

A Book Review of *Problem-Based Learning in Elementary School: Strategies for What Helps Students Thrive*

Imellia¹, Duano Sapta Nusantara², Da Tien Nguyen³, Rohati⁴

^{1,2,4}Universitas Jambi, Jambi, Indonesia

³Hanoi Metropolitan University, Hanoi, Vietnam

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ABSTRACT

This book review examines *Problem-Based Learning in Elementary School: Strategies for What Helps Students Thrive* by Samantha S. Reed, Carol A. Mullen, and Emily T. Boyles. The book discusses the implementation of problem-based learning (PBL) as an instructional approach that supports students' knowledge and skill development through collaborative engagement in solving authentic, real-world problems. This review adopts a descriptive-critical approach, analyzing the book's content, theoretical foundation, key themes, and findings from teacher interviews, while also evaluating its relevance to classroom practice in elementary education. The book emphasizes the development of 21st-century skills, known as the 5Cs, namely critical thinking, creativity, communication, collaboration, and citizenship, and demonstrates how PBL can enhance student engagement, motivation, and academic achievement. Its main strength lies in bridging PBL theory with classroom practice through teachers' lived experiences, making it highly relevant for educators and education stakeholders. However, the book has limitations, particularly in its limited discussion of assessment practices, teacher training, scaffolding strategies, and the challenges of implementing PBL across diverse educational contexts, indicating the need for further elaboration to strengthen its practical applicability.

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Corresponding Author:

Duano Sapta Nusantara

Universitas Jambi, Jambi, Indonesia

Email: duanosaptanusantara@unja.ac.id

1. INTRODUCTION

In the ever-growing complexity of modern-day education in the 21st century, there is a growing need for teaching methods that cultivate the skills mentioned above. This is especially true in elementary schools, where learners are still in the stage of cognitive development that requires concrete examples, structured guidance, and instructional scaffolding to support meaningful understanding [1], [2]. The conventional teacher-centered approach to education has been found less effective at engaging students actively

in the process and at cultivating these skills. As such, Problem-Based Learning (PBL) becomes an option for alternative teaching [3]. In addition, project-based and problem-based approaches are considered effective experiential pedagogies that support interdisciplinary and student-centered learning [4]. PBL is also widely recognized as an approach that enhances students' higher-order thinking and collaborative problem-solving skills when appropriately scaffolded by teachers [5], [6], [7].

In this regard, a suitable contribution would be a book titled *Problem-Based Learning in Elementary School: Strategies for What Helps Students Thrive*, authored by Samantha S. Reed, Carol A. Mullen, and Emily T. Boyles, published in 2021 by Springer Nature Switzerland under the *SpringerBriefs in Education series*. The book consists of five chapters and is intended for elementary school teachers, pre-service teachers, school leaders, and educational researchers. This work presents a comprehensive study on the use of problem-based learning (PBL) in elementary school education. It draws on theoretical background, a literature review, and empirical results from interviews with teachers to present effective instructional approaches for enhancing students' growth and learning. The main aim of the book is to demonstrate how PBL can enhance the 5 Cs (21st-century skills): critical thinking, creativity, communication, collaboration, and citizenship [8].

In addition to explaining the concepts and theories of PBL, this book offers practical lessons on its use in the classroom and the hurdles teachers may encounter. It is structured systematically, with sections devoted to the introduction, literature review, methodology, data analysis, and the conclusions and implications of this research. The book tries to establish a connection between the theoretical and practical aspects of problem-based learning. In addition, the author stresses the significance of linking the lessons to life so that learners can become capable of solving practical problems. However, it is important to note that although PBL has been widely discussed in the educational literature, most studies remain focused on secondary and higher education levels. In contrast, PBL in elementary education requires different instructional strategies due to children's developmental characteristics, including the need for more structured scaffolding, simplified problem design, and guided inquiry processes [9]. This indicates a research gap in the literature regarding the implementation of PBL specifically in elementary school contexts.

In essence, this review examines the role of the book in the education arena regarding the adoption of PBL in elementary schools. In this respect, this review attempts to evaluate the extent to which the book succeeds in tackling problems in modern education and in offering ways to innovate teaching methods. Further, this review will consider the book's coherence, theoretical underpinning, and practical relevance for enhancing educational experiences globally. Specifically, this review aims to evaluate the book's conceptual contribution, practical relevance, strengths, limitations, and implications for implementing PBL in elementary school contexts.

2. METHOD

To evaluate *Problem-Based Learning in Elementary School: Strategies for What Helps Students Thrive* appropriately, it is necessary to develop a structured framework in

which each criterion of the review is analyzed in light of the book's major points of focus [10]. This study is positioned as a descriptive-critical book review, meaning that it does not involve primary data collection but instead relies on a systematic analysis of the book's content, supported by relevant literature on Problem-Based Learning [11]. The criteria considered in the analysis include the overall organization and logic of the text, the extent of theoretical grounding in PBL, its usefulness for elementary school teaching, the feasibility of the proposed strategies for classroom implementation, and its contribution to the development of 21st-century skills, namely the 5 Cs.

Furthermore, the review highlights how well the book addresses the issues affecting education today, such as learner-centered instruction, problem-solving development, and the connection between learning and real-life application. To clarify the review procedure, the analysis is conducted through several systematic steps, including thoroughly reading the book, identifying key themes, summarizing main arguments, evaluating strengths and weaknesses, comparing the book with current PBL literature, and deriving implications for elementary education practice [12]. The analysis method is both deductive and inductive: deductive analysis evaluates the book against predetermined criteria, while inductive analysis identifies emerging themes from the text. This ensures a more structured, evidence-informed interpretation of the book's content [5].

Literature references and academic knowledge of problem-based learning have been used to support this review, ensuring it will be thorough and contextual. In addition, the evaluation criteria include conceptual clarity, practical applicability, quality of evidence presented in the book, discussion of assessment strategies, teacher guidance for implementation, and relevance to the developmental characteristics of elementary school students [13][9]. By integrating theory and practice, this review provides a comprehensive evaluation of the book's contribution, both theoretical and practical. This approach is intended to ensure that the review is relevant for various stakeholders in elementary education, including teachers, school leaders, and education researchers.

3. RESULTS AND DISCUSSION

The book titled *Problem-Based Learning in Elementary School: Strategies for What Helps Students Thrive* was released in 2021 by Springer as part of the *SpringerBriefs in Education* series. The book is available in both print and e-book formats and follows the series' typical structure, presenting recent research findings in a concise yet comprehensive manner. As a *SpringerBriefs in Education* publication, the book presents focused educational research in a compact format, making it accessible to readers who need both theoretical explanation and practical implications.

The book is authored by three main contributors, Samantha S. Reed, Carol A. Mullen, and Emily T. Boyles, who possess strong academic and professional backgrounds in educational leadership and elementary pedagogy. In general, the book examines the implementation of problem-based learning (PBL) within elementary education, with a particular focus on instructional strategies that support the development of 21st-century skills, especially critical thinking, creativity, communication, collaboration, and citizenship (5C) [14]. This section is organized into several parts to make the discussion more

systematic, namely book overview, main themes of the book, strengths of the book, limitations of the book, and implications for elementary education.

The book is organized into several main sections: introduction, literature review, research methodology, data analysis and results, and implications and conclusions. In the introduction, the authors emphasize the importance of PBL as a relevant instructional approach in addressing the challenges of modern education and preparing students for a rapidly changing global world. This perspective aligns with the view that 21st-century education requires not only content knowledge but also higher-order thinking and adaptive skills [5]. In this part, the book primarily explains the urgency of using PBL in elementary education and the need to prepare students with competencies relevant to academic, social, and future life contexts.

The literature review discusses the theoretical foundations of PBL, including the influence of key figures such as John Dewey, who emphasized experiential learning, and Howard Barrows, who developed PBL in medical education. This approach is grounded in constructivist theory, which views knowledge as actively constructed through social interaction and learning experiences [13]. Therefore, PBL is considered a relevant approach for creating meaningful, context-based learning [15]. In the book, this theoretical discussion serves as a conceptual basis for understanding why PBL is not merely a classroom technique but also a student-centered learning framework that connects inquiry, collaboration, and real-world problem-solving.

In the methodology section, the study employs a qualitative approach, using interviews with elementary school teachers who implemented PBL over two academic years. This method allows for in-depth insights into classroom practices [16]. The collected data were then analyzed to identify the most effective instructional strategies that support student development [17]. It should be emphasized that this is the research method used in the book, while the present article serves as a descriptive-critical review of the book. Therefore, this review focuses on how effectively the book presents, explains, and interprets its research process and findings.

The results indicate several key strategies for implementing PBL, including collaborative learning, student-to-student interaction, the use of authentic problems, and the provision of challenging and engaging tasks [18]. The strategies were found to improve student engagement and motivation to learn effectively. This finding is consistent with [5], who argues that PBL promotes active student participation through authentic problem-solving processes. From the book's perspective, these strategies are presented as practical ways for elementary teachers to help students engage with meaningful problems while developing social and cognitive skills.

Furthermore, the findings reveal that PBL contributes to the development of critical thinking and problem-solving skills. Students are trained to analyze situations, evaluate information, and generate relevant solutions [19]. This is supported by Strobel & van Barneveld [20], who found that PBL is more effective than traditional methods in improving higher-order thinking skills and long-term knowledge retention. In this regard, the book positions PBL as an instructional model that can support both academic learning and broader student development.

PBL also enables students to connect classroom knowledge with real-world situations, making learning more meaningful and applicable. [13] highlights that PBL facilitates the integration of theory and practice through contextual learning experiences. As a result, learning becomes more relevant and impactful for students [21]. This point is important because elementary students often need concrete and familiar contexts to understand abstract concepts, so real-world problems can help bridge classroom learning with students' daily experiences.

In the discussion, the authors emphasize that the success of PBL implementation depends on several key factors. In the first place, the teacher's role is as an educator who facilitates rather than dominates the learning process. Second, well-structured instructional design based on authentic problems. Finally, an encouraging learning atmosphere that encourages social interaction and collaboration among students. This is reinforced by Kirschner et al. [22], who stress the importance of scaffolding in problem-based learning to ensure students remain guided throughout the learning process. This indicates that the book does not present PBL as a fully independent learning process, but as a guided instructional approach in which teachers play an important role in designing, facilitating, and supporting students' learning.

However, the book also highlights several challenges in implementing PBL. One major issue is time constraints, as PBL requires more time than traditional instructional methods. Furthermore, teacher readiness is a very important element, since some teachers may not be ready to develop and execute PBL successfully. Assessment systems that are still test-oriented also pose challenges, as they may not fully capture process-based learning outcomes [23]. These findings are supported by Alfonso et al. [24], who note that successful PBL implementation depends heavily on pedagogical readiness and systemic support. These challenges are especially relevant in elementary education because younger learners need more explicit guidance, age-appropriate problems, and ongoing teacher support.

Overall, the book makes a significant contribution to the field of elementary education by offering a comprehensive understanding of PBL. By integrating theory, research, and practice, the book serves as a valuable guide for educators, researchers, and policymakers in developing innovative and relevant educational practices aligned with 21st-century demands [25].

From the reviewer's perspective, the book offers strong value by presenting PBL in a systematic, research-based manner, making it accessible and applicable to educational practitioners. Its primary strength lies in its focus on practical teaching strategies and their connection to the development of 21st-century competencies. The integration of theory and real classroom practices enhances its relevance for both practitioners and academics. Another strength of the book is its focus on elementary school contexts, since many PBL discussions tend to focus more on secondary or higher education. By presenting teacher interviews and classroom-based strategies, the book provides a more practice-oriented contribution to the literature on elementary PBL.

Table 1. Summary of the Book Sections, Contributions, Limitations, and Relevance for Teachers

Book Section	Main Content	Contribution	Limitation	Relevance for Teachers
Introduction	Explains the importance of PBL in elementary education and its relation to 21st-century skills.	Provides a clear rationale for using PBL to develop critical thinking, creativity, communication, collaboration, and citizenship.	The contextual differences among elementary school settings could be discussed more deeply.	Helps teachers understand why PBL is relevant for modern elementary classrooms.
Literature Review	Discusses the theoretical foundations of PBL, including Dewey, Barrows, and constructivist learning theory.	Connects PBL with experiential learning, constructivism, and real-world problem solving.	The discussion could include more recent studies on elementary-level PBL implementation.	Helps teachers connect classroom strategies with educational theory.
Methodology	Presents a qualitative study based on interviews with elementary school teachers who implemented PBL.	Gives practical insight into real classroom experiences and teacher perspectives.	The study context is relatively limited, which may affect generalizability.	Helps teachers learn from the experiences of other practitioners.
Data Analysis and Findings	Identifies strategies such as collaboration, authentic problems, relational interaction, and engaging tasks.	Offers concrete instructional strategies that can support student engagement and 5C development.	Assessment and measurement of PBL outcomes are not explored in sufficient depth.	Provides practical ideas for designing PBL-based classroom activities.
Implications and Conclusions	Discusses the value, challenges, and implications of PBL for elementary education.	Shows the connection between theory, research, and classroom practice.	More detailed guidance on teacher training and scaffolding is needed.	Encourages teachers to implement PBL with structured support and careful planning.

However, several limitations should be noted. First, the relatively narrow research scope, focusing on a specific context, limits the generalizability of the findings. Second, the discussion of assessment in PBL is not sufficiently explored, despite assessment being a critical component of instructional practice. Third, while the book emphasizes the teacher's role, it provides limited guidance on professional development or training needed for effective PBL implementation. From the reviewer's perspective, these limitations are important because the success of PBL in elementary schools depends not only on the use

of authentic problems, but also on teachers' ability to design tasks, guide inquiry, provide scaffolding, and assess both learning processes and outcomes.

Additionally, Kirschner et al. [22] argue that minimally guided instruction, such as PBL, may not always be effective without adequate scaffolding, particularly for novice learners. Therefore, a balance between student-centered learning and structured guidance is essential [26]. Future research is needed to examine the effectiveness of PBL across broader contexts and to develop more comprehensive assessment models aligned with the characteristics of problem-based learning [27].

The implications of this book for elementary education are significant. First, the book suggests that PBL can create more meaningful, student-centered learning experiences when teachers provide appropriate guidance and scaffolding. Second, the book emphasizes the importance of authentic problems that are appropriate to students' developmental levels, since elementary students require concrete, understandable problems that connect to their everyday lives. Third, the book implies that teacher preparation is essential, because successful PBL implementation requires teachers to shift from being knowledge transmitters to learning facilitators. Finally, the book highlights the need for assessment models that can evaluate not only final products or test scores, but also collaboration, reasoning, inquiry processes, and the development of problem-solving skills.

In conclusion, the book offers an important contribution to the discussion of PBL in elementary education. It successfully connects theoretical foundations, empirical teacher experiences, and practical instructional strategies. Nevertheless, its contribution would be stronger if it provided a deeper discussion of assessment, teacher training, scaffolding, and implementation across a wider range of school contexts. Therefore, the book is valuable as a guide for understanding and applying PBL in elementary classrooms, but it should be read critically and complemented with broader literature on instructional design, assessment, and teacher professional development.

4. CONCLUSION

Problem-Based Learning in Elementary School: Strategies for What Helps Students Thrive is an extremely useful source of information for teachers, researchers, and curriculum planners. The book connects the theories and practice of PBL through evidence-based research findings, supported by practical examples of teachers' classroom application of PBL strategies. The systematic analysis of Problem-Based Learning presented in the book, from the basics through literature review to research findings, and finally to implementation, makes it clear how relevant and flexible PBL can be applied in different elementary school classrooms. However, this flexibility should be understood with caution, since the book's findings are based on a specific research context and may require adaptation when applied in different cultural, institutional, or classroom settings.

Additionally, what makes the book unique is its ability to link instructional techniques to the cultivation of 21st-century skills, specifically the 5C skills, making it extremely relevant to today's educational trends. Not only are the ideas discussed theoretical in nature, but they are also pragmatic and easy to implement in actual classroom settings. Hence, the book serves not only as a valuable resource but also as a practical tool

for implementing learner-centered instruction through authentic problem-solving. Overall, the book is recommended with limitations, particularly for elementary school teachers, teacher educators, researchers, curriculum planners, and school leaders who seek to understand how PBL can support student-centered learning and 21st-century skill development in elementary education.

Nonetheless, certain aspects have not been adequately explored in this book, including the role of teacher training in effectively implementing PBL, differences across various educational contexts, and the application of technology in learning processes. In addition, the book would be stronger if it offered a deeper discussion of assessment models, teacher professional development, scaffolding for young learners, and strategies for implementing PBL across more diverse educational contexts. Besides, there is potential for further research on the topics raised by the author, which would enrich previous findings with new knowledge and experience. Future research may focus on comparative studies of PBL implementation across different school contexts, classroom-based assessment models for PBL, teacher professional development programs, technology-supported PBL, and the adaptation of PBL in different cultural and institutional settings.

In general, this book will be of great interest to any reader who is trying to design new approaches to teaching that focus more on students' needs and development rather than the requirements imposed by the traditional curriculum, especially at the elementary school level. Therefore, this book can be considered a valuable and practical reference for understanding PBL in elementary education, although it should be complemented with further studies on assessment, scaffolding, teacher training, technology integration, and broader implementation contexts.

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