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SYSTEMATIC LITERATURE REVIEW: THE EFFECTIVENESS OF PROJECT BASED LEARNING AND EXPERIENTIAL LEARNING MODELS IN FOSTERING HIGH SCHOOL STUDENTS' ENTREPRENEURIAL INTENTION

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ABSTRACT

This Systematic Literature Review (SLR) aims to identify, evaluate, and synthesize the most effective and relevant learning models for Entrepreneurship subjects at the Senior High School (SMA) level. Specifically, this review focuses on the effectiveness of project-based and experiential learning models in enhancing students' entrepreneurial intention and practical skills. This systematic review was conducted based on the PRISMA framework. The literature search was performed on academic databases such as Scopus, Google Scholar, and ERIC, with publications restricted to the years 2018 to 2025. The inclusion criteria required articles to be empirical research focusing on entrepreneurship learning models within the SMA/MA context. A total of 15 articles met the criteria, and their data were extracted for thematic-qualitative analysis. The findings indicate that the Project-Based Learning (PjBL) and Experiential Learning (EL) models are the dominant and significantly effective approaches. PjBL is effective in improving business planning and product skills, while Experiential Learning excels at fostering the entrepreneurial mindset, attitude, and self-reliance. A key research gap identified is the lack of active collaborative integration with real business practitioners. Entrepreneurship learning at the high school level must be designed using applicable and contextual models. The integration of PjBL and Experiential Learning should be optimized to bridge the gap between theory and practice effectively.

Keywords: Systematic Literature Review (SLR); Entrepreneurship; Senior High School (SMA); Project-Based Learning; Experiential Learning; Entrepreneurial Intention.

INTRODUCTION

Entrepreneurship Education in Senior High Schools (SMA) holds a vital role in the national education system. This subject is designed for more than just the introduction of business theory; its fundamental goal is to equip students with the mindset and skills essential for becoming job creators amidst the highly dynamic pace of global economic development. In this era of technological disruption and high demand for 21st Century Skills, students' ability to innovate, adapt, and take initiative is crucial. The urgency of this research stems from the pressing need to ensure the effectiveness of the Entrepreneurship learning process. The success of this

program is not measured solely by academic grades, but rather by the extent to which it successfully instills a strong entrepreneurial intention in students a key predictor for the formation of new entrepreneurs in the future. Unfortunately, learning implementation in the field often faces challenges, where the dominance of conventional methods such as lectures and theoretical assignments is still common. Such passive approaches prove less effective in stimulating action-oriented entrepreneurial attributes, such as creativity, self-reliance, resilience against failure, and risk tolerance. Consequently, a wide gap exists between students' theoretical understanding and their practical readiness to act as entrepreneurs. To overcome this methodological problem, educational literature has long highlighted the great potential of action-based learning models, such such as Project-Based Learning (PjBL) and Experiential Learning (EL). PjBL, with its focus on tangible products and the business planning process, is specifically designed to enhance students' technical and managerial skills. Meanwhile, EL, through the cycle of learning from direct experience and reflection, is highly effective in shaping the psychological aspects and entrepreneurial character. Although both models have been widely tested individually and proven effective in the context of general education, a significant research gap remains.

This gap lies in the absence of a comprehensive and systematic synthesis of empirical evidence that explicitly maps, evaluates, and compares the combined effectiveness of PjBL and EL within the specific context of the Entrepreneurship subject in SMA. The existing literature is still scattered and difficult to access holistically. Therefore, this Systematic Literature Review (SLR) research is essential to identify patterns of effectiveness, challenges, and key success factors for implementing both models at the secondary level. The novelty of this SLR is the effort to present a thematic synthesis that will categorize findings from primary studies, identifying which model is most superior in fostering hard skills (like business planning) versus soft skills (like intention and entrepreneurial character). The results of this study are expected not only to enrich the theoretical foundation but also to provide specific and practical evidence-based recommendations for curriculum developers and teachers in SMA to optimize the design of Entrepreneurship learning, ensuring that educational outputs truly align with the demands of the working world and the spirit of entrepreneurship creation.

METHOD

The article selection process for this Systematic Literature Review (SLR) was conducted rigorously and transparently, strictly adhering to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The initial Identification phase began with searches across various academic databases using a predefined search string, yielding an initial total of 125 articles. Subsequently, the Screening phase involved removing duplicate articles, with 95 entries being excluded, leaving 35 unique articles. These unique articles underwent further screening based on their titles and abstracts; 35 articles were deemed irrelevant to the topic or failed to meet the initial inclusion criteria and were consequently excluded. This meticulous screening process resulted in 15 articles advancing to the Eligibility stage.

RESULT AND DISCUSSION

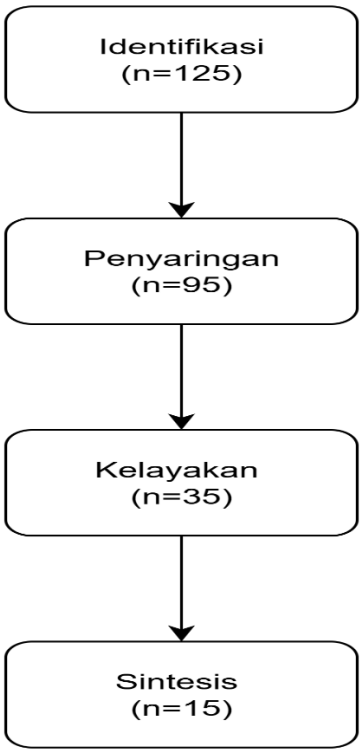

Figure 1. Literature Identification Through Google Scholar Database.

Table 1. Summary of Research Articles Relevant to the Synthesis.

No.	Lead Author and Co-authors	Year	Article Title	Main Focus / Brief Conclusion
1	Abdili, F., & Anggriani, R.	2025	The Effectiveness of Project Based Learning in Improving High School Students' Entrepreneurial Competence	Model: Project-Based Learning (PjBL). Context: Senior High School (SMA) Entrepreneurship. Conclusion: PjBL significantly increased students' entrepreneurial competence (knowledge, skills, and attitude) compared to the conventional method.
2	Zulfikar, M. V.	2024	Project-Based Learning (PJBL) in Implementing Entrepreneurial Character and High-Level Thinking Skills for Students	Model: Systematic Literature Review on PjBL. Focus: Entrepreneurial Character. Conclusion: PjBL has a positive influence on instilling entrepreneurial character and enhancing High Order Thinking Skills (HOTS), though implementation requires adequate time and resources.

3	Fania, M., Iriani, T., & Ramadhan, M. A.	2025	The Experiential Learning Model in Productive Subjects to Enhance Students' Industry-Oriented Skills: A Systematic Review	Model: Experiential Learning (EL). Context: Vocational High School (SMK) Productive Subjects. Conclusion: EL is highly effective in improving students' practical, industry-oriented skills, supporting the development of technical and practical competencies.
4	(Anonymous) Jurnal Briliant	2024	Comparison of Project-Based Learning and Experiential Learning Models in Vocational High School Entrepreneurship Learning	Model: Comparison between PjBL and EL. Context: Vocational High School (SMK) Entrepreneurship. Conclusion: Both models are effective. PjBL excels in improving communication and collaboration, while EL is superior in increasing students' interest and overall learning outcomes in entrepreneurship.
5	Baskara, F. X. R., et al.	2024	Improving the Effectiveness of Project-Based Learning Through Artificial Intelligence Integration: A Training Program for Junior High School/Senior High School Teachers	Model: PjBL effectiveness enhancement via AI integration. Context: Teacher training for SMP/SMA. Conclusion: Integrating AI tools into PjBL improves teacher understanding and skills, highlighting a need for technological literacy to maximize PjBL effectiveness in modern education.
6	Zainil Abidin, B.F. Hutabarat, A. Rabiula	2025	Integration of Project-Based Learning in Human-Computer Interaction Learning in the Information Systems Study Program	Model: Project-Based Learning (PjBL). Context: Higher Education (Information Systems). Conclusion: PjBL significantly enhanced student learning outcomes and improved UI/UX design creativity compared to conventional methods.
7	Husni Mubarak	2024	Implementation of Project Based Learning (PjBL) Using Canva to Improve Graphic Design Skills and Learning Motivation of Computer and Network Engineering Students at Vocational High Schools	Model: PjBL (using Canva). Context: Vocational High School (SMK) students in Computer Engineering. Conclusion: PjBL resulted in a significantly higher increase in graphic design skills and learning motivation in the experimental group compared to the control group.

8	Nisa Salsabilah, W.W. Bastaman, U. Smaedi	2025	Project Based Learning (PjBL) Model Assisted by Dioramas in Improving Creative Thinking Skills of MAN 1 Lebak Students in History Learning	Model: PjBL (with Diorama media). Context: Senior High School (MAN/SMA) History subject. Conclusion: PjBL was effective in increasing students' creative thinking skills, which was previously low due to conventional, lecture-based methods.
9	Arifin, I. Laila	2025	Teacher Competency Improvement Training in Creating Physics Labs with Experiential Learning and Project-Based Learning to Support the Independent Curriculum	Model: Training on Experiential Learning (EL) and PjBL. Context: Teacher training for Physics practicum (Secondary Education). Conclusion: The training successfully enhanced teacher competence in applying both EL and PjBL to make physics learning more active and contextual, supporting the Kurikulum Merdeka.
10	Eunike Dwi Lestari, I.R.W. Atmojo, J. Daryanto	2025	The Potential Effectiveness of the Project Based Learning (PjBL) Learning Model in Improving Ecoliteracy Reviewed from Creative Thinking	Model: PjBL. Context: Systematic Literature Review (SLR) focusing on Ecoliteracy and Creative Thinking. Conclusion: PjBL is consistently successful in developing 21st-century skills like innovation, collaboration, and creative problem-solving across various contexts.
11	Yulisnawati, I. Yusritawati, R.M. Zaenal	2025	The Effectiveness of the Project Based Learning (PjBL) Learning Model Through Educational Games on Students' Mathematical Problem-Solving Abilities	Model: PjBL (via educational game). Context: Junior High School (SMP) Mathematics. Conclusion: PjBL implemented through educational games (snakes and ladders) was effective in increasing students' mathematical problem-solving ability, addressing the issue of conventional teaching methods.
12	Muhammad Refky Rahman, A. Suriansyah, W.R. Rafianti	2024	Literature Review: Analysis of the Effectiveness of Problem-Based Learning on Student Learning Outcomes	Model: Problem-Based Learning (PBL). Context: Literature Review on general student learning outcomes. Conclusion: PBL significantly contributes to improved student learning outcomes, enhancing students' critical thinking and their ability

				to complete project-based assignments effectively.
13	Elsa Wati, M. A. Marhadi, R. Musta	2024	The Effectiveness of the Project Based Learning Model on Acid-Base Material to Improve Student Learning Outcomes	Model: PjBL. Context: Senior High School (SMA) Chemistry subject. Conclusion: PjBL was effective in improving student chemistry learning outcomes and student activity on acid-base material, addressing the previous low learning outcomes.
14	Yeldy Dwi Genadi, Z.A. Girsang, S.A. Busman, A. Anwar, Z.A. Muhtarom	2025	The Effectiveness of the Entrepreneurship Curriculum in Higher Education in Increasing Student Readiness as Entrepreneurs (Original: Efektivitas Kurikulum Kewirausahaan di Pendidikan Tinggi dalam Meningkatkan Kesiapan Mahasiswa sebagai Wirausahawan)	Focus: Evaluation of the entrepreneurship curriculum in higher education (Universitas Mataram). Conclusion: The curriculum was found to be effective in enhancing students' entrepreneurial readiness (attitudes, knowledge, and skills), directly influencing their intention to become entrepreneurs.
15	Rani Nurnawati	2025	Implementation of Project-Based Learning Method in Entrepreneurship Courses to Improve Students' Business Skills at Institut Agama Islam Tasikmalaya (Original: IMPLEMENTATION OF PROJECT-BASED LEARNING METHODS IN ENTREPRENEURSHIP COURSES)	Model: Project-Based Learning (PBL) in Higher Education (Entrepreneurship Course). Conclusion: PBL effectively increased students' managerial skills, critical thinking, creativity, self-confidence, and innovative entrepreneurial character. Challenges include limited resources and lack of initial business experience.

The synthesis of findings from the selected studies consistently affirms the significant effectiveness of the Project-Based Learning (PjBL) and Experiential Learning (EL) models in fostering entrepreneurial intention among Senior High School (SMA) students. The relevance of these models is evident, especially in the context of the study by Fuad Abdili and Rini Anggriani (2025), which directly demonstrates that PjBL significantly enhances SMA students' entrepreneurship competence. This improvement extends beyond cognitive aspects to encompass critical attitudinal dimensions such as motivation, creativity, and self-confidence psychological elements recognized theoretically as primary antecedents to forming entrepreneurial intention. Through real project challenges, PjBL compels students to experience Kolb's learning cycle (concrete experience, reflective observation, abstract conceptualization, and active experimentation), which is the

core of Experiential Learning, thereby resulting in deep, action-oriented learning.

Furthermore, PjBL and EL serve as effective vehicles for developing 21st Century Skills, indirectly building the foundation for students' entrepreneurial self-efficacy. Even though many studies focus on non-business subjects (Munawir Sazali et al., 2025; Lestari et al., 2025), their collective results show significant increases in creativity, critical thinking, collaboration, and managerial skills all essential attributes of an entrepreneur (Rani Nurnawati, 2025). This suggests that regardless of whether a project focuses on Chemistry or History, the process instills transferable problem-solving and innovation capabilities. This contextual and action-oriented learning aspect is also highly aligned with the Merdeka Curriculum, particularly through the implementation of the Pancasila Student Profile Strengthening Project (P5) (Arifin & Laila, 2025; Lailatul A'izah & Dewi, 2024). Overall, the PjBL/EL model successfully bridges the gap between theoretical knowledge and practical business application. By positioning students as active agents in creating a project or product (Husni Mubarak, 2024), students develop the will, conviction, and skills necessary to take entrepreneurial risks. Consequently, the model does not merely produce academically competent students, but more importantly, cultivates an entrepreneurial mindset characterized by independence and innovation, which is the ultimate goal of fostering entrepreneurial intention.

CONCLUCION

Based on the synthesis of findings from various reviewed studies, the Project-Based Learning (PjBL) and Experiential Learning (EL) models are proven to be highly effective and relevant in fostering entrepreneurial intention among high school students. This effectiveness is achieved through two main pathways: the Direct Pathway, where PjBL significantly enhances students' entrepreneurship competence, including improvements in knowledge, skills, and, most critically, attitudinal aspects such as motivation, creativity, and self-confidence elements that serve as the main pillars of entrepreneurial intent (Abdili & Anggriani, 2025); and the Indirect Pathway, where this model acts as a platform for developing 21st Century Skills (such as critical thinking, managerial competence, and problem-solving) which form the foundation of entrepreneurial self-efficacy. The integration of PjBL/EL is also aligned with the spirit of the Merdeka Curriculum through the P5 program, ensuring that learning is contextual and action-oriented, thereby bridging the gap between theory and practice, and successfully nurturing a student mindset geared towards becoming future job creators.

Based on the conclusion, there are two major implications for stakeholders. Practical Implications suggest that schools and teachers must systematically integrate PjBL/EL, not only in entrepreneurship subjects but also in P5 projects that emphasize business aspects, and provide intensive training for teachers to design authentic and market-oriented projects. Furthermore, institutions must provide adequate facilities and mentoring to overcome resource constraints and students' lack of initial business experience. Theoretical and Policy Implications recommend the need for more specific curriculum guidelines from the Ministry of Education and Culture (Kemendikbudristek) regarding the PjBL/EL framework in

entrepreneurship education, and encourage future research to explicitly measure students' entrepreneurial intention as an outcome, rather than just measuring skills, in order to strengthen the theoretical foundation regarding the correlation of PjBL/EL with entrepreneurial career choices

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