diversity and Uniqueness of Elementary School Students. Journal of Basic Education Review: Journal of Education Studies and Research Results, 9(2), 67–73. https://doi.org/10.26740/jrpd.v9n2.p67-73

Fonna, M., & Nufus, H. (2024). The Effect of the Application of Problem Based Learning (PBL) on 21st Century Skills. Ar-Riyadhiyyat: Journal of Mathematics Education, 5(1), 22–30.

https://doi.org/10.47766/arriyadhiyyat.v5i1.2994

Fristadi, R., & Bharata, H. (2015). Improving students' critical thinking skills with problem-based learning. In National Seminar on Mathematics and Mathematics Education UNY 2015 (p. PM-86). http://seminar.uny.ac.id/semnasmatematika/sites/seminar.uny.ac.id.semnasmatematika/files/banner/PM-86.pdf

Halim, A. (2022). The Significance and Implementation of Critical Thinking in the Projection of the 21st Century Education World at the Elementary School Level. Indonesian Journal of Social Technology, 3(3), 404. https://doi.org/10.36418/jist.v3i3.385

Hermawan, D., Chamalah, E., Sudiyati, S., Tasai, J., & Hasanudin, C. (2024). Integration of Differentiated Learning with Problem-Based Learning to Increase Learning Activity and Achievement. Journal of Indonesian Language Education, 12(2), 95–105. https://doi.org/10.30659/jpbi.12.2.95-105

Hulkin, M., Nugraheni, A. S., Suleman, M. A., & Karimah, V. H. (2025). Analysis of Reading Comprehension Skills with a Differentiated Learning Model Based on Problem Based Learning in Inclusive Elementary School. Journal of Obsession: Journal of Early Childhood Education, 9(1), 146–154. https://doi.org/10.31004/obsesi.v9i1.6212

Kadek, W. asita, Wirawan, K. A., & Payana, G. A. U. (2024). Article Title. Vyavahara Duta, 19(2), 134–141. https://doi.org/10.25078/vyavaharaduta.v19i2.4081

Lestari, L., Hadarah, H., & Soleha, S. (2023). Implementation of Differentiated Learning in Improving the Learning Activities of High Class Students at State Elementary School 10 Pangkalpinang. EDOIS: Journal of Islamic Education, 1(2), 49–58. https://doi.org/10.32923/edois.v1i02.3710

Marantika, J. E. R., Tomasouw, J., & Wenno, E. C. (2023). Implementation of Differentiated Learning in the Classroom. German Für Gesellschaft (J-Gefüge), 2(1), 1–8. https://doi.org/10.30598/jgefuege.2.1.1-8

Minarti, I. B., Nurwahyunani, A., Fajriyah, S. A., Sholekhah, S. D., Ardian, V. V. K., Lestari, S. A., & Firdaus, D. H. (2023). Integration of Problem Based Learning (PBL) Models in Improving Learning Outcomes and Student Motivation in Indonesia. Journal of Biology Education, 1(2). https://mathedu.joln.my.id/index.php/edu/article/view/32

Mubarok, H., Lubis, N. L. A., Daulay, F. F., & Syafnan, S. (2026). Integration of Contextual Teaching and Learning (CTL) and Problem Based Learning in Learning to Improve Students' Problem-Solving Skills. Journal of Indonesian Education Research. https://jpion.org/jpion.org/index.php/jpi/article/view/1280

Muti'ah, I., Fidyastuti, F., Tri Bhuana, A. M., Lukmana, R. I., & Nugraheni, L. (2025). Analysis of Literacy Ability of Elementary School Students: Challenges and Their Handle. Literacy: Journal of Indonesian Teacher Education, 4(4), 200–212. https://doi.org/10.58218/literasi.v4i4.2118

Naibaho, D. P. (2023). Differentiated learning strategies are able to improve students' learning comprehension. Journal of Creative Student Research, 1(2), 81–91. https://doi.org/10.55606/jcsrpolitama.v1i2.1150

Neyarasmi, F., & Mardatillah, R. (2025). Development of Innovative Electronic Modules Based on Digital Literacy in the Course of Material Development and Learning Media. DEIKTIS: Journal of Language and Literature Education, 5(4). https://doi.org/10.53769/deiktis.v5i4.2447

Nurbulan, E., Hidayat, & Mursid, R. (2025). Development of Differentiated Social Studies E-Module Based on Problem Based Learning on Indonesiaku Kaya Raya Material to Improve the Critical Thinking Skills of Grade V Elementary School Students. Pedagonal : Scientific Journal of Education, 10(4). https://doi.org/10.23969/jp.v10i04.38574

Purnawanto, A. T. (2023). Differentiated Learning. JOURNAL PEDAGOGY, 16(1), 34–54. https://doi.org/10.63889/pedagogy.v16i1.152

Putri, I. T. A., Agusdianita, N., & Desri, D. (2024). Literacy in Improving the Critical Thinking Skills of Elementary School Students in the Digital Era. Social, Humanities, and Educational Studies (SHES): Conference Series, 7(3). https://doi.org/10.20961/shes.v7i3.92427

Ramadhani, M., & Mardhiah, A. (2025). The Effect of Reading Literacy on the Ability to Understand Texts in Elementary School Students. Al-Madrasah: Scientific Journal of Madrasah Ibtidaiyah Education, 9(4). https://doi.org/10.35931/am.v9i4.3563

Safitri, N., Safriana, S., & Fadieny, N. (2023). Literature Review: Differentiated Learning Models Improve Student Learning Outcomes. Journal of Education and Physical Sciences, 3(2), 246–255. https://doi.org/10.52434/jpif.v3i2.2811

Safitri, N. W., & Andriani, A. (2025). Challenges of Elementary School Teachers in 21st Century Learning

Practices on the Elements of Students' Critical Thinking Skills in Class II SD N 2 Karanganyar Purbalingga. Pendas: Scientific Journal of Basic Education, 10(02). https://journal.unpas.ac.id/index.php/pendas/article/view/45925

Setyaningsih, S. (2024). Development of Differentiated Learning Module Based on Problem Based Learning (PBL) on Human Digestive System Materials to Improve Critical Thinking Skills of Class XI High School Students [Universitas Muhammadiyah Metro]. http://eprints.ummetro.ac.id/id/eprint/3155

Sutrisno, T. (2025). The Effectiveness of Problem-Based Learning (PBL) with Digital and the Integration of Madura Local Culture on the Science Literacy of Elementary School Students. TADRUSUUN: Journal of Basic Education, 4(2), 107–118. https://doi.org/10.62274/tadrusuun.v4i2.241

Syisva, S., Kurniah, N., Suryadi, D., Kristiawan, M., & Risdianto, E. (2024). The Effectiveness of the Early Childhood Education Differentiated Learning Model to Support the Independent Curriculum. Journal of Counseling and Education, 12(4), 446–457. https://doi.org/10.29210/1131900

Triyanti, Y., Hanifah, H., & Sumardi, H. (2024). Development of Mathematics Learning Tools with Differentiated Learning-Based Problem Based Learning Learning Model on Arithmetic Series Material for Class X High School. Lebesgue Journal, 5(2), 851–860. https://doi.org/10.46306/lb.v5i2.622

Ulfha, M., Sumarni, W., & Isdaryanti, B. (2025). Diagnostic Assessment in Differentiated Learning in Elementary School. CJPE: Cokroaminoto Journal of Primary Education, 8, 1115–1125. https://doi.org/10.30605/cjpe.8.3.2025.6383

Ummah, M. N., Harsiati, T., & Adi, P. (2026). Tracking the Traces of Reading Literacy Failure: An Analysis of Difficulties of Junior High School Grade VII Students in Inference and Evaluating Narrative Texts. Journal of Onoma: Education, Language, and Literature, 12(1), 648–666. https://doi.org/10.30605/onoma.v12i1.7892

Wahyuni, S., & Haryanti, N. (2024). Optimizing Teacher Competencies in the Development of Differentiated Learning Based on Digital Media. Dedication Vehicle: Journal of PkM Education, 7(1), 142–154. https://doi.org/10.31851/dedikasi.v7i1.15974

Wardani, K., & Darmawan, P. (2024). Differentiated Learning as a Student Diversity Approach to Meet Curriculum Targets. Journal of Mathematics and Natural Sciences and Its Learning, 4(7). https://doi.org/10.17977/um067v4i72024p2

Yani, A. (2025). Optimization of Indonesian Language Learning for the Development of Literacy and Critical Thinking Skills of Elementary School Students. Scientific Journal of Educational Vehicles, 11(7.D), 493–501. https://doi.org/https://jurnal.peneliti.net/index.php/JIWP/article/view/12818

Yani, A., Study, P., Bahasa, P., & Bangkalan, S. P. (2025). Optimization of Indonesian language learning for the development of literacy and critical thinking skills of elementary school students of the Indonesian language and literature education study program, STKIP PGRI Bangkalan. Education, 11(7), 493–501. https://doi.org/https://doi.org/10.5281/zenodo.16328188