

**THE IMPACT OF PROJECT-BASED LEARNING ON REFLECTIVE SKILLS AND VISUAL COMMUNICATION IN ACCOUNTING EDUCATION*****DAMPAK PEMBELAJARAN BERBASIS PROYEK TERHADAP KETERAMPILAN REFLEKTIF DAN KOMUNIKASI VISUAL DALAM PENDIDIKAN AKUNTANSI*****Nurul Hidayah^{1*}, Ani Widayati², Niken Purnamasari³, Ratna Rosita Pangestika⁴**Universitas Negeri Yogyakarta
nurulhidayah@uny.ac.id**Abstract**

Higher education institutions are expected to adopt learning strategies that go beyond academic mastery to cultivate reflective, communicative, and creative abilities as key 21st-century competencies. This study describes the implementation of Project-Based Learning (PjBL) integrating reflective essay writing and academic poster design, and examines its effects on students' reflective skills, visual communication, and professional literacy. A mixed-method approach with a sequential explanatory quasi-experimental design was used. Participants were 107 students from the Accounting Education Study Program at Yogyakarta State University, divided into an experimental class (55 students) and a control class (52 students). The four-week intervention followed four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Data were gathered through questionnaires, artifact analysis (essays and posters), classroom observations, and semi-structured interviews. Results indicate that multimodal PjBL significantly improved students' critical reflection. Qualitative findings show that combining written reflection with visual expression enabled students to connect theory and practice more meaningfully, increased learning motivation, and strengthened professional awareness, particularly in using academic English. The study confirms that multimodal PjBL is an effective and innovative approach in higher-education ESP instruction. It recommends broader and longer implementation in Accounting courses to enhance employability skills and better align learning with professional workplace demands.

Keywords: Project-Based Learning, reflection, visual communication, higher education**Abstrak**

Perguruan tinggi perlu menerapkan strategi pembelajaran yang tidak hanya menekankan penguasaan akademik, tetapi juga mengembangkan kemampuan reflektif, komunikatif, dan kreatif sebagai kompetensi abad ke-21. Penelitian ini bertujuan mendeskripsikan implementasi Project-Based Learning (PjBL) yang mengintegrasikan penulisan esai reflektif dan pembuatan poster akademik, serta menganalisis dampaknya terhadap keterampilan refleksi, komunikasi visual, dan literasi profesional mahasiswa. Penelitian menggunakan pendekatan campuran dengan desain kuasi-eksperimen sequential explanatory. Sebanyak 107 mahasiswa Pendidikan Akuntansi Universitas Negeri Yogyakarta terlibat, terdiri dari kelas eksperimen (55) dan kontrol (52). Pembelajaran berlangsung empat minggu melalui empat tahap: pengalaman konkret, observasi reflektif, konseptualisasi abstrak, dan eksperimen aktif. Data dikumpulkan melalui kuesioner, analisis artefak (esai dan poster), observasi kelas, serta wawancara semi-terstruktur. Hasil menunjukkan bahwa PjBL berbasis multimodal secara signifikan meningkatkan kemampuan refleksi kritis mahasiswa. Analisis kualitatif memperlihatkan integrasi refleksi tertulis dan ekspresi visual membantu mahasiswa menghubungkan teori dengan praktik, meningkatkan motivasi belajar, serta memperkuat kesadaran profesional dalam penggunaan bahasa Inggris akademik. Temuan ini menegaskan bahwa PjBL multimodal merupakan pendekatan inovatif yang efektif dalam pembelajaran ESP di perguruan tinggi. Penelitian merekomendasikan penerapan PjBL multimodal secara lebih luas dan



berkelanjutan dalam mata kuliah Akuntansi guna meningkatkan kesiapan kerja lulusan dan keselarasan pembelajaran dengan tuntutan profesional.

Keywords: Project-Based Learning, refleksi, komunikasi visual, Pendidikan tinggi

INTRODUCTION

Higher education plays a strategic role in preparing human resources who are not only technically competent but also capable of critical, reflective, and communicative thinking in responding to the dynamics of the global economy. In the context of accounting education, this responsibility extends to preparing future accounting professionals who must master financial reporting standards, auditing procedures, and analytical techniques while also being able to communicate complex financial information clearly and ethically. Research in accounting education indicates that communication competence remains a persistent challenge. Studies published in *Jurnal Pendidikan Akuntansi Indonesia* show that accounting graduates often demonstrate strong technical proficiency but relatively weaker communication skills compared to professional expectations (Andriani & Suryani, 2023).

The modern workforce increasingly demands graduates who can adapt to technological change, manage information, and communicate disciplinary expertise across languages and cultures (Q. Zhang & Ramli, 2025). However, higher education in Indonesia still tends to emphasize cognitive and procedural mastery over reflective and communicative development (Prasongko et al., 2025; Runggo & Hendriyani, 2025). Empirical findings in accounting education further reveal that professional competence readiness, including interpersonal and communication aspects, requires stronger pedagogical support (Dewanti, 2017). More recent studies confirm that work readiness among accounting students is significantly influenced by adaptive and professional competencies that extend beyond technical accounting knowledge (Rahmawati & Muchsini, 2024). These findings indicate the urgent need to strengthen professional literacy and communication capacity in accounting programs.

In this context, English for Specific Purposes, particularly ESP for Accounting, becomes crucial as it bridges academic competence and professional performance in globalized financial environments (L. Zhang & Ma, 2023). ESP designed around accounting genres and discourse practices transforms abstract knowledge into situated communicative performance recognized in professional settings. Therefore, ESP instruction should not focus solely on grammatical structures but must also develop professional literacy, reflective thinking, and cross-context communication skills development (Prasongko et al., 2025; Runggo & Hendriyani, 2025).

Although international studies provide strong theoretical justification for integrating communicative and multimodal approaches in ESP, empirical evidence from local classroom contexts remains limited. Preliminary classroom observations conducted in the ESP for Accounting course at Yogyakarta State University revealed several pedagogical challenges. First, students demonstrated difficulty in producing reflective writing that critically connects accounting concepts with professional practice. Most reflections were descriptive rather than analytical. Second, student presentations tended to rely heavily on text-dominated slides with minimal visual organization, indicating limited visual literacy skills. Third, students showed limited confidence in articulating accounting arguments in English, suggesting that professional literacy in a global communication context remains insufficiently developed.

A small-scale preliminary needs analysis conducted prior to this study further indicated that students perceived ESP primarily as a language requirement rather than as a professional communication tool. Many reported uncertainty about how English competence connects to future accounting careers. These findings suggest a gap between the intended objectives of ESP for Accounting and the actual learning experience in the classroom. Thus, while international literature



strongly advocates for reflective, communicative, and multimodal competencies, local empirical data indicate that these dimensions have not been optimally integrated into ESP instruction for accounting students.

Calls for innovation in accounting education emphasize the importance of authentic and experiential learning models that allow students to apply knowledge meaningfully (Andriani & Suryani, 2023; Rahmawati & Muchsini, 2024)²². One approach that aligns with these principles is Project-Based Learning, which positions students as active agents through the completion of complex and real-world relevant projects (Novalia et al., 2025). Research shows that project-based approaches enhance engagement, collaboration, and higher-order thinking skills (Kokotsaki et al., 2016; L. Zhang & Ma, 2023).

Philosophically grounded in constructivism, Project-Based Learning enables students to construct knowledge through meaningful experience. In ESP for Accounting, this can be implemented through tasks such as preparing financial analyses, drafting accounting-related documents, and presenting findings in English (Borasheva, 2026; L. Zhang & Ma, 2023). Through such activities, language functions as a tool for professional reasoning rather than merely as a system of grammar.

In this study, Project-Based Learning is integrated with visual communication through two main artifacts, a reflective essay and an academic poster. The reflective essay is designed to strengthen analytical reflection skills identified as weak in the preliminary observation. The academic poster addresses students' limited visual presentation competence by requiring them to organize accounting ideas visually and coherently. The integration of written and visual outputs creates a multimodal learning experience that combines linguistic, analytical, and design competencies (Carcamo & Pino, 2025; Lai, 2024).

This approach aligns with multiliteracies pedagogy, which emphasizes meaning-making across multiple communication modes (Cope & Kalantzis, 2017). In professional accounting contexts, the ability to present financial information clearly and visually is increasingly valued. Previous research also underscores the need for contextual and innovative instructional strategies that strengthen professional communication competence in accounting education (Andriani & Suryani, 2023).

Empirical studies consistently demonstrate that Project-Based Learning enhances motivation, cognitive engagement, and authentic skill development (Kokotsaki et al., 2016; Novalia et al., 2025; Wu et al., 2026; L. Zhang & Ma, 2023). Furthermore, PjBL supports authentic assessment through both process and product evaluation, enabling comprehensive evaluation of students' cognitive and affective dimensions (Chu et al., 2017).

Therefore, this study aims to describe the implementation of Project-Based Learning integrated with visual communication in ESP for Accounting, analyze how this approach enhances students' critical reflection, visual literacy, and professional communication skills, and evaluate its contribution to learning motivation and engagement. By grounding international theoretical perspectives in verified empirical findings from Indonesian accounting education and local classroom realities, this research contributes to the advancement of pedagogical innovation that aligns technical accounting competence with professional literacy and multimodal communication demands.

Pedagogically, PjBL supports the principles of experiential learning, where learning occurs not only through teacher explanations but also through designed experiences that guide students to independently discover meaning. In this study, the assigned project produces two main artifacts: a reflective essay and an academic poster. The essay helps students internalize their learning experiences and develop reflective thinking skills, while the poster requires them to express ideas visually and communicatively (Carcamo & Pino, 2025; Lai, 2024).

The integration of essays and posters creates a multimodal learning experience that encourages students to combine linguistic, analytical, and visual design skills within a unified learning process. This approach aligns with the concept of multiliteracies pedagogy (Cope & Kalantzis, 2017), which



emphasizes the importance of representing meaning through multiple modes of communication, such as text, images, and digital visuals. In higher education, the ability to present complex information in clear and engaging visual formats is part of the professional competencies increasingly valued by industry (Guo et al., 2020). Therefore, integrating PjBL with visual communication not only strengthens students' academic capabilities but also prepares them for professional realities that demand multimodal communication skills (Rahmanu & Molnár, 2024).

Empirically, numerous studies (Guo et al., 2020; Kokotsaki et al., 2016; Novalia et al., 2025; Wu et al., 2026) affirm that PjBL effectively enhances student engagement, motivation, and learning outcomes. Guo et al., (2020) found that the application of PjBL significantly improves conceptual understanding and higher-order thinking skills. Wu et al. (2026) demonstrated that integrating PjBL with computational thinking strengthens students' reflective and affective abilities. Meanwhile, studies by Kokotsaki et al., (2016) and Novalia et al., (2025) confirm that PjBL promotes higher levels of collaboration and learner autonomy compared to traditional learning. In the ESP context, Borasheva (2026) revealed that multimodal task-based projects enhance students' active participation and enrich cross-media communication.

Beyond improving learning outcomes, PjBL also opens opportunities for authentic assessment process and product-based evaluation that reflects students' real abilities (Chu et al., 2017). In this study, essays and posters serve not only as final assessment media but also as representations of students' thinking and reflection processes. Instructors can thus assess cognitive, affective, and social dimensions comprehensively, aligning this approach more closely with the competency-based higher education paradigm.

The integration of written reflection and visual expression within a unified Project-Based Learning framework offers a new direction for designing ESP learning in higher education. This approach positions students not merely as language learners but as meaning-makers capable of articulating their academic and professional understanding across media. By balancing cognitive, creative, and communicative dimensions, this model expands the scope of PjBL toward learning that fosters critical reflection and multimodal literacy.

This study was conducted among students of the Accounting Education Study Program at Yogyakarta State University, representing higher education institutions adapting to the demands of 21st-century learning. Through the implementation of essay- and poster-based PjBL, this research seeks to explore how multimodal projects can strengthen students' reflective capacity, visual communication skills, and learning motivation in the context of ESP for Accounting. Theoretically, the findings are expected to enrich understanding of the development of visually integrated Project-Based Learning in higher education. Practically, the study contributes by providing an innovative, contextual, and participatory learning model relevant to modern workplace demands for professional literacy and cross-media creativity.

METHODS

3.1 Research Design

This study employs a mixed-method approach with a sequential explanatory quasi-experimental design. This design integrates quantitative and qualitative analyses to evaluate the effectiveness of implementing essay- and poster-based Project-Based Learning (PjBL) in English for Specific Purposes (ESP) instruction in higher education. This approach is adapted from Wu et al. (2026), who combined learning outcome measurement with reflective analysis to obtain a comprehensive understanding of the knowledge-construction process. This model enables the researcher to explore changes in students' cognitive, affective, and communicative dimensions and to analyze in depth the learning experiences that occur during project implementation.

3.2. Participants



The study involved 107 undergraduate students from the Accounting Education Study Program at Universitas Negeri Yogyakarta who were enrolled in the English for Specific Purposes (ESP) course in the even semester of the 2025/2026 academic year. The students were divided into two groups: an experimental class consisting of 55 students and a control class consisting of 52 students. The experimental class received treatment through PjBL integrating reflective essays and academic posters, while the control class followed conventional ESP instruction using lectures and text-based exercises.

Participants were selected through purposive sampling based on the following criteria: (1) enrollment in the same ESP course during the same semester, (2) similar English proficiency level as indicated by prior course grades, (3) no prior exposure to structured Project-Based Learning tasks in ESP, and (4) comparable academic standing based on GPA range. These criteria were applied to reduce potential confounding variables.

3.3. Research Context and Procedure

This study was conducted over four weeks in an ESP course at a higher education setting. The learning process in the experimental class was designed to integrate PjBL with two main artifacts: reflective essays (individual work) and academic posters (group work). The learning implementation followed four main phases adapted from (Kolb, 1984) learning cycle and the experiential PjBL design by (Wu et al., 2026):

- **Concrete Experience:** The instructor introduced the project topic “Communicating Professional Values in Accounting and Business” through discussions, authentic videos, and case studies. Students analyzed professional communication practices in business and accounting contexts.
- **Reflective Observation:** Students wrote an individual reflective essay in English discussing their experiences and understanding of professional communication, work ethics, and the relevance of English in higher-level contexts.
- **Abstract Conceptualization:** Students discussed their individual reflections in groups to develop key ideas to be visualized in their academic posters, linking language theory with professional communication practices.
- **Active Experimentation:** Students designed and presented their posters in a gallery-walk session followed by class discussion and reflection.

The control class received conventional instruction focusing on language structure mastery and reading comprehension exercises. Learning activities in the experimental class were implemented through blended learning supported by a Learning Management System (LMS) for discussions, task submission, and feedback.

3.4. Instruments and Data Collection

Cognitive and affective questionnaires were used to measure students’ perceptions of PjBL effectiveness, learning engagement, motivation, and professional literacy. The questionnaire employed a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Project artifact analysis was conducted on reflective essays and academic posters. Essays were analyzed using a reflective rubric developed based on Moon (2013), covering depth of reflection, theory-practice connection, and writing coherence. Posters were assessed using a visual communication rubric adapted from Carcamo & Pino (2025) and Rahmanu & Molnár(2024), including message clarity, integration of text and visuals, and design quality. Classroom observations were conducted throughout the four weeks to record interaction patterns, participation, and collaboration during the project. The last one, semi-structured interviews were conducted with ten students from the experimental class to explore their experiences in writing reflections and designing posters, as well as their perceptions of the effectiveness of project-based learning.



3.4.1 Instrument Validity and Reliability

To ensure the rigor and credibility of the instruments used in this study, both validity and reliability procedures were conducted for questionnaire measures and performance-based assessments.

Questionnaire Validity

The questionnaire instrument was validated through expert judgment involving two specialists in English for Specific Purposes and educational assessment. The experts evaluated item clarity, content relevance, and alignment with the conceptual constructs of learning engagement, motivation, and professional literacy. Revisions were made based on their feedback to improve wording precision and construct alignment.

Construct validity was further examined using exploratory factor analysis (EFA). The Kaiser-Meyer-Olkin (KMO) values ranged from 0.82 to 0.86, indicating sampling adequacy. Bartlett's Test of Sphericity was significant ($p < .001$), confirming that the data were suitable for factor analysis. All factor loadings exceeded 0.60, demonstrating satisfactory construct validity.

Questionnaire Reliability

Internal consistency reliability was assessed using Cronbach's Alpha. The reliability coefficients were 0.87 for learning engagement (8 items), 0.85 for motivation (7 items), and 0.89 for professional literacy (9 items). These values indicate high reliability and strong internal consistency across items.

Table 1. Internal Consistency Reliability of Questionnaire

Variable	Number of Items	Cronbach's Alpha
Learning Engagement	8	0.87
Motivation	7	0.85
Professional Literacy	9	0.89

Inter-Rater Reliability for Essays and Posters

To enhance scoring reliability of reflective essays and academic posters, two independent raters evaluated all artifacts using standardized rubrics. Essays were assessed based on depth of reflection, theory-practice integration, and coherence, while posters were evaluated based on clarity of message, integration of visual and textual elements, and design organization.

Inter-rater reliability was calculated using the Intraclass Correlation Coefficient (ICC) with a two-way random-effects model and absolute agreement definition. The agreement level was high for reflective essays (ICC = 0.88) and very high for academic posters (ICC = 0.91), indicating strong scoring consistency between raters.

3.5. Data Analysis Techniques

Data analysis was carried out in two main stages.

In the quantitative stage, questionnaire data were analyzed using descriptive statistics to provide an overview of students' engagement and perceptions. A paired t-test was used to assess pre- and post-treatment differences within the experimental class, while an independent sample t-test was used to compare outcomes between the experimental and control groups. In addition, Pearson correlation analysis was applied to examine relationships among reflective engagement, visual communication skills, and professional literacy.

In the qualitative stage, data from essays, posters, and interviews were analyzed using thematic analysis as outlined by Braun & Clarke (2012). This included open coding, theme identification, and the development of categories representing three main domains: reflective (cognitive), visual (communicative), and affective (motivational). Triangulation was conducted by comparing artifact analysis results, interview findings, and classroom observations to enhance reliability and credibility



of data interpretation.

Prior to the intervention, baseline equivalence between the experimental and control groups was examined to ensure internal validity. An independent samples t-test was conducted on pre-test scores of learning engagement, motivation, and professional literacy. The results indicated no statistically significant differences between the two groups at the pre-intervention stage ($p > .05$), suggesting that both groups were comparable in initial conditions before treatment implementation.

FINDINGS AND DISCUSSION

4.1 Quantitative Findings

4.1.1 Descriptive Statistics

The descriptive statistics provide an initial overview of students' learning engagement, motivation, and professional literacy before and after the intervention. Overall, the experimental group showed a noticeable improvement across all measured variables, whereas the control group exhibited only slight, non-substantial increases. The results indicate that the PjBL approach integrating reflective essays and academic posters had a considerable influence on students' cognitive, affective, and communicative development.

Table 2. Descriptive Statistics of Pre-test and Post-test Scores

Variable	Group	Pre-test	Post-test	Difference
Learning Engagement	Experimental	3.21	4.18	+0.97
	Control	3.18	3.31	+0.13
Motivation	Experimental	3.35	4.26	+0.91
	Control	3.29	3.40	+0.11
Professional Literacy	Experimental	3.12	4.10	+0.98
	Control	3.09	3.28	+0.19

These descriptive patterns suggest that the experimental group experienced substantial gains, nearly a full point on the five-point Likert scale. The increases signal enhanced engagement in tasks requiring reflective thinking, visual communication, and integration of ESP concepts with real-world professional themes.

4.1.2 Assumption Testing

Before conducting inferential statistical tests, assumption testing was performed. Normality was assessed using both Kolmogorov–Smirnov and Shapiro–Wilk tests. The results indicated that all variables were normally distributed, as significance values exceeded 0.05. Homogeneity of variance was examined using Levene's test, which also showed non-significant results ($p > .05$), confirming equal variance between groups. Therefore, the assumptions for parametric testing were satisfied, allowing the use of independent and paired sample t-tests.

Table 3. Results of Assumption Testing for Parametric Analysis

Variable	Group	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.	Levene's Test Sig.
Learning Engagement (Pre-test)	Experimental	0.200	0.287	0.259
	Control	0.200	0.194	
Motivation (Pre-test)	Experimental	0.200	0.452	0.333
	Control	0.200	0.361	
Professional Literacy (Pre-test)	Experimental	0.200	0.210	0.294
	Control	0.200	0.318	



Note:

Data are normally distributed if $p > 0.05$ in Kolmogorov–Smirnov and Shapiro–Wilk tests.

Data are homogeneous if $p > 0.05$ in Levene’s test.

4.1.3 Paired t-test Results for the Experimental Group

The paired t-test analysis assessed the magnitude of change within the experimental group following the four-week intervention. The results indicate statistically significant improvements for all three measured variables.

Table 4. Paired t-test Results in the Experimental Group

Variable	t	p	Interpretation
Learning Engagement	14.22	<0.001	Significant
Motivation	13.05	<0.001	Significant
Professional Literacy	15.87	<0.001	Significant

The paired t-test results present strong empirical evidence of the effectiveness of the four-week PjBL intervention in enhancing students’ learning engagement, motivation, and professional literacy. All variables exhibit statistically significant improvements, with t-values ranging from 13.05 to 15.87. These magnitudes indicate large effect sizes and substantial internal changes experienced by students during the intervention.

The significant increase in learning engagement ($t = 14.22, p < .001$) shows that students became more involved in reflective, analytical, and multimodal learning tasks. This pattern is consistent with studies demonstrating that PjBL enhances active participation and deeper engagement through authentic, student-driven tasks (Kokotsaki et al., 2016; Novalia et al., 2025).

The improvement in motivation ($t = 13.05, p < .001$) reveals that the integration of reflective writing and poster creation increased students’ intrinsic motivation. Similar findings were reported by Borasheva (2026), who found that multimodal project-based tasks in ESP courses enhance learners’ affective engagement and interest.

Professional literacy showed the highest increase ($t = 15.87, p < .001$), suggesting that students significantly improved their ability to connect ESP materials with disciplinary practices. This result aligns with Lai (2024), who found that poster-based multimodal tasks strengthen disciplinary literacy by prompting students to integrate conceptual, linguistic, and professional domains.

These findings demonstrate strong internal changes attributable to the intervention. The high t-values indicate large effect sizes, suggesting that reflective essay writing and poster development provided meaningful opportunities for students to articulate personal insights, deepen understanding, and connect theoretical knowledge with professional contexts.

Overall, the paired t-test results confirm that the multimodal PjBL model generated meaningful cognitive, affective, and communicative development, supporting earlier research demonstrating the effectiveness of experiential and multimodal learning approaches (Carcamo & Pino, 2025; L. Zhang & Ma, 2023).

4.1.4 Independent Sample t-test dan Effect Size

The independent t-test compared the post-test performance of students in the experimental and control groups. The analysis shows a clear and significant difference between the groups, with the experimental class outperforming the control group across all variables.

Table 5. Independent Sample t-test Results (Post-test)

Variable	t	p	Cohen’s d	Effect Magnitude
Learning Engagement	11.23	<0.001	0.85	Large
Motivation	10.15	<0.001	0.79	Large
Professional Literacy	12.01	<0.001	0.92	Large



The considerable difference in learning engagement ($t = 11.23, p < .001$) demonstrates that the PjBL framework, which emphasizes collaboration, reflection, and artifact creation, provides more meaningful opportunities for participation. This is in line with L. Zhang & Ma (2023), who reported that PjBL environments consistently lead to higher levels of academic engagement compared to lecture-based instruction.

The higher motivation levels in the experimental group ($t = 10.15, p < .001$) reflect the influence of authentic and creative tasks that allow students to take ownership of their learning. This finding resonates with Guo et al. (2020), who observed that project-based activities integrating real-world relevance increase emotional involvement and persistence in ESP learning.

The significant difference in professional literacy ($t = 12.01, p < .001$) further indicates that integrating reflective writing and poster design enables students to translate theoretical ESP concepts into applied disciplinary knowledge. Beltrán-Palanques (2024) also found that multimodal literacy activities enhance learners' ability to connect language use with professional expectations.

To determine the magnitude of the intervention effect, Cohen's d was calculated. The results indicate large effect sizes for learning engagement ($d = 0.85$), motivation ($d = 0.79$), and professional literacy ($d = 0.92$). These values exceed the conventional threshold of 0.80, indicating substantial practical significance of the multimodal PjBL intervention beyond statistical significance.

The independent t -test results confirm that the PjBL intervention produced superior outcomes compared to traditional instruction, echoing recent studies advocating for experiential and multimodal approaches in higher education ESP settings (Carcamo & Pino, 2025; Novalia et al., 2025).

4.1.5 Pearson Correlation Analysis

Correlation tests were conducted to examine relationships among reflective engagement, visual communication skills (as demonstrated through poster design), and professional literacy. The results show positive and significant correlations among all variables.

Table 6. Pearson Correlation Results

Variable	Reflective Engagement	Visual Communication	Professional Literacy
Reflective Engagement	1	0.62**	0.71**
Visual Communication	0.62**	1	0.58**
Professional Literacy	0.71**	0.58**	1

Note: $p < 0.01$

The Pearson correlation analysis shows positive and statistically significant relationships among reflective engagement, visual communication skills, and professional literacy. Correlation coefficients range from 0.58 to 0.71, indicating moderate-to-strong associations.

The strong correlation between reflective engagement and professional literacy ($r = .71, p < .01$) suggests that deeper involvement in reflective writing is associated with improved understanding of disciplinary concepts. This supports Moon (2013) argument that reflection enhances metacognition and strengthens the integration of theoretical and experiential knowledge.

The positive relationship between reflective engagement and visual communication skills ($r = .62, p < .01$) indicates that students who demonstrate deeper reflection also tend to produce more coherent and meaningful poster designs. Rahmanu & Molnár (2024) reported similar findings, noting that reflective awareness contributes to stronger visual reasoning in ESP contexts.

The significant correlation between visual communication and professional literacy ($r = .58, p < .01$) underscores the role of multimodal tasks in reinforcing conceptual understanding. Carcamo & Pino (2025) found that poster-based assessments require students to synthesize information and present disciplinary insights in structured visual formats, supporting deeper literacy development.



The overall correlation pattern reinforces the interconnected nature of reflective thinking, multimodal communication, and professional literacy. These results align with multiliteracies theory (Cope & Kalantzis, 2017) and previous empirical evidence showing that multimodal PjBL supports integrated skill development across cognitive, affective, and communicative dimensions (Beltrán-Palanques, 2024; Wu et al., 2026).

4.2 Qualitative Findings

The qualitative findings, derived through thematic analysis of reflective essays, academic posters, interviews, and classroom observations, reveal a coherent pattern of learning development throughout the intervention. Three overarching themes emerged, representing interconnected cognitive, communicative, and affective growth among students: reflective-cognitive development, enhanced visual communication skills, and increased motivation and confidence. These themes collectively illustrate how multimodal PjBL created a learning environment that supported deeper meaning-making, collaborative engagement, and professional literacy development.

The emergence of these themes is consistent with theoretical perspectives stating that experiential and multimodal learning environments enable students to integrate prior experience, disciplinary knowledge, and self-reflection into a unified understanding (Cope & Kalantzis, 2017; Kolb, 1984). The triangulation of data from essays, posters, interviews, and observations reinforces the credibility of these findings.

4.2.1 Theme 1: Reflective-Cognitive Development

The reflective essays show a clear developmental trajectory from descriptive recounting toward deeper analytical and evaluative thinking. In the early stages, students focused on narrating events or summarizing class activities. Over time, however, essays in later weeks revealed higher levels of critical engagement as students increasingly demonstrated the ability to identify professional values, connect communication practices to ethical considerations, and reflect on the role of English in their future professional identities.

This shift indicates that students were engaging in metacognitive processes, moving from surface understanding toward deeper conceptualization. Such progression aligns with (Moon, 2013) framework of reflective learning, which states that structured reflection tasks scaffold students' ability to interpret experience, challenge assumptions, and synthesize ideas.

The development observed in this study also supports findings by Rizqiani & Astuti (2025), who reported that reflective writing within PjBL promotes conceptual clarity and critical disciplinary awareness. In the ESP context, this heightened cognitive processing is particularly meaningful, as students are not merely learning language structures but developing the ability to apply English for professional communication, ethical reasoning, and workplace relevance (Prasongko et al., 2025).

The integration of reflection into project-based tasks appears to have functioned as a mechanism for knowledge internalization, enabling students to articulate the significance of professional communication in accounting and business. This aligns with research showing that authentic and reflective tasks strengthen learners' ability to link theory with practice in disciplinary contexts (Beltrán-Palanques, 2024; Novalia et al., 2025).

4.2.2 Theme 2: Enhanced Visual Communication Skills

Analysis of academic posters reveals a noticeable improvement in students' visual communication competence. Posters created during the final week displayed clearer messages, coherent organization, and more intentional integration of visual and textual elements. Students demonstrated an increased ability to synthesize complex information, distill key ideas, and communicate them through structured layouts aligned with professional standards.



During the gallery walk, students were able to justify their design choices, articulate the theoretical basis of their visual representations, and explain how specific visuals supported their intended meaning. These behaviors indicate the development of multimodal literacy, where learners employ visual, textual, and spatial modes to construct and communicate disciplinary knowledge. This reflects the principles of multiliteracies pedagogy, emphasizing that students must be able to represent meaning across modes in contemporary professional settings (Cope & Kalantzis, 2017).

These findings are consistent with Lai (2024), who argued that poster-based learning tasks enhance disciplinary literacy by requiring learners to communicate professional concepts through multimodal forms. Similarly, Carcamo & Pino (2025) found that poster design in ESP classrooms promotes multimodal reasoning and deeper understanding of professional content.

Observational data further support these insights: groups were seen engaging in collaborative negotiation of meaning, evaluating design alternatives, and collectively refining presentation quality. This collaborative process echoes findings by Chu et al. (2017), who showed that project-based multimodal tasks encourage teamwork, critical discussion, and co-construction of knowledge.

The results confirm that poster-based PjBL not only builds communicative competence but also strengthens visual reasoning, an increasingly essential component of professional communication in digital and data-rich environments (Guo et al., 2020).

4.2.3 Theme 3: Increased Motivation and Confidence

Interview data reveal a strong affective dimension to the learning experience, with many students describing increased motivation, confidence, and sense of purpose throughout the project. They consistently attributed these improvements to three elements: the authenticity of tasks, the creative and multimodal nature of the project, and the relevance of activities to future workplace practices.

Students reported that the combination of individual reflective writing and collaborative poster creation made learning more meaningful and engaging. They expressed that multimodal tasks allowed them to communicate ideas more freely and creatively, helping them move beyond the constraints of traditional academic writing. These sentiments mirror findings by (Borasheva, 2026), who noted that multimodal PjBL tasks boost emotional engagement and intrinsic motivation in ESP learners.

Students also conveyed increased confidence in using English, particularly when presenting ideas in front of peers during the gallery walk. This aligns with research by Jaya et al. (2025), which found that PjBL enhances learners' self-confidence by providing safe, authentic spaces for language use.

Collaborative learning further contributed to reducing anxiety and fostering social support, as students negotiated meaning, distributed responsibilities, and built shared understanding together. This is consistent with Vygotskian perspectives on social learning, which emphasize the role of interaction and collaboration in cognitive and affective development (Vygotskiĭ et al., 1978).

Overall, the findings indicate that the intervention fostered a learning environment that was not only cognitively enriching but also emotionally supportive. This holistic development aligns with recent studies highlighting the affective impact of experiential and multimodal projects on learner confidence, identity formation, and professional readiness (Guo et al., 2020; Rahmanu & Molnár, 2024).

4.3 Classroom Observation Findings

Classroom observations conducted over four weeks revealed highly contrasting interaction patterns between the experimental and control groups. In the experimental class, students consistently demonstrated active engagement characterized by frequent peer interaction, collaborative problem-solving, and self-directed inquiry. Learners often initiated discussions, negotiated roles within their project teams, and voluntarily sought supplementary resources beyond the materials provided. These



behaviors indicate that the PjBL environment fostered learner autonomy and agency, consistent with research showing that project-based learning promotes independence, inquiry, and student ownership of learning processes (Kokotsaki et al., 2016; Novalia et al., 2025)

The instructor's role in the experimental class shifted from a traditional knowledge transmitter to a facilitator. Instead of dominating classroom discourse, the instructor guided reflection, posed probing questions, scaffolded group discussions, and encouraged students to justify their reasoning. This facilitative approach aligns with Kolb's experiential learning cycle, where instructors help learners reflect, conceptualize, and apply knowledge rather than passively absorb information (Kolb, 1984). Similar classroom dynamics were reported by Chu et al. (2017), who emphasized that scaffolded facilitation enhances students' inquiry skills and collaborative engagement in PjBL environments.

In contrast, the control class exhibited a predominantly teacher-centered instruction model. Lessons focused on grammar explanations, reading comprehension, and textbook-driven tasks. Classroom interactions were largely unidirectional, originating from the instructor with minimal opportunities for learners to ask questions, explore ideas, or engage in hands-on activities. These patterns are consistent with previous studies noting that traditional ESP instruction tends to prioritize linguistic accuracy and text-based exercises over communicative, reflective, or inquiry-based tasks (Prasongko et al., 2025; Runggo & Hendriyani, 2025). As a result, students in the control group displayed limited participation, with engagement restricted mostly to responding to instructor prompts.

The contrast between the two groups highlights the pedagogical impact of PjBL in creating an active learning environment that encourages interaction, negotiation of meaning, and collaborative knowledge construction. These observations reinforce findings from studies demonstrating that multimodal and project-based instruction increases student participation, creativity, and social learning (Borasheva, 2026; Lai, 2024).

4.4 Triangulation of Findings

The triangulation of quantitative data, qualitative evidence, and classroom observations demonstrates a strong convergence across all data sources. Statistical analyses showed significant improvements in learning engagement, motivation, and professional literacy within the experimental group, while thematic analysis of essays, posters, and interviews revealed deeper reflective thinking, enhanced multimodal communication, and greater confidence. Observational data reinforced these results by illustrating how students actively engaged with tasks, collaborated meaningfully, and exhibited self-regulated learning behaviors.

This convergence underscores the robustness and credibility of the findings. According to Braun & Clarke (2012), triangulation strengthens the trustworthiness of qualitative and mixed-method studies by confirming that themes consistently appear across independent data sources. In this case, the alignment between students' reflective writings, artifact performance, classroom behavior, and statistical improvement suggests that the learning gains were not incidental but were directly linked to the PjBL intervention.

The integration of reflective essays and academic posters created a complementary learning ecosystem in which students engaged cognitive, visual, and communicative skills. This multimodal approach enabled learners to reflect on professional values, conceptualize disciplinary knowledge, and externalize understanding through visual representation. These findings align with multiliteracies theory, which posits that learning is enriched when learners combine linguistic, visual, and experiential modes to construct meaning (Cope & Kalantzis, 2017).

Research in ESP and PjBL contexts similarly demonstrates that multimodal tasks deepen understanding and promote disciplinary literacy by encouraging learners to contextualize knowledge across communication modes (Beltrán-Palanques, 2024; Carcamo & Pino, 2025; Guo et al., 2020).



The consistent pattern across methods confirms that experiential PjBL is an effective model for improving ESP learning outcomes in higher education. It fosters stronger engagement, enhances reflective and visual reasoning, and strengthens the development of professional literacy, elements essential for preparing learners for the interdisciplinary and communicative demands of modern workplaces. This conclusion is reinforced by recent studies advocating for the integration of experiential, collaborative, and multimodal approaches in language and professional communication courses (Wu et al., 2026; Q. Zhang & Ramli, 2025).

DISCUSSION

The findings of this study demonstrate the significant impact of Project-Based Learning (PjBL) integrating reflective essays and academic posters on students' cognitive, affective, and communicative development in an ESP (English for Specific Purposes) context. These findings align with a substantial body of literature indicating that PjBL supports deep learning, enhances engagement, and improves real-world competencies among higher education students. Guo et al. (2020), in a meta-analysis of PjBL in higher education, concluded that PjBL consistently enhances student motivation, autonomy, and problem-solving abilities. This provides a strong conceptual anchor for the gains observed in the experimental group.

The significant improvement in students' reflective engagement and professional literacy suggests that reflective writing plays an essential role in facilitating metacognitive processing. Although reflective essays are underexplored specifically in ESP-focused PjBL research, similar patterns have been observed in STEM and education fields. For instance, Rizqiani & Astuti (2025) showed that when reflective writing was integrated into project-based physics coursework, students demonstrated greater conceptual clarity and deeper engagement with disciplinary practices. In parallel with this study, reflective essay writing served as a scaffold that enabled students to connect theoretical principles of professional communication with their own developing identities as future accounting professionals.

The enhancement of visual communication skills evident in students' poster designs is consistent with broader findings that multimodal learning tasks can deepen comprehension and support the articulation of complex ideas. In a study on PBL in business-English ESP contexts Beltrán-Palanques, (2024) found that students perceived substantial gains in creativity, professional communication, and teamwork when engaging in multimodal project tasks. The present findings similarly show that poster creation fostered students' ability to synthesize information, organize ideas visually, and communicate professional values effectively, skills increasingly demanded in contemporary workplace communication.

The affective gains demonstrated in the experimental group, including increased motivation and confidence, echo other PjBL studies in higher education. Jaya et al. (2025), in an ESP PjBL case study in Indonesia, observed that students exhibited heightened confidence in using English and greater ownership of learning when tasks were authentic and personally meaningful. The interviews from this study reflect similar sentiments, as students reported that the authenticity of the tasks, the integration of real-world themes, and the opportunity to express ideas both verbally and visually made learning more engaging and personally relevant.

The classroom observations further reinforce the critical role of facilitation in successful PjBL implementation. As noted by Guo et al., (2020), the instructor's shift from lecturer to facilitator enables students to engage more independently in inquiry, collaboration, and reflection. This was evident in the experimental class, where students used group discussions, peer feedback, and collaborative decision-making to construct understanding, contrasting sharply with the teacher-centered dynamics in the control group.

When situating these results within the broader literature, several noteworthy implications emerge. First, although PjBL is well-established in higher education pedagogy, the combination of



reflective writing and multimodal poster design within ESP instruction remains under-researched, suggesting that this study addresses a meaningful gap. Second, the strong correlations between reflective engagement, visual communication, and professional literacy suggest that these skills reinforce each other; however, few existing studies have examined these relationships in ESP contexts. Third, although the four-week implementation showed significant effects, longer-term studies are needed to determine the sustainability of these gains. Prior literature indicates that PjBL can be resource-intensive, requiring substantial instructor preparation, ongoing scaffolding, and careful assessment design.

Finally, the findings highlight the potential for integrating digital tools to support PjBL in ESP instruction. As technology-enhanced learning environments gain traction in higher education, multimodal tasks such as poster creation, reflective blogging, and virtual gallery walks could further increase the accessibility and scalability of PjBL. Several recent Scopus-indexed studies in the field of educational technology emphasize how digital platforms can support collaboration, enhance reflection, and facilitate multimodal communication, suggesting promising directions for future research.

In summary, the results contribute to a growing body of scholarship advocating for experiential, integrative, and student-centered approaches to ESP instruction in higher education.

CONCLUSION

This study examined the effectiveness of a Project-Based Learning (PjBL) model integrating reflective essays and academic posters in an English for Specific Purposes (ESP) course in Accounting education. The mixed-method findings demonstrate that the intervention significantly enhanced students' learning engagement, motivation, and professional literacy compared to conventional instruction. Quantitative results indicate substantial gains within the experimental group and significant differences between the experimental and control groups, confirming the impact of experiential and multimodal learning elements embedded in the project. Qualitative evidence further highlights meaningful improvements in students' reflective thinking, visual communication abilities, and confidence in using English for professional contexts.

The triangulation of statistical analysis, thematic exploration, and classroom observation supports the conclusion that combining reflective writing with visual communication tasks provides a comprehensive and authentic learning experience aligned with the experiential learning cycle. By engaging in concrete experience, reflective observation, abstract conceptualization, and active experimentation, students developed deeper conceptual understanding and greater awareness of professional values in accounting and business. The PjBL model used in this study therefore represents a promising pedagogical approach for enhancing ESP learning outcomes, especially in disciplines where communication, ethics, and professionalism are integral components of future workplace practices.

Despite yielding positive outcomes, this study has several limitations that should be acknowledged. First, the research was conducted over a relatively short four-week period, which may not fully capture the long-term effects of the intervention on students' linguistic development or professional literacy. Extended implementation across an academic semester may produce different patterns of learning progression. Second, the study involved students from a single study program at one university, which may limit the generalizability of the findings. Different academic disciplines or institutional contexts may respond differently to the integration of reflective essays and poster-based PjBL.

Third, although the study employed mixed methods, the qualitative component relied primarily on thematic analysis of essays, posters, interviews, and observations. Further methodological triangulation such as discourse analysis of classroom interactions or eye-tracking



analysis of visual communication processing, could provide deeper insights into students' learning behaviors. Fourth, the assessment of poster quality and reflective depth, while based on established rubrics, may still involve elements of subjectivity. Future studies may benefit from involving multiple raters or using automated text and visual analysis tools to enhance reliability. Lastly, students' prior experiences with project-based assignments and their varying levels of digital literacy may have influenced their performance, but these factors were not measured explicitly in the study.

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