A Systematic Literature Review of Project-Based Learning Models in Enhancing EFL Learners' English Writing Skills

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Abstract: The increasing emphasis on communicative competence in English as a Foreign Language (EFL) instruction highlights the need for effective pedagogical approaches to improve learners' writing skills. Project-Based Learning (PjBL) has gained attention as an instructional model that integrates authentic tasks, collaboration, and learner autonomy in writing instruction. This study aims to systematically examine the role of Project-Based Learning in enhancing EFL learners' English writing skills based on empirical studies published between 2023 and 2025. Employing a qualitative Systematic Literature Review (SLR), this study follows the PRISMA 2020 guidelines and applies the PICOS framework to define the scope of analysis. Literature searches were conducted using the Scopus, Web of Science, ERIC, and Google Scholar databases with pre-defined Boolean search strategies. The initial search yielded 91 journal articles, which were screened using established inclusion and exclusion criteria. Through the selection and data charting process, 13 peer-reviewed empirical studies were identified and systematically analyzed. The selected studies were synthesized in a matrix table of study characteristics and analyzed using thematic synthesis and descriptive analysis to identify patterns related to PjBL designs, project types, writing components, and reported challenges. The findings indicated that Project-Based Learning consistently improves EFL learners' writing performance, particularly in content development, text organization, vocabulary use, and learner engagement. However, improvements in micro-linguistic aspects such as grammatical accuracy, cohesion, and writing mechanics are less consistently reported. This review highlighted methodological limitations in existing studies and offers implications for pedagogy and future research, particularly regarding longitudinal designs, cross-genre writing development, and digital integration.

Keywords: Project-Based Learning; EFL Context; English Writing Skills; Writing Performance; Systematic Literature Review; PRISMA.

1. Introduction

Writing is widely recognized as one of the most complex and demanding skills in English language learning, particularly within English as a Foreign Language (EFL) contexts. Unlike receptive skills, writing requires learners to integrate multiple linguistic, cognitive, and organizational components simultaneously, including content development, text organization, grammatical accuracy, vocabulary use, coherence, and mechanics. Empirical evidence from recent EFL studies consistently indicates that learners encounter persistent difficulties in generating ideas, organizing texts coherently, and using accurate grammar and appropriate vocabulary in written production (Hidayati, 2023; Mukhlisin et al., 2023; Rahardi et al., 2023).These challenges are further reflected in low writing fluency and limited textual development, leading many learners to perceive writing as a demanding and anxiety-inducing activity, particularly in academic writing contexts (Andargie et al., 2025; Rahardi et al., 2023).

These persistent writing difficulties are closely associated with the predominance of conventional, teacher-centered instructional practices in EFL writing classrooms. Several studies revealed that writing instruction remains largely product-oriented, focusing on final texts, mechanical drills, and surface-level error correction, with limited

emphasis on the writing process, learner interaction, and meaning-focused language use (Hakimah, 2023; Mukhlisin et al., 2023). Such practices provide minimal opportunities for authentic writing tasks and collaboration, resulting in low learner engagement and reduced motivation (Rosli et al., 2024; Yang et al., 2025). Rahardi et al. (2023) further reported that students often perceive writing as an isolated classroom task rather than a meaningful communicative activity, which negatively affects confidence and active participation.

In response to these pedagogical limitations, Project-Based Learning (PjBL) has gained increasing attention as a learner-centered instructional approach in English language teaching. PjBL emphasizes sustained inquiry, collaboration, problem-solving, and the production of meaningful outcomes through project completion. Within EFL writing instruction, PjBL situates writing in authentic and contextualized tasks, such as genre-based text production, academic projects, reports, reflective journals, and digital content creation (Amali et al., 2024; Hidayati, 2023; Rambe & Basikin, 2024). By engaging learners in collaborative and purposeful projects, PBL is believed to enhance motivation, autonomy, creativity, and critical thinking while providing extensive opportunities for meaningful writing practice (Rahardi et al., 2023; Syamsuddin et al., 2025).

A growing body of empirical research has examined the implementation of Project-Based Learning in teaching English writing across diverse EFL contexts and educational levels. Evidence from classroom action research, experimental, quasi-experimental, mixed-methods, and qualitative studies consistently reports positive effects of PjBL on learners' writing development. Improvements have been documented in content development, text organization, coherence, vocabulary use, grammatical accuracy, and overall writing performance (Andargie et al., 2025; Gao et al., 2024; Hakimah, 2023; Mukhlisin et al., 2023). In addition to linguistic gains, several studies highlighted positive effects on affective and non-cognitive dimensions, including engagement, collaboration, motivation, confidence, and creativity (Rahardi et al., 2023; Syamsuddin et al., 2025), indicating that PBL addresses both cognitive and affective challenges in EFL writing instruction.

Despite these promising outcomes, the existing literature remains fragmented and context-dependent. Substantial variation exists in project types, instructional designs, duration of implementation, assessment methods, learner proficiency levels, and educational contexts, leading to inconsistent findings and limited comparability (Amali et al., 2024; Hidayati, 2023; Rahmawati et al., 2025). Moreover, many studies focus on a single writing genre and primarily emphasize macro-level aspects such as content and organization, while micro-linguistic components including grammatical accuracy, cohesion, and mechanics received comparatively less attention (Arochman et al., 2024; Mukhlisin et al., 2023). Methodological constraints such as short intervention periods, small samples, lack of control groups, and single-site designs further limit the generalizability of findings (Andargie et al., 2025; Hakimah, 2023).

Although challenges in implementing Project-Based Learning are frequently reported, they have not been systematically synthesized. Common challenges include time constraints, assessment complexity, teacher readiness, classroom management difficulties, uneven learner proficiency levels, and limited integration of digital technologies and artificial intelligence within PjBL frameworks (Mukhlis, 2024; Mukhlisin et al., 2023; Rahardi et al., 2023). Consequently, the literature lacks a comprehensive understanding of how specific PBL designs and project characteristics influence particular components of writing skills and how contextual constraints shape successful implementation. Despite the extensive empirical evidence reporting the benefits of Project-Based Learning in EFL writing instruction, the existing literature reveals a persistent and systematic gap. Previous studies remain fragmented and context-bound, often examining isolated writing genres, emphasizing macro-level outcomes such as content and organization, and employing short-term or

methodologically limited research designs**.** More critically, a recurring pattern across these studies showed that improvements in macro-level writing skills tend to be more robust and consistent than improvements in micro-linguistic accuracy, which includes grammatical accuracy, lexical precision, cohesion, and mechanics. This imbalance points to a theoretically meaningful issue rather than a purely methodological limitation, since project-based writing tasks primarily facilitate higher-order writing processes related to planning, idea generation, and discourse organization.

In contrast, the development of linguistic accuracy requires sustained practice, repeated exposure, and systematic feedback, opportunities that are often limited in meaning-oriented and time-constrained PjBL implementations. As a result, micro-linguistic aspects of writing, along with affective dimensions such as motivation, engagement, and confidence, are frequently reported but rarely synthesized within an integrated analytical framework. Moreover, variations in Project-Based Learning designs, project types, learning activities, and the increasing yet unsystematic use of digital technologies and artificial intelligence have contributed to inconsistent findings that complicate comprehensive interpretation across contexts. These conditions indicate the absence of a systematic synthesis that concurrently integrates instructional design characteristics, multidimensional writing outcomes, and implementation challenges. To address this gap, the present study undertakes a Systematic Literature Review guided by the PRISMA 2020 guidelines and the PICOS framework, synthesizing empirical studies published between 2023 and 2025.

Although numerous systematic literature reviews and meta-analyses have examined the application of Project-Based Learning (PjBL) in language education, their contribution to understanding EFL writing instruction remains limited. Most previous syntheses are grounded in studies conducted prior to recent pedagogical transformations, adopt broadly defined skill domains, and prioritize aggregated measures of effectiveness. Consequently, they offer insufficient examination of instructional design variations in PjBL and the differential effects of such designs on macro and micro level dimensions of writing development. In 2023-2025 period represented a critical phase in PjBL research, shaped by post-pandemic instructional transformations, the increasing adoption of technology-mediated and hybrid project models, the early integration of artificial intelligence supported tools, and escalating demands for academic and genre-based writing competence. By systematically synthesizing studies published during this period, the present review goes beyond updating prior findings and provides a design-oriented analysis of PjBL implementation, revealing emerging instructional patterns, underexplored writing components, and methodological trends that have not been comprehensively synthesized in earlier reviews. Accordingly, the primary contribution of this review lies in advancing a conceptual understanding of how PjBL operates within contemporary EFL writing contexts, rather than merely reaffirming its overall effectiveness.

This review seeks to examine the role of Project-Based Learning in enhancing EFL learners' English writing skills by providing an integrated analysis of how Project-Based Learning is designed and implemented in writing instruction, which aspects of writing skills encompassing content development, organization, grammar, vocabulary, and mechanics are most affected, and what challenges and limitations emerge during implementation. By consolidating linguistic, affective, and pedagogical dimensions within a single systematic review, this study offers a novel and comprehensive contribution to the literature. Accordingly, it addresses three interrelated research questions such as how Project-Based Learning contributes to the development of EFL learners' English writing skills, how different Project-Based Learning designs and learning activities influence specific components of writing ability, and what constraints and challenges are reported in applying Project-Based Learning to English writing instruction. Through this integrated synthesis, the study aims to provide evidence-based

insights for educators, curriculum designers, and future researchers seeking to optimize Project-Based Learning in diverse EFL writing contexts.

2. Materials and Methods

This study employed a Systematic Literature Review (SLR) to synthesize empirical evidence on the role of Project-Based Learning (PBL) in enhancing EFL learners' English writing skills. The review followed the PRISMA 2020 guidelines (Page et al., 2021) to ensure transparency, rigor, and consistency in reporting the review process. To define the scope of the review and establish inclusion and exclusion criteria, the PICOS framework was applied, drawing on its adaptation for systematic reviews proposed by Behghadami and Janati (2020). The population comprised EFL learners across educational levels; the intervention focused on Project-Based Learning; comparisons included traditional or non–project-based instruction or pre–post conditions; outcomes covered English writing skills (e.g., content, organization, coherence, grammatical accuracy, vocabulary, mechanics, and overall performance); and eligible studies employed experimental, quasi-experimental, mixed-methods, or qualitative designs. Literature searches were conducted in Scopus, Web of Science, ERIC, and Google Scholar using Boolean combinations of keywords related to PBL, writing skills, and EFL contexts. Peer-reviewed journal articles published in English between 2023 and 2025 were included.

This temporal delimitation was adopted as a deliberate review design decision rather than a limitation of access or scope, aiming to capture recent developments in EFL pedagogy characterized by post-pandemic instructional practices, increasing adoption of technology-enhanced PBL, and evolving demands for academic and genre-based writing. Methodologically, restricting the timeframe narrows the breadth of the synthesis by excluding earlier foundational PBL studies; however, it enhances analytical depth by enabling greater thematic coherence across studies situated within comparable pedagogical contexts. This trade-off allows for a more focused examination of instructional design features, assessment practices, and differential effects on macro- and micro-level writing development, thereby strengthening the interpretive validity of the review in alignment with its stated objectives. Following the PRISMA stages of identification, screening, eligibility, and inclusion, 13 empirical studies were selected for analysis. Data were charted and thematically synthesized to capture research contexts, PBL implementation, writing outcomes, and reported challenges, and summarized in a matrix table of study characteristics. The corresponding PRISMA 2020 flow diagram is presented below:
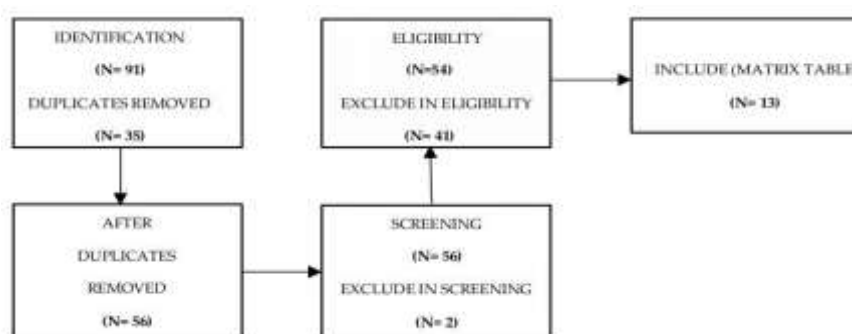

Diagram 1. Literature Selection Process (PRISMA 2020)

Diagram 1 illustrated the systematic process of study identification, screening, eligibility assessment, and final inclusion following the PRISMA 2020 framework. The diagram visually presents the step-by-step filtering of records retrieved from multiple databases, beginning with the initial identification of 91 articles, followed by the removal of duplicates and irrelevant studies during the screening stage. Subsequently, full-text arti-

cles were assessed for eligibility based on predefined inclusion and exclusion criteria, resulting in a final selection of 13 studies included in the systematic review.

Table 1. Literature Studies (Matrix Table)

Author (Year)	Context & Research Design (Participants)	Project Based Learning Design & Media	Writing Out comes (Core Findings)	Key Limitations (Methodological)
Mukhlisin et al. (2023)	Classroom Action Research; VII B students at SMPN 1 Selong; (N=32)	Descriptive-text projects (posters); group work, presentation, feedback; outputs uploaded to social media	Significant improvement in content development and vocabulary use	Some students had difficulty using English accurately; limited student activeness in early cycle
Rahardi et al. (2023)	Qualitative Study; English-major undergraduate students from a state university in Central Java (N=40)	Academic writing–based research projects, Collaborative project work and paper writing; Instructional media not specified	Perceived improvement in English language skills, Development of 21st-century skills, particularly: Writing, Problem-solving and Critical thinking	Student motivation issues, Time management constraints, Challenges in the teaching-learning process and Students' teamwork problems
Hidayati (2023)	Pre-experimental design; Sixth-semester Students' STAI Diponegoro Tulungagung (N=30)	Project-based report writing and presentations	Improved overall writing performance and writing processes; enhanced collaboration and engagement	No control group; limited inquiry depth; media not reported
Hakimah (2023)	Pre-experimental, one-group pretest–posttest; 42 Grade 9 students, SMPN 48 Surabaya.	PBL for procedure text writing; collaborative project tasks; authentic writing activities.	Writing improvement observed, especially in organization, clarity, coherence, and language proficiency of procedure texts.	No control group; single class/school; convenience sampling; procedure text only; short duration.
Rambe and Basikin (2024)	Classroom Action Research; Students of class XI TKJ 1 at SMK Politeknik YP3i Banyumas (N=36)	PJBL using Canva; individual & group product-based writing	Enhanced Narrative writing skill; improved participation, involvement, and achievement	Short duration of implementation.
Mukhlis (2024)	Experimental; Grade of XI students (30 PjBL ChatGPT, 30 conventional), SMK Negeri 3 Pekanbaru (N=60)	ChatGPT-based Project-Based Learning model; comparison with conventional learning; integration of digital literacy	ChatGPT-based PjBL significantly improved news text writing skills; no interaction effect between PjBL and digital literacy	Not explicitly stated
Gao et al. (2024)	Mixed-methods; Chinese undergraduates (non-English	PjBL Class Model (experimental); PPP Class Model (control); 6-week	Overall writing scores and sub-scores (idea expression, text	Not mentioned

			organization, language use, writing strategies) raised significantly; students showed strong perception, acceptance, and increased interest in PjBL	
Amali et al. (2024)	Quasi-experimental; vocational high school (N=64)	PJBL via video project; students wrote descriptive text scripts and produced videos; teacher as facilitato	PJBL had a significant and strong effect on students' writing achievement in descriptive text. Improvement was most prominent in the content component of writing	Some students showed minimal/negative gain; vocabulary and organization remained weak for lower-achieving students; limited to one school and descriptive text
Arochman et al. (2024)	Quasi-experimental; Tertiary EFL students (English Education), Universitas Tidar (N=39)	PJBL for argumentative writing; sample text, topic choice, individual drafting, peer review, feedback, reflection, interviews.	Writing performance improved in argumentative writing (post-test > pre-test).	Limited/inappropriate vocabulary constrained writing quality.
Andargie et al. (2025)	Quasi-experimental, single-group interrupted time series. 23 third-year EFL undergraduates (Advanced Writing Skills I), Debre Markos University, Ethiopia (N=23)	6-week project-based essay writing. One project theme: *"How Can We Make Our Campus Clean?"*. Group-based work (4 mixed-ability groups): research, idea generation, proposal writing, awareness campaign, implementation, reflection, presentation. Assessment via IELTS Writing Task 2 rubric.	Significant improvement in writing performance. Qualitative data show improved idea generation, organization, grammar, vocabulary, coherence, collaboration, motivation, and confidence.	Small sample; single institution and English-major students only. Focus limited to essay writing skill. Short duration (6 weeks). No control group or randomization.
Dilarose et al. (2025)	Quantitative factorial; Eleventh-grade students (30 exp., 30 control), Indonesia; motivation high/low (N=60)	PjBL for explanation text writing; experimental vs. no-method control; writing test & motivation questionnaire.	Students taught with PjBL achieved higher writing scores than control group, significant improvement in writing achievement; students with higher motivation	Limited to explanation texts and one school; long-term effects not examined.

			showed greater improvement; PjBL effective for both high- and low-motivation students.	
Rahmawati et al. (2025)	Quantitative; pre-experimental, Static Group Comparison Design. Participants: 60 tenth-grade students of SMAN 1 Baros (30 experimental, 30 control) selected through cluster random sampling.	Project-Based Learning emphasizing active participation, collaboration, and contextual assignments; projects included wall magazine creation and visual presentations.	PBL had a significant positive effect on students' descriptive writing ability.	Conducted in a single school with a relatively small sample size; focused only on immediate post-intervention outcomes without measuring long-term retention.
Syamsuddin et al. (2025)	Descriptive qualitative; 17 students; 2 weeks; observation, interviews, creative output analysis.	PjBL in three phases (preparation–implementation–evaluation); short story writing; autonomy and collaboration.	Increased student engagement active in group discussion; responsive to instruction); average creativity ("Very High") in originality and imaginative language; short story quality rated "High," particularly in theme originality and diction creativity.	Writing outcomes limited to engagement, creativity, and narrative quality; no quantitative measurement of writing achievement or comparison group stated in the abstract.

3. Finding and Discussion

This section is organized into subheadings and provides a synthesis of findings from the reviewed studies, their interpretation, and the conclusions related to Project-Based Learning in EFL writing instruction.

3.1. *The Role of Project-Based Learning in Enhancing EFL Learners' Writing Skills*

The synthesis of the 13 studies included in this Systematic Literature Review demonstrates a clear and convergent pattern indicating that Project-Based Learning (PjBL) exerts a positive influence on EFL learners' writing skills across educational levels and instructional contexts. While individual studies report statistically significant gains in post-test writing scores and overall writing performance (Gao et al., 2024; Hidayati, 2023; Mukhlis, 2024), the collective evidence suggests that the pedagogical value of PjBL lies not merely in performance gains, but in the way it reshapes the writing process itself. Studies conducted in both secondary and tertiary settings consistently show that learners engage more deeply with writing tasks when these tasks are embedded in meaningful projects requiring inquiry, planning, collaboration, and product creation (Andargie et al., 2025; Dilarose et al., 2025; Rahardi et al., 2023). From an SLR perspective, this convergence indicates that PjBL functions as a process-oriented writing pedagogy rather than a technique for isolated skill enhancement. By positioning writing as a purposeful activity connected to authentic outcomes, PjBL encourages learners to view writing as a tool for meaning-making and communication. This shift in learners' orientation toward writing provides a plausible explanation for the consistent improvements reported across studies, particularly in higher-order writing components.

a. Impact on Content Development and Idea Generation

Across the reviewed studies, improvement in content development and idea generation emerges as the most robust and consistently reported outcome of PjBL implementation. Learners exposed to project-based writing instruction produced texts with richer ideas, clearer focus, and stronger relevance to task objectives (Andargie et al., 2025; Gao et al., 2024; Mukhlisin et al., 2023). Importantly, these gains were observed across multiple genres, including descriptive, narrative, and essay writing (Amali et al., 2024; Dilarose et al., 2025), suggesting that the effect is not genre-specific but process-driven. From a cross-study interpretive standpoint, this pattern suggests that PjBL primarily enhances writing quality by strengthening pre-writing cognition. Projects typically require learners to explore topics, gather information, negotiate ideas with peers, and clarify purposes before drafting. Hakimah (2023) illustrated this mechanism in procedural writing projects, where hands-on exploration enabled students to generate ideas more systematically. Similarly, Rambe and Basikin (2024) report that narrative writing projects supported by visual planning tools facilitated deeper story development and idea elaboration. These findings indicate that PjBL reduces one of the most persistent challenges in EFL writing idea scarcity by providing learners with conceptual resources prior to writing. Thus, the contribution of PjBL to writing development appears to operate first at the level of meaning construction, which subsequently shapes overall text quality.

b. Impact on Text Organization, Coherence, and Overall Writing Quality

In addition to content development, the synthesis revealed notable improvements in text organization, coherence, and overall writing quality. Several studies report that learners demonstrated clearer logical sequencing, more coherent paragraph development, and improved adherence to genre conventions following PjBL implementation (Arochman et al., 2024; Gao et al., 2024; Hakimah, 2023). These improvements were particularly evident in tasks requiring structured discourse, such as procedural and argumentative writing. The recurrence of these findings across studies suggests that the staged nature of PjBL plays a critical role in supporting organizational development. Project cycles commonly include planning, drafting, peer feedback, and revision, which collectively expose learners to iterative text restructuring. Andargie et al. (2025) emphasize that repeated engagement with project stages enables learners to internalize genre-specific organizational patterns, resulting in more coherent written output. However, the synthesis also indicates that organizational gains tend to be more pronounced at the macro-textual level than at the sentence level, particularly in short-duration interventions (Arochman et al., 2024; Dilarose et al., 2025). This suggests that while PjBL effectively supports discourse-level organization, sustained exposure may be required for finer-grained textual control to emerge.

c. Impact on Linguistic Accuracy: Grammar, Vocabulary, and Mechanics

Compared to content and organization, findings related to linguistic accuracy present a more heterogeneous pattern. Several studies report improvements in vocabulary use and general language accuracy following PjBL implementation (Andargie et al., 2025; Hakimah, 2023; Mukhlisin et al., 2023), particularly in projects that required learners to engage with topic-specific language and academic vocabulary (Gao et al., 2024). These findings suggest that PjBL can promote lexical development through meaningful language use. Nevertheless, other studies document persistent grammatical inaccuracies and mechanical errors, especially among lower-proficiency learners (Amali et al., 2024; Arochman et al., 2024). From an interpretive perspective, this inconsistency indicates that increased engagement and writing quantity alone do not guarantee linguistic accuracy development. Rather, PjBL appears to prioritize communicative effectiveness over formal accuracy unless explicit language-focused scaffolding is incorporated. This pattern implies that PjBL functions most effectively as a framework for meaning-oriented writing development. Its impact on grammatical accuracy is conditional rather than automatic,

depending on the extent to which form-focused instruction, corrective feedback, or language modeling is embedded within the project cycle (Dilarose et al., 2025). Consequently, PjBL should be viewed as complementary to, rather than a replacement for, explicit language instruction in EFL writing pedagogy.

d.   Impact on Affective and Non-Linguistic Outcomes

Beyond linguistic dimensions, the reviewed studies consistently report positive affective and non-linguistic outcomes associated with PjBL implementation. Increased motivation, engagement, collaboration, creativity, and learner confidence were documented across diverse contexts (Hidayati, 2023; Rahardi et al., 2023; Rambe & Basikin, 2024). Importantly, these affective gains appear to function not merely as peripheral benefits, but as enabling conditions for writing development itself. In line with this view, Aditia et al. (2021) and Aditia (2022) argue that well-designed learning environments foster learners' autonomy, competence, and sense of relatedness, which in turn enhances intrinsic motivation and supports more positive affective engagement in language learning. Syamsuddin et al. (2025) demonstrate that collaborative short-story projects foster high levels of learner enthusiasm and creative investment, while Mukhlisin et al. (2023) report reductions in writing anxiety as students engage in peer-supported project work. Mukhlis (2024) further observes that students became more confident in expressing ideas through writing, even when linguistic accuracy remained uneven. From an integrative perspective, these findings suggest that PjBL cultivates an affectively supportive learning ecology that sustains learners' willingness to engage in cognitively demanding writing processes. Thus, affective outcomes should be understood as a mediating mechanism through which PjBL facilitates sustained writing engagement and development.

3.3 *Design and Implementation of Project-Based Learning in EFL Writing Instruction*

a. Project Types, Models, and Duration

The reviewed studies employ a wide range of project types, including descriptive text posters (Mukhlisin et al., 2023), procedural manuals (Hakimah, 2023), narrative writing using digital platforms (Rambe & Basikin, 2024), argumentative essays (Arochman et al., 2024) and academic research projects (Rahardi et al., 2023). This diversity indicates that Project-Based Learning is pedagogically flexible and adaptable to different writing objectives and genres across EFL contexts. Intervention duration emerges as a critical moderating factor influencing the scope and depth of writing development. Studies implementing longer and more structured project cycles report improvements across multiple writing components, including content, organization, and overall writing quality (Andargie et al., 2025; Gao et al., 2024). In contrast, shorter interventions tend to produce gains primarily in learner engagement and idea generation, with more limited effects on linguistic accuracy and discourse control (Amali et al., 2024; Syamsuddin et al., 2025). From a cross-study synthesis perspective, this pattern suggests that different components of writing development respond to Project-Based Learning at different temporal rates. While content development and engagement can emerge relatively quickly through project work, higher-level discourse organization and linguistic accuracy require sustained cycles of drafting, feedback, and revision. Consequently, short-term PjBL implementations may overrepresent immediate motivational benefits while underestimating longer-term linguistic gains. This finding underscores the importance of aligning project duration and complexity with targeted writing outcomes in both pedagogical practice and future research design.

b. Media, Technology, and Digital Literacy Integration

Several studies integrate digital tools such as Canva, video production, AI assisted and social media platforms to support project-based writing activities (Amali et al., 2024; Mukhlisin et al., 2023; Rambe & Basikin, 2024; Aditia et al., 2025). These tools are consistently reported to enhance learner engagement, creativity, and multimodal expression, particularly in projects that emphasize visual presentation and audience awareness

(Sa'diyah & Cahyono, 2019). However, evidence from (Mukhlis, 2024) indicates no significant interaction between Project-Based Learning and learners' digital literacy levels in improving writing performance. This finding suggested that technology itself does not function as an independent determinant of writing development. Rather, as supported by Gao et al. (2024) and Rahardi et al. (2023), writing improvement appears more strongly associated with task structure, cognitive engagement, and instructional scaffolding than with the specific digital platforms employed. From a synthesis standpoint, these findings indicate that technology in PjBL-based writing instruction operates primarily as a pedagogical mediator rather than a driver of learning outcomes. This interpretation is consistent with findings from systematic reviews on flipped classroom strategies, which similarly emphasize that the effectiveness of technology-mediated language instruction is shaped more by pedagogical alignment and learning context than by the technological component itself (Aditia et al, 2025). Digital tools amplify the effects of well-designed projects by facilitating collaboration, visualization, and dissemination, but they do not substitute for pedagogical clarity or process-oriented writing instruction. Therefore, in EFL contexts particularly technology-rich classrooms for the effectiveness of digital integration depends on its alignment with writing objectives and feedback mechanisms. Overemphasis on technological novelty without instructional coherence risks shifting learner attention toward product aesthetics at the expense of substantive writing development.

3.4 Methodological and Contextual Factors Influencing the Effectiveness of PjBL in EFL Writing

a. Intervention Duration and Research Design Constraints

Across the reviewed studies, intervention duration and research design consistently emerge as key methodological factors shaping reported writing outcomes (Cahyono et al., 2024). A substantial number of studies implement Project-Based Learning within relatively short instructional periods, ranging from several weeks to a limited number of project cycles (Amali et al., 2024; Mukhlisin et al., 2023; Rambe & Basikin, 2024). In addition, many investigations employ classroom action research or quasi-experimental designs without control groups (Hakimah, 2023; Hidayati, 2023), which constrains the robustness of causal claims regarding the effectiveness of PjBL (Mujiono et al., 2023). From a cross-study analytical perspective, this methodological pattern helps explain the uneven distribution of writing gains across linguistic components. Short-term interventions appear sufficient to stimulate learner engagement and content development, but they are less effective in fostering sustained improvements in grammatical accuracy and discourse-level organization (Andargie et al., 2025; Syamsuddin et al., 2025). This suggests that certain dimensions of writing development require longer exposure and iterative feedback cycles than those typically afforded by short-term PjBL implementations. Furthermore, the predominance of non-experimental research designs limits the extent to which observed improvements can be attributed exclusively to PjBL rather than to contextual or instructional variables. From an authorial standpoint, this indicates that many reported gains should be interpreted as context-dependent outcomes rather than definitive evidence of causal effectiveness, highlighting the need for more

b. Participant Characteristics and Sample-Related Limitations

Another salient methodological finding concerns participant characteristics and sample composition across the reviewed studies. Most investigations focus on relatively small and homogeneous groups of EFL learners, often drawn from a single class or institution (Andargie et al., 2025; Syamsuddin et al., 2025). The majority of participants are secondary or tertiary-level students, with limited representation of primary learners or adult EFL users in professional or community-based contexts (Arochman et al., 2024; Rahardi et al., 2023). This pattern suggests that current evidence on PjBL and writing development is disproportionately derived from academically oriented EFL contexts, which may partially explain the consistently positive affective outcomes reported across studies.

Learners in such settings are typically accustomed to collaborative tasks and formative assessment practices, conditions that align well with PjBL principles (Hakimah, 2023; Mukhlisin et al., 2023). At the same time, the narrow range of participant profiles restricts the generalizability of findings to broader EFL populations**.** From a synthesis perspective, this limitation implies that the effectiveness of PjBL in writing instruction may vary considerably across proficiency levels, learner needs, and institutional constraints, an issue that remains underexplored in the existing literature (Dilarose et al., 2025).

c.   Genre' Scope and Contextual Constraints in EFL Writing Instruction

The synthesis also reveals recurring constraints related to genre coverage and instructional context. A significant proportion of the reviewed studies concentrate on descriptive and narrative writing tasks, while fewer address argumentative, academic, or professional genres (Amali et al., 2024; Dilarose et al., 2025). This limited genre scope narrows the analytical lens through which the impact of PjBL on writing development is evaluated (Aljafen, 2025). From an analytical standpoint, this focus may contribute to the more consistent gains observed in content development and learner engagement, as descriptive and narrative genres typically allow greater flexibility in idea generation and expression   (Mukhlisin et al., 2023; Rambe & Basikin, 2024). In contrast, more cognitively demanding genres such as argumentative or academic writing require higher levels of linguistic precision and rhetorical control, which may not be fully captured in short-term or genre-limited PjBL implementations (Gao et al., 2024). In addition, most studies are situated within relatively supportive and controlled EFL classroom environments, often characterized by manageable class sizes and access to instructional resources (Hakimah, 2023; Rahardi et al., 2023). This contextual concentration suggests that reported positive outcomes may not fully translate to less favorable instructional settings, such as large classes or exam-oriented curricula. Consequently, the transferability of existing findings across diverse EFL contexts remains constrained and warrants further empirical exploration.

4.   Conclusions

This review critically examines empirical research published among 2023 - 2025 to elucidate the role of Project-Based Learning (PjBL) in supporting the development of EFL learners' writing abilities within recent instructional settings. The distinctive contribution of this study resides in its analytical integration of instructional design characteristics with multiple dimensions of writing performance, offering a differentiated account of higher-order textual development, such as idea elaboration, organization, and coherence, alongside lower-level linguistic accuracy, including grammar, lexical control, and mechanics. Through the systematic integration of previously dispersed findings, the review reconfigures existing PjBL scholarship by providing a structured and holistic perspective on how various components of writing evolve within project-based learning environments. The synthesis demonstrates that while PjBL reliably facilitates engagement and the development of complex writing processes, its influence on micro-linguistic accuracy is variable and closely linked to factors such as the length of instructional exposure, genre complexity, and the incorporation of explicit language-oriented support. In addition, the review uncovers recurring methodological and genre-related constraints, particularly the prevalence of short-duration interventions and the concentration on descriptive writing tasks. To advance the field, future investigations should adopt longitudinal and mixed-methods approaches, broaden the range of writing genres to include academic and argumentative texts, and explore principled combinations of PjBL with form-focused pedagogical strategies to strengthen both theoretical refinement and instructional effectiveness.

5. Patents

The authors declared that there are no patents, patent applications, or intellectual property rights associated with the work reported in this manuscript. The study does not involve the development of any patentable products, methods, or technologies.

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