SNAP TO READ

# INTEGRATING PROJECT-BASED LEARNING WITH BUSINESS MODEL CANVAS (BMC) TO ENHANCE STUDENTS' WRITING SKILLS

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**Abstract:**
*This study examined the implementation of Project-Based Learning (PBL) integrated with the Business Model Canvas (BMC) in English Business Writing and investigated students' perceptions of the learning process. A mixed-methods approach with a sequential explanatory design was employed. The participants were 35 fifth-semester EFL students at Institut Andi Sapada, selected through purposive sampling from a population of 145 students. Quantitative data were collected through pre- and post-writing tests and analyzed using descriptive statistics and a paired-samples t-test. Qualitative data were obtained through a questionnaire and semi-structured interviews and analyzed thematically. The results showed a substantial improvement in students' writing performance, with the mean score increasing from 57.77 (SD = 4.07) in the pre-test to 71.51 (SD = 6.23) in the post-test. The mean difference of 13.74 points was statistically significant, t(34) = 18.80, p < .001. Significant improvements were observed across content, organization, vocabulary, language use, and mechanics. Qualitative findings revealed four themes: increased engagement, enhanced peer collaboration, improved motivation, and perceived writing development. The findings suggest that integrating PBL with BMC provides a structured and meaningful context for developing EFL students' business writing while supporting positive learning*

*experiences.*

**Keywords:** *Project-Based Learning, Business Model Canvas, English Business Writing, Writing Skills, EFL*

## INTRODUCTION

Writing is a fundamental productive skill in English language learning because it requires learners to coordinate linguistic knowledge, idea development, organization, and critical thinking to produce coherent and meaningful texts (Ali, 2022). In higher education, writing is particularly important because students are expected to communicate ideas clearly, construct logical arguments, and produce texts that respond to academic and professional purposes. Writing also enables learners to communicate effectively in personal and professional contexts and contributes to the development of vocabulary, grammatical accuracy, critical thinking, and creativity (Adibah et al., 2024; Avramenko et al., 2018). Therefore, developing students' writing competence remains an important objective in English language education, particularly in contexts where English is used for specific academic or professional purposes.

The demands of writing become more complex in English Business Writing because students are required to integrate language proficiency with business knowledge. Unlike general writing tasks, business writing emphasizes clarity, conciseness, appropriateness, and purposeful communication to accomplish objectives such as informing, instructing, persuading, and collaborating (Latif, 2025; Lin et al., 2018). EFL students in business-oriented courses therefore face a dual challenge: they must construct accurate and well-organized English texts while simultaneously developing and communicating business-related ideas. Previous research has identified difficulties among EFL learners in generating ideas, organizing written texts, and applying appropriate language forms (Arochman et al., 2024; Subandi et al., 2020). These challenges indicate the need for instructional practices that connect writing development with meaningful and contextually relevant

tasks.

Project-Based Learning (PBL) provides one potential approach to addressing these challenges. PBL engages learners in extended activities that require them to investigate problems, collaborate with others, apply knowledge, and produce meaningful outcomes. In language classrooms, this approach creates opportunities for students to use English as a means of completing purposeful tasks rather than focusing exclusively on isolated linguistic forms. Research has reported positive contributions of PBL to EFL students' writing development, including improvements in writing performance and students' engagement with writing activities (Arochman et al., 2024; Suteja & Setiawan, 2022). Other studies have similarly reported improvements in academic and creative writing following PBL implementation (Sukerti & Yuliantini, 2018; Zubaidi et al., 2023).

The potential of PBL is particularly relevant to Business English because project activities can provide students with authentic contexts in which writing serves a concrete communicative purpose. For example, students may develop a product idea, identify potential customers, prepare a business proposal, and communicate their ideas through written documents. Such activities can make writing more purposeful and provide opportunities for collaboration and problem-solving. Research in business-oriented English education has also reported positive outcomes from PBL, including improvements in business writing, negotiation, and persuasion skills (Latif, 2025). However, the open-ended nature of project work may also create difficulties when students need to organize complex ideas before transforming them into coherent written texts. This suggests that PBL may benefit from an additional structure that supports students during the planning and organization stages of writing.

The Business Model Canvas (BMC) provides a potentially useful structure for this purpose. The BMC is a visual framework for describing and organizing a business model through nine interconnected building blocks, including Customer Segments, Value Propositions, Channels, Customer

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Relationships, Revenue Streams, Key Resources, Key Activities, Key Partnerships, and Cost Structure (Osterwalder & Pigneur, 2010). In educational contexts, the BMC has been used to help learners conceptualize business ideas and develop a more systematic understanding of entrepreneurship (Jamira et al., 2021). It has also been explored as an educational tool in Business English, suggesting that its visual structure can be relevant to language learning in business-oriented contexts (Sharifullina, 2022).

The integration of PBL and BMC may provide complementary forms of support for English Business Writing. PBL offers the authentic context, collaborative activities, and project-based purpose, whereas the BMC provides a structured visual framework for organizing the content of a business idea before it is transformed into written discourse. This relationship is relevant to the cognitive nature of writing. Writing is not simply the production of grammatical sentences; it involves interconnected processes of planning, translating ideas into language, and reviewing or revising written output (Flower & Hayes, 1981). Providing students with an organized representation of their business ideas before drafting may therefore help them manage the planning demands of writing and focus more effectively on developing coherent written texts.

Despite the growing use of PBL in EFL writing and the increasing application of BMC in business-oriented education, the integration of these two approaches in English Business Writing remains insufficiently examined. Existing studies have investigated PBL in relation to general writing skills, academic writing, creative writing, and broader language-learning outcomes (Arochman et al., 2024, 2024; Sukerti & Yuliantini, 2018). Other studies have examined BMC as a tool for entrepreneurship education or Business English learning (Jamira et al., 2021; Sharifullina, 2022). More recently, PBL has also been applied to ESP contexts involving business writing and related communicative skills (Latif, 2025). However, limited empirical attention has been given to how PBL integrated with BMC may support students' writing performance across specific dimensions of writing.

This gap is important because writing proficiency is multidimensional and cannot be adequately represented by an overall writing score alone. The analytic framework developed by Jacobs et al. (1981) evaluates ESL composition through distinct dimensions, including content, organization, vocabulary, language use, and mechanics. Examining these components separately makes it possible to determine whether an instructional intervention primarily supports idea development and textual organization or also produces improvements in linguistic accuracy and mechanical control. Such analysis is particularly relevant to PBL-BMC instruction because the BMC is primarily designed to organize business concepts, while the writing process additionally requires students to transform those concepts into linguistically accurate and coherent texts.

Students' perceptions also provide an important dimension for evaluating the implementation of PBL-BMC. Because PBL requires active participation, collaboration, decision-making, and sustained engagement, students' experiences may influence how effectively they participate in writing activities. Previous studies have reported positive perceptions of PBL, particularly in relation to engagement, collaboration, and meaningful learning experiences (Arochman et al., 2024; Chi, 2023). Investigating students' perceptions can therefore complement the quantitative assessment of writing performance by explaining how students experienced the learning process and whether the instructional activities were perceived as motivating and beneficial.

Accordingly, the present study investigates the implementation of PBL integrated with BMC in an English Business Writing course. The study examines students' writing performance across five components—content, organization, vocabulary, language use, and mechanics—and explores students' perceptions of the instructional process. By combining quantitative evidence of writing performance with qualitative evidence of students' experiences, the study seeks to provide a more comprehensive understanding of how the PBL-BMC framework can be used in English

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Business Writing. Specifically, the study addresses the following research questions: (1) How does the integration of Project-Based Learning (PBL) and the Business Model Canvas (BMC) affect students' performance in terms of content, organization, vocabulary, language use, and mechanics? (2) What are the students' perceptions regarding the use of PBL integrated with BMC in learning English writing?

## METHOD

### Research Design

This study employed a mixed-methods approach using a sequential explanatory design. This design involves collecting and analyzing quantitative data first, followed by qualitative data to explain and contextualize the quantitative findings (Othman et al., 2020). The design was appropriate because the study aimed to first examine changes in students' writing performance following the PBL-BMC intervention and subsequently explore students' perceptions and experiences to provide deeper explanations of the quantitative results.

The quantitative phase focused on students' writing performance before and after the intervention. The qualitative phase subsequently

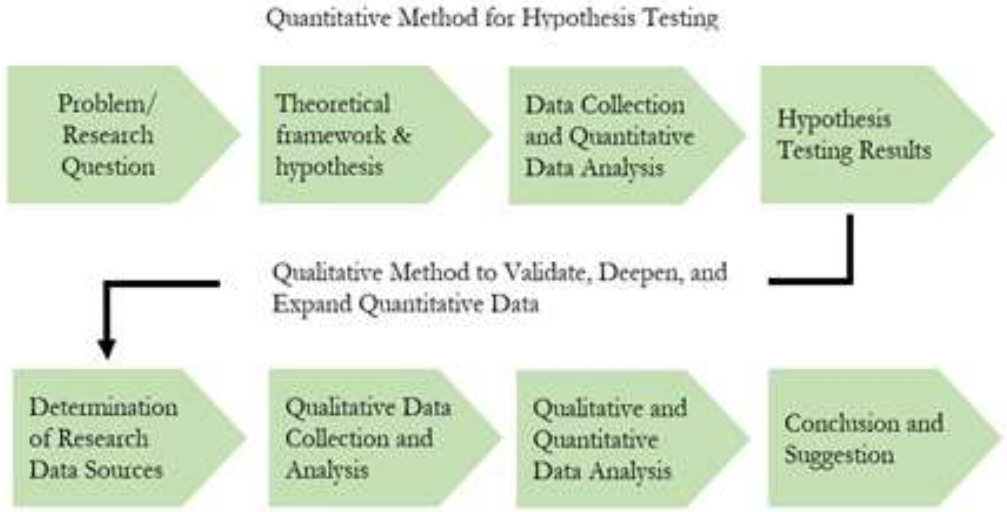



**Figure 1.** Research Steps in a Sequential Explanatory Design

**Participants**

The population consisted of 145 fifth-semester students at Institut Andi Sapada. A purposive sample of 35 students was selected based on predetermined inclusion criteria. The participants were required to meet three criteria: (1) they were actively enrolled as fifth-semester EFL learners; (2) they had completed prerequisite general writing courses; and (3) they were enrolled in the English Business Writing course in which the PBL and BMC intervention was implemented as part of the regular curriculum.

The 35 participants represented one intact class. The use of an intact class maintained the natural classroom setting and avoided disruption to students' regular academic activities. It also enabled the intervention to be implemented within the existing course structure and allowed the instructor to manage the collaborative project activities throughout the intervention period.

The participants were aged between 20 and 22 years. The sample comprised 23 female students (65.7%) and 12 male students (34.3%). All participants were classified at an intermediate English proficiency level (CEFR B1–B2), based on institutional placement tests and their previous academic writing performance. The participants therefore represented the EFL learners enrolled in the English Business Writing course.

**Instruments**

Three instruments were used to collect the quantitative and qualitative data: a writing test, a questionnaire, and semi-structured interviews. The writing test was used to assess students' writing performance before and after the intervention. Students' writing was evaluated based on five components: content, organization, vocabulary, language use, and mechanics. These components were derived from the analytic framework for ESL composition assessment developed by Jacobs et al., (1981). The writing prompt was designed to correspond to the English Business Writing context and required students to produce a business-related written text. To establish content and construct validity, the writing prompt and assessment criteria were reviewed by two experts specializing in EFL writing instruction. Inter-rater reliability

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was also established to promote consistency in scoring. The same assessment framework was applied to the pre-test and post-test to facilitate comparison of students' writing performance across the two measurement points.

A questionnaire was administered after the intervention to examine students' perceptions of the PBL-BMC learning process. The questionnaire focused on three aspects: engagement, collaboration, and motivation. Items were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Before administration, the questionnaire was pilot-tested to examine its internal consistency. The questionnaire obtained a Cronbach's alpha coefficient of 0.84, indicating high internal consistency.

Semi-structured interviews were conducted with selected participants after the intervention. The interviews were used to complement the questionnaire findings and obtain more detailed accounts of students' experiences with the PBL-BMC activities. The interview questions focused on students' experiences of completing the project, group collaboration, engagement, motivation, and perceived development of their writing skills.

**Data Collection**

Data were collected over six weeks through 12 instructional meetings. Two meetings were conducted each week, with each meeting lasting 90 minutes. The intervention integrated PBL with the BMC within the English Business Writing course. The implementation consisted of four instructional stages, followed by post-intervention data collection.

Step 1: Project Orientation and BMC Introduction (Weeks 1–2; Meetings 1–4). The instructor introduced the principles of English Business Writing and explained the structure and functions of the BMC. Students were subsequently divided into small groups and asked to identify a real-world market problem that could be addressed through a proposed product or service.

Step 2: Business Project Design Using the BMC (Week 3; Meetings 5–6).

Students collaboratively developed their business ideas by completing

the nine BMC building blocks. The BMC served as a visual planning framework through which students organized the main ideas and information that would later be developed into their written projects (Osterwalder & Pigneur, 2010).

Step 3: Drafting the Written Business Report (Week 4; Meetings 7–8). Using their completed BMC as a planning framework, students drafted a structured business proposal or report. They transformed the information developed in the BMC into connected written texts, with particular attention to content, organization, and vocabulary.

Step 4: Peer Review, Revision, and Presentation (Week 5; Meetings 9–10). Students exchanged their drafts for peer review. The review process focused particularly on language use and mechanics. Students then revised their written reports based on peer and teacher feedback before presenting their business models and written proposals to the class.

Post-Intervention Data Collection (Week 6; Meetings 11–12). Following completion of the project activities, students completed the post-test to measure their writing performance after the intervention. The perception questionnaire was subsequently administered to examine students' attitudes toward the PBL-BMC learning process. Selected students then participated in semi-structured interviews to provide further qualitative information about their experiences, engagement, collaboration, motivation, and perceived writing development.

**Data Analysis**

The quantitative and qualitative data were analyzed sequentially in accordance with the explanatory mixed-methods design. Quantitative results were analyzed first, followed by qualitative analysis to provide additional explanations of the quantitative findings.

For the writing test, quantitative analysis was conducted using SPSS. Descriptive statistics were first calculated, including the mean and standard deviation of students' pre-test and post-test scores. Before conducting the inferential analysis, the normality assumption was examined using the

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Shapiro–Wilk test. Visual inspection of boxplots was also conducted to identify potential extreme outliers. After the assumptions for parametric analysis were considered satisfactory, a paired-samples t-test was conducted to determine whether the difference between students' pre-test and post-test writing scores was statistically significant.

In addition to the overall writing score, component-level analysis was conducted for content, organization, vocabulary, language use, and mechanics. Mean differences and paired-samples t-tests were used to examine changes in each component. Effect sizes were also calculated to describe the magnitude of the observed differences.

Questionnaire data were analyzed using descriptive statistics. Frequencies, percentages, and mean scores were calculated for the questionnaire items to describe students' perceptions of the PBL-BMC implementation, particularly in relation to engagement, collaboration, and motivation.

The qualitative interview data were analyzed thematically. The analysis involved transcribing the interviews, repeatedly reading the transcripts, generating initial codes, grouping related codes into categories, identifying recurring patterns, and developing broader themes. The themes were then interpreted in relation to the quantitative findings to explain students' experiences and perceptions of the PBL-BMC learning process. The qualitative findings were used to complement and contextualize the quantitative results.

## FINDINGS

### Quantitative Analysis

The quantitative phase examined changes in students' English writing performance before and after the six-week implementation of Project-Based Learning (PBL) integrated with the Business Model Canvas (BMC). Students' writing performance was evaluated using five components: content, organization, vocabulary, language use, and mechanics. The analysis included

assumption testing, descriptive statistics, and paired-samples t-tests.

### *Assumption Testing*

Before the paired-samples t-test was conducted, the normality of the pre-test and post-test scores was examined using the Shapiro–Wilk test. The results indicated that the pre-test scores were normally distributed, $W = 0.96$, $p = .24$, and the post-test scores were also normally distributed, $W = 0.95$, $p = .12$. Both values were greater than .05, indicating no statistically significant departure from normality. Visual inspection of boxplots also indicated no substantial extreme outliers. Therefore, the data were considered appropriate for the subsequent paired-samples t-test.

### *Overall Writing Performance*

The descriptive results showed an increase in students' overall writing performance after the intervention. The mean pre-test score was 57.77 ($SD = 4.07$), whereas the mean post-test score increased to 71.51 ($SD = 6.23$). The mean difference between the two measurements was 13.74 points.

A paired-samples t-test indicated that the increase was statistically significant, $t(34) = 18.80$, $p < .001$. The 95% confidence interval for the mean difference ranged from 12.25 to 15.23. The reported effect size was Cohen's $d = 2.63$, indicating a very large standardized difference between students' pre-test and post-test performance. These results indicate substantial improvement in students' writing performance following participation in the PBL-BMC instructional intervention.

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Table 1. Component-Level Statistical Analysis of Writing Performance

| Component | Max. Score | Pre-Test M (SD) | Post-Test M (SD) | Mean Difference | t(34) | p | Cohen's d |
|---|---|---|---|---|---|---|---|
| Content | 30 | 17.20 (1.45) | 22.50 (2.10) | 5.30 | 12.45 | < .001 | 2.94 |
| Organization | 20 | 13.50 (1.10) | 17.00 (1.65) | 3.50 | 10.12 | < .001 | 2.49 |
| Vocabulary | 20 | 12.80 (1.25) | 16.50 (1.80) | 3.70 | 9.85 | < .001 | 2.39 |
| Language Use | 25 | 12.50 (1.90) | 15.00 (2.40) | 2.50 | 5.64 | < .001 | 1.15 |
| Mechanics | 5 | 1.77 (0.45) | 2.50 (0.65) | 0.73 | 4.21 | < .001 | 1.30 |

***Component-Level Writing Performance***

The component-level analysis showed statistically significant differences between the pre-test and post-test scores across all five writing components. Content increased from a mean of 17.20 (SD = 1.45) in the pre-test to 22.50 (SD = 2.10) in the post-test. The mean difference was 5.30 points, with $t(34) = 12.45$ and $p < .001$. The reported Cohen's d was 2.94.

Organization increased from 13.50 (SD = 1.10) to 17.00 (SD = 1.65), representing a mean difference of 3.50 points, $t(34) = 10.12$, $p < .001$, with a reported Cohen's d of 2.49. Vocabulary increased from 12.80 (SD = 1.25) to 16.50 (SD = 1.80), with a mean difference of 3.70 points, $t(34) = 9.85$, $p < .001$, and a reported Cohen's d of 2.39.

Language use increased from 12.50 (SD = 1.90) to 15.00 (SD = 2.40), producing a mean difference of 2.50 points, $t(34) = 5.64$, $p < .001$, and a reported Cohen's d of 1.15. Mechanics increased from 1.77 (SD = 0.45) to 2.50 (SD = 0.65), representing the smallest absolute gain of 0.73 points, $t(34) = 4.21$, $p < .001$, with a reported Cohen's d of 1.30.

Overall, all five writing components showed statistically significant improvement from the pre-test to the post-test. Content demonstrated the

largest absolute gain, while mechanics demonstrated the smallest absolute gain. The component-level results therefore indicate that the improvement observed in the overall writing score was reflected across all five assessed dimensions.

**Qualitative Analysis**

The qualitative phase was conducted to complement the quantitative findings by exploring students' perceptions and experiences during the PBL-BMC intervention. The questionnaire focused on engagement, collaboration, and motivation, while semi-structured interviews provided more detailed accounts of students' experiences with the project activities.

The thematic analysis of the interview data generated four themes: (1) increased classroom engagement, (2) enhanced peer collaboration, (3) improved learning motivation, and (4) perceived writing development.

***Theme 1: Increased Classroom Engagement***

Students described the PBL-BMC activities as engaging because they required active participation in developing and discussing business ideas. Students were involved in identifying market problems, developing business concepts, completing the BMC, and preparing written business proposals. The project structure provided students with a concrete task to work on throughout the learning process.

**Excerpt 1**

*"At first, I hated English writing because it was always boring. But creating a business idea using the canvas felt like playing a strategy game. We spent hours discussing our market and forgot we were actually practicing English formatting." (S4)*

This response illustrates the student's perception that the project activities made writing more engaging by connecting the task with a concrete business-related activity.

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***Theme 2: Enhanced Peer Collaboration***

Students also reported that collaboration helped them generate ideas and address difficulties encountered during the writing process. Group members discussed business concepts, shared vocabulary, and assisted one another in developing and revising their written work.

**Excerpt 2**

*"Working in groups helped me generate ideas more easily. When I didn't know the right business terms or grammar to use for the 'Value Proposition' box, my friends immediately helped me fix it." (S12)*

This response indicates that students perceived peer interaction as useful for both idea development and language-related difficulties during the project.

***Theme 3: Improved Learning Motivation***

Students perceived the practical orientation of the project as contributing to their motivation to participate in the writing activities. The opportunity to develop their own business concepts gave the writing tasks a specific purpose beyond completing an assignment.

**Excerpt 3**

*"I felt highly motivated because we weren't just writing an essay for the teacher to grade and discard. We were building our own business concept. It made me want to double-check every sentence to ensure our proposal looked professional." (S27)*

This response suggests that students associated the project with a stronger sense of ownership and purpose in completing their written work.

***Theme 4: Perceived Writing Development***

Students also reported perceived improvements in their writing during the intervention. In particular, they emphasized that the BMC helped them organize the content of their business proposals before developing the

information into paragraphs.

**Excerpt 4**

*"The canvas made organizing our final report much easier. The content was already mapped out in the blocks, so we just needed to focus on expanding the ideas into paragraph structures, expanding our business vocabulary, and polishing the grammar rules." (S19)*

The response indicates that the student perceived the BMC as useful for organizing ideas before drafting. Other students similarly reported perceived improvements in content development, organization, vocabulary, language use, and mechanics.

Overall, the qualitative findings indicate that students generally perceived the PBL-BMC intervention positively. Their responses emphasized engagement, collaboration, motivation, and perceived writing development. These findings complement the quantitative results by providing information about students' experiences during the intervention. In particular, students' descriptions of the BMC as a tool for organizing ideas provide contextual support for the quantitative finding that content and organization showed substantial improvement.

## DISCUSSION

The findings indicate that students' writing performance improved substantially following the implementation of Project-Based Learning (PBL) integrated with the Business Model Canvas (BMC). The overall mean score increased from 57.77 in the pre-test to 71.51 in the post-test, with a mean difference of 13.74 points. The paired-samples t-test showed that this difference was statistically significant, $t(34) = 18.80$, $p < .001$. More importantly, the component-level analysis showed statistically significant improvement across content, organization, vocabulary, language use, and mechanics. These results are broadly consistent with recent evidence that PBL can produce positive outcomes in EFL/ESL writing. A meta-analysis of 11 studies found a significant positive effect of PBL on EFL/ESL writing,

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while a recent systematic review likewise reported consistent improvements in writing performance, particularly in content development, organization, vocabulary, and learner engagement (Cahyono et al., 2024; Yusri et al., 2024).

However, the results should be interpreted in relation to the design of the present study. Because the quantitative phase employed a one-group pre-test–post-test design without a comparison group, the observed increase cannot be attributed exclusively to the PBL-BMC intervention. Factors such as students' continued exposure to English, writing practice during the six-week course, teacher feedback, and familiarity with the assessment task may also have contributed to the improvement. The findings therefore provide evidence of substantial improvement following the intervention rather than definitive evidence of a causal effect. This distinction is important because previous research has shown that the magnitude of PBL outcomes can vary according to research design, intervention duration, educational level, and other contextual factors (Cahyono et al., 2024).

The component-level findings provide a more detailed explanation of the overall improvement. Content showed the largest absolute gain, increasing by 5.30 points, followed by vocabulary with a gain of 3.70 points and organization with a gain of 3.50 points. These results suggest that the intervention was particularly supportive of students' ability to develop ideas and organize information into a written business text. This pattern is theoretically meaningful because the BMC requires students to identify and organize key aspects of a business idea before converting them into written discourse.

The role of the BMC can be interpreted through the cognitive process perspective of writing. Writing requires writers to plan, translate ideas into written language, and review their developing texts (Flower & Hayes, 1981). In the present study, students did not begin the business writing task by composing directly from a blank page. Instead, they first identified a business problem, developed a proposed solution, and organized relevant information through the BMC. The visual structure of the BMC may therefore

have provided a planning scaffold that helped students clarify the substance of their writing before drafting. The substantial improvement in content is consistent with this interpretation, although the present design cannot isolate the specific contribution of the BMC from the broader PBL intervention.

The improvement in organization further supports the potential value of structured pre-writing. Students were required to transform information distributed across the BMC into a connected business proposal. This process required them to determine which ideas were central, establish relationships among them, and develop those ideas into paragraphs. From a writing-process perspective, such planning can help writers manage the cognitive demands involved in transforming ideas into coherent text (Flower & Hayes, 1981). The qualitative data reinforce this interpretation, as students explicitly described the BMC as making the organization of their final reports easier. Thus, the quantitative improvement in organization and the students' descriptions of the BMC point toward a possible relationship between visual planning and textual organization.

Vocabulary also demonstrated a substantial improvement. This finding may be related to the contextual nature of the project, in which students needed to discuss products, customers, markets, value propositions, and other business concepts. Rather than encountering vocabulary as isolated lexical items, students repeatedly used business-related language while discussing their projects, completing the BMC, drafting reports, and revising their texts. Such repeated and purposeful use may have created opportunities for students to develop more appropriate lexical choices within a meaningful context. The finding is consistent with broader evidence that PBL can support multiple aspects of EFL writing development, although vocabulary gains may depend on the nature of the project and the language support provided during implementation (Cahyono et al., 2024).

The qualitative findings provide further insight into the collaborative dimension of the intervention. Students reported that working in groups made it easier to generate ideas and obtain assistance with business terminology

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and language use. This finding can be interpreted through a sociocultural perspective, which views learning as developing through interaction, participation, and support from others (Vygotsky, 1978). In the present study, students did not develop their business proposals entirely individually. They discussed potential ideas, negotiated decisions, shared vocabulary, reviewed written work, and responded to peer and teacher feedback.

The students' accounts suggest that collaboration served two related functions. First, it supported idea generation before writing. Second, it provided opportunities for students to seek assistance when they encountered linguistic difficulties. The qualitative evidence therefore helps explain how the project environment may have supported the quantitative improvement in writing. However, the data do not allow the study to determine whether peer scaffolding was equally beneficial for all students. Differences in participation, language proficiency, and group dynamics may have influenced the extent to which individual students benefited from collaborative work. This issue should be considered in future research using individual-level qualitative or interactional data.

Students' positive perceptions of engagement and motivation also provide an important dimension of the findings. The interview data indicated that students perceived the project as more meaningful because they were developing a business concept rather than completing a conventional writing assignment. This perception is consistent with the central characteristics of PBL, which emphasize meaningful projects, authentic tasks, collaboration, and the production of tangible outcomes. Recent reviews have similarly identified learner engagement and authentic learning experiences as important features associated with PBL in EFL contexts (Chao et al., 2025; Rosli et al., 2024).

The business context may have been particularly important in shaping these perceptions. English Business Writing requires students to use English for communicative purposes that resemble professional situations. In the present intervention, students had to identify a market problem, formulate

a business idea, organize the idea through the BMC, and communicate it through a written proposal. Consequently, writing was connected to a recognizable purpose beyond completing an exercise for a grade. This contextualization may have contributed to students' reported sense of ownership and motivation.

Nevertheless, the positive qualitative findings should not be interpreted as evidence that all students experienced the intervention in the same way. The study reports selected interview responses and general questionnaire results, but it does not provide detailed subgroup comparisons according to proficiency, gender, or individual participation. Therefore, the findings establish an overall positive perception among the participants but do not demonstrate that the intervention affected motivation uniformly across the class.

The most distinctive contribution of the present study lies in the integration of PBL with BMC rather than in the use of PBL alone. Previous research has established a growing evidence base for PBL in EFL writing. A recent meta-analysis found a significant overall effect of PBL on EFL/ESL writing, while systematic reviews have highlighted improvements in writing performance alongside challenges related to implementation and instructional design (Cahyono et al., 2024; Rosli et al., 2024). The present study extends this line of research by placing PBL within an English Business Writing context and adding the BMC as a structured planning framework.

The BMC may be particularly valuable because it addresses a potential tension within project-based writing instruction. PBL encourages autonomy and authentic problem-solving, but students may still need guidance in determining what information to include and how to organize it. The BMC provides a predefined structure for conceptualizing the business problem and its proposed solution before students begin extended writing. In this sense, the BMC may function as a bridge between project development and textual production. However, because the present study did not include a PBL-only group, this interpretation should be regarded as a plausible pedagogical

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explanation rather than direct evidence that BMC independently produced the observed gains.

This distinction also represents an important area for future investigation. A three-group design comparing conventional instruction, PBL alone, and PBL integrated with BMC would provide stronger evidence regarding the specific contribution of the BMC. Such a design could determine whether the visual planning framework produces additional benefits beyond those associated with PBL itself. It could also clarify whether the effects differ across writing components.

Although all five writing components improved significantly, the pattern of gains reveals an important limitation. Language use showed a mean improvement of 2.50 points, while mechanics showed the smallest absolute improvement of 0.73 points. This contrasts with the larger gains observed for content, vocabulary, and organization. The result suggests that project-based and contextualized learning may provide stronger support for generating and organizing meaning than for developing grammatical and mechanical accuracy.

This finding is consistent with recent reviews of PBL and EFL writing, which indicate that improvements in micro-linguistic dimensions such as grammatical accuracy and mechanics are less consistently reported than improvements in content, organization, and engagement (Yusri et al., 2024). The finding is also pedagogically important because authentic communication does not automatically guarantee accurate language production. Students may successfully communicate a business idea while continuing to experience difficulties with sentence structure, grammatical forms, punctuation, and spelling.

Accordingly, PBL-BMC should not be regarded as a substitute for explicit language instruction. Instead, the findings suggest that project-based writing may be strengthened by integrating focused grammar instruction, teacher feedback, peer editing, and structured revision into the project cycle. The final stages of the present intervention already included peer and teacher

feedback, but the relatively smaller gain in language use and mechanics indicates that these dimensions may require more systematic and sustained attention.

The sequential explanatory design allows the qualitative findings to provide possible explanations for the quantitative results. The quantitative data showed significant improvement across all five writing components, with particularly substantial gains in content, vocabulary, and organization. The qualitative findings subsequently indicated that students perceived the BMC as useful for organizing ideas, while group work supported idea generation and language-related assistance. Students also described the project as meaningful and motivating because their writing was connected to a business purpose.

The convergence of these findings suggests a possible pedagogical sequence: authentic project context → collaborative idea development → visual organization through BMC → drafting and revision → improved writing performance. This sequence should not be interpreted as a tested causal model because the present study did not experimentally compare the individual components. Nevertheless, it provides a useful conceptual explanation of how PBL and BMC operated together in the instructional setting examined in this study.

Overall, the findings suggest that the PBL-BMC approach is most valuable not because it eliminates the difficulties of English writing, but because it provides a structured environment in which students can develop ideas, collaborate, and transform business concepts into written texts. Its strongest contribution appears to be in supporting the meaning-making and organizational dimensions of writing, while grammatical and mechanical accuracy still require explicit instructional attention. The study therefore contributes a more nuanced view of PBL in English Business Writing: authentic project work can create meaningful opportunities for writing development, but its effectiveness is likely to be enhanced when project-based learning is combined with appropriate structural scaffolding and explicit

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language-focused support.

## CONCLUSION

This study examined the implementation of Project-Based Learning (PBL) integrated with the Business Model Canvas (BMC) in English Business Writing and investigated students' perceptions of the learning process. The quantitative findings showed a substantial improvement in students' overall writing performance following the six-week intervention. The mean score increased from 57.77 in the pre-test to 71.51 in the post-test, with a mean difference of 13.74 points. The paired-samples t-test showed that the difference was statistically significant, $t(34) = 18.80$, $p < .001$. At the component level, statistically significant improvements were observed in content, organization, vocabulary, language use, and mechanics. The largest absolute gain occurred in content, while mechanics showed the smallest gain. These results indicate that the PBL-BMC intervention was associated with improvement across the five assessed dimensions of writing.

The qualitative findings further showed that students generally perceived the PBL-BMC learning process positively. Four themes emerged from the interview data: increased classroom engagement, enhanced peer collaboration, improved learning motivation, and perceived writing development. Students described the project as meaningful because they were able to develop business ideas, work collaboratively, and transform those ideas into written business proposals. They also perceived the BMC as useful for organizing ideas before drafting. These findings complement the quantitative results by providing insight into students' experiences during the intervention.

The findings suggest that the potential value of integrating PBL with BMC lies in the complementary functions of the two approaches. PBL provides an authentic and collaborative context in which students use English to accomplish a meaningful project, while the BMC provides a structured visual framework for organizing business ideas before they are developed

into written texts. This combination may be particularly relevant to English Business Writing, where students are required to manage both language-related demands and business content. However, the relatively smaller gain in language use and mechanics indicates that project-based activities should not replace explicit language instruction. Targeted grammar instruction, teacher feedback, peer editing, and structured revision remain important for developing linguistic accuracy.

The study also has several limitations. First, the quantitative phase used a one-group pre-test–post-test design with 35 students from a single institution. Therefore, the observed improvement cannot be attributed exclusively to the PBL-BMC intervention, and the findings cannot be generalized directly to broader EFL populations. Second, the intervention lasted only six weeks, so the study does not establish whether the observed improvement would be maintained over a longer period. Third, the qualitative findings were based on students' reported experiences and perceptions and therefore should not be interpreted as independent measures of writing improvement.

Future research should address these limitations by employing larger and more diverse samples and including comparison groups. In particular, studies comparing conventional instruction, PBL alone, and PBL integrated with BMC would help determine the specific contribution of the BMC to writing development. Longer-term studies could also examine whether improvements in writing performance and students' positive learning perceptions are sustained over time. Such research would provide stronger evidence regarding the conditions under which PBL-BMC can be effectively implemented in English Business Writing and other ESP contexts.

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