

Evaluating Inquiry-Based Learning as A Pedagogical Strategy in Achieving Outcome-Based Education Targets in EFL Writing

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Abstract

This study aimed to evaluate the effectiveness of the Inquiry-based Learning approach in achieving Outcome-based Education targets in teaching writing skills as a foreign language. A quantitative method was employed, using a one-group pre-test and post-test design. The participants consisted of 34 students, who participated in writing tasks with different topics administered at the pre-test and post-test stages. The data were analyzed using the Wilcoxon Signed Rank Test, due to the non-parametric distribution. The analysis revealed significant improvement in students' writing skills, including paragraph structures, idea development, lexical precision, and academic language style. These findings indicate that Inquiry-Based Learning effectively fosters active student engagement, promotes self-directed exploration, and enhances the ability to strengthen written expressions. Based on the results, it can be concluded that Inquiry-based Learning is a relevant and effective strategy for achieving Outcome-Based Education goals in the context of EFL writing competencies.

Keywords: Inquiry-Based Learning, Outcome-Based Education, EFL Writing.

INTRODUCTION

Writing is one of the core components of English language learning. It is often regarded as a key indicator of communicative competence in English. This distinction sets writing skills apart from receptive language skills, like reading and listening. According to Richard and Renandya (2002), writing demands high-order cognitive skills, particularly in structuring ideas, organizing texts, and generating meaningful content. Nonetheless, most EFL students still encounter difficulties in composing English texts or essays. Fadda (2012) points out that students often struggle in distinguishing informal spoken expression and formal written language. Additional challenges identified by Anh (2019) highlighted that limited vocabulary and poor grammar comprehension can lead to students' failure in writing. In line with this, Negari and Rezaabadi (2012) emphasized that writing is a skill that requires substantial effort to master.

In light of these concerns, the implemented instructional approach is expected to overcome the identified issues. While teacher-centered instructions continue to be practiced, numerous pedagogical methods have developed over time to meet evolving educational needs. One of the instructional approaches to address this issue is Inquiry-Based Learning. Nollameyer and Baldwin (2022) define this strategy as a student-centered model in which learners are encouraged to tackle problems and foster critical thinking through exploration. In the context of writing instructions, Inquiry-Based Learning promotes active engagement, stimulates creative thinking, and guides the students in organizing writing with thoughtful and substantial compositions. Hmelo-Silver (2007) emphasized that a well-structured model fosters greater engagement, strengthens students' critical

thinking, enhances problem-solving skills, and contributes to social-emotional skill development. To maximize its effectiveness, Inquiry-Based Learning should be strategically aligned with the learning goals, using Outcome-Based Education frameworks. This ensures that all Inquiry-Based Learning aspects play an essential role in achieving the learning outcomes. As stated by Spady (1990), Outcome-Based Education is designed for structuring and delivering instructions that are aligned with the specific objectives and expected learning outcomes.

This study is grounded in students' opinions of writing as one of the most challenging skills to acquire. This has led to the consideration of instructional models that integrate active engagement with a precise alignment to learning goals. The purpose of this research is to evaluate the implementation of the Inquiry-Based Learning approach as a teaching strategy for achieving Outcome-Based Education Targets, specifically in teaching writing to secondary EFL students.

Theoretically, Inquiry-Based Learning is rooted in John Dewey's educational philosophy, which introduces the concept of 'learning by doing'. According to Dewey, learning begins when students experience curiosity. Several scholars have further expanded this philosophical foundation. Inquiry-Based Learning is rooted in constructivist theory, which posits that students construct their understanding through active engagement in exploration, reflection, and interaction during the learning process. Jerome Bruner, a prominent scholar in advocating Discovery Learning, stated that effective learning arises from students' active involvement in exploring and problem-solving. Bruner proposed that knowledge is built through intentional inquiry and guided discovery.

In the early 1990s, William G. Spady introduced the concept of Outcome-Based Education, a framework designed to ensure the instructional practices are aligned with learning targets and assessable learning achievements. The core principle of Outcome-Based Education emphasizes the competencies students are expected to demonstrate at the end of the learning process. According to Thang et al. (2021), applying Outcome-Based Education led to notable improvements in systematic thinking, self-reliance, collaboration, and problem-solving skills, indicating its effectiveness in developing specific students' competencies. Based on the explanations above, both approaches are mutually reinforcing, with Inquiry-Based Learning serving as an effective method for achieving predetermined learning outcomes, articulated through Outcome-Based Education. Although several studies have explored the integration of Inquiry-Based Learning and Outcome-Based Education independently, studies that focus on combining these two strategies are still limited, especially within secondary-level EFL contexts.

METHOD

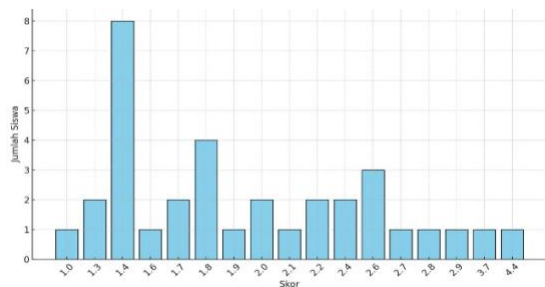
This study employed a quantitative approach, using a quasi-experimental, specifically a one-group pre-test post-test model. A single class was assessed before and after the intervention to evaluate the effectiveness of Inquiry-Based Learning. The data were analyzed using the Wilcoxon Signed-Rank Test, a non-parametric statistical method that is suitable when the data distribution is not normal.

FINDINGS AND DISCUSSION

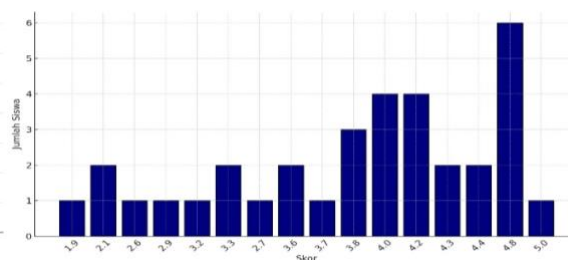
Findings

The following section presents the results of data analysis derived from students' pre-test and post-test performances. The findings determine the effect of Inquiry-Based Learning on students'

ability to construct the essay and its alignment with the established targets through Outcome-Based Education.



Graphic 1
Students' Pre-Test Distribution



Graphic 2
Students' Post-Test Distribution

1. Normality Test

Table 1 presents the results of the normality test, assessed using the Shapiro-Wilk test, appropriate for a sample size of 34 students. The test yielded a p-value of 0.003 for the pre-test and 0.016 for the post-test. These scores fall below the 0.05 threshold, indicating that the data are not normally distributed. Therefore, a non-parametric analysis is recommended for examining the differences between the pre-test and post-test scores.

Table 1
Normality Test

Shapiro-Wilk				
		Statistic	Df.	Sig.
1	Pre-test	.895	34	.003
2	Post-test	.920	34	.016

2. Statistical Test

Table 2 displays the results of the Wilcoxon Signed Rank Test. As shown in the table, 34 students received positive ranks, indicating that none of the participants experienced a decline as shown in the negative ranks, nor did any obtain the same score on both tests, as shown in the ties. Following the results of the Wilcoxon Signed Rank Test, the analysis produces a Z-value of -5.088 with a significance level of 0.001. This confirms that a statistically significant difference between the pre-test and post-test scores ($p < 0.05$), where the post-test scores of students were consistently higher.

Table 2
Wilcoxon-Signed Rank Test

Post-Test – Pre-Test	Negative Rank	0 ^a	.00	.00
	Positive Rank	34 ^b	17.50	.595.00
	Ties	0 ^c		
	Total	34		

Table 3
Statistical Test

	Post-Test – Pre-Test
Z	-5.088
Asymp.Sig (2-tailed)	<.001

3. The Measurement of Outcome-Based Education Targets

Table 4 presents the set of Outcome-Based Education targets that students are expected to achieve by the end of the learning process. Each target reflects the core principles of Outcome-Based Education, focusing on tangible performance indicators, emphasizing both cognitive skills and written communication abilities.

Table 4
Outcome-Based Education Targets

No	Outcome-Based Education Targets	Notes
1.	Students demonstrate the ability to construct coherent and well-structured paragraphs within the standard of expository text.	Achieved
2.	Students demonstrate appropriate use of sentence structures, grammar, and vocabulary within the writing compositions.	Achieved
3.	Students were able to generate texts effectively aligned with the academic writing conventions.	Achieved

The first target focuses on students' ability to compose coherent and well-organized paragraphs, following expository writing conventions. Based on the pre-test results, the majority of students demonstrated limited understanding of essay structure. As reflected in the expository rubric, most students applied the core textual components, including definitions, body paragraphs, and closing statements. However, the development of ideas is limited and lacks clear organization. The pre-test essay reflected insufficient conceptual understanding, as the writing lacked concrete facts or supporting data. Furthermore, the students tended to resemble the ideas in a list of points, with poor transitional sentences and incorrect punctuation usage. After the implementation of Inquiry-Based Learning, students demonstrated significant progress in their essay construction. The compositions exhibited a complete structure, consisting of an introduction, argumentative information, and a wrapped conclusion. Moreover, significant improvements were also observed in the presentations of factual information. The essay began incorporating concrete references to support the arguments. The quality of textual flow also improved through better transitions and punctuation usage. These enhancements indicate that the implementation of Inquiry-Based Learning effectively fosters systematic thinking in academic writing.

The second target highlights the mastery of linguistic features, such as sentence construction, grammatical accuracy, and appropriate word choice in the context of expository writing. The pre-test results revealed that most of the students still faced challenges with grammar and lexical selection. Numerous language errors, such as inappropriate tenses, misused word structures, and inaccurate use of articles, contained fundamental errors. Following the intervention, the students' essays showed substantial gains in the post-test results. Some participants were able to produce complex sentences with correct grammar and employed academic lexical choices appropriate for an academic writing context. Although grammatical errors were still present, they generally did not hinder the overall comprehension of the essays. Additionally, several students demonstrated proper use of punctuation and capitalization. Moreover, sentence structures are more varied and no longer rely on simple formats. This growth points to the effectiveness of Inquiry-Based Learning in fostering linguistic content of the writing.

The third goal of Outcome-Based Education emphasizes the effective communication of ideas consistent with academic conventions. Pre-test results showed that most students employed informal language structures and spoken like expressions. Several students' essays employ simple diction and personal sentence structures. This compromised the objectivity. This weakened the expository aims, which are expected to maintain a neutral and analytical tone. Following the intervention of Inquiry-based Learning, there was a noticeable advancement in students' ability to express ideas using appropriate academic language. The essay began to demonstrate more objective and formal language use. Several students successfully sustained academic register across the text. This affirms that Inquiry-Based Learning contributes meaningfully to students' ability in analytical thinking. Through questioning, discussion, and collaborative exploration, students develop greater awareness of the academic audience and adjust the writing style accordingly.

Discussion

Following the application of Inquiry-Based Learning, students' essays revealed significant progress in the written form. In the pre-test stage, the essay reflected an informal style and failed to reflect academic conventions. While in the post-test, the majority of students demonstrated formality, objectivity, and precise alignments suited to expository writing. Based on the quantitative analysis, students' scores showed a consistent increase from pre-test to post-test. This indicates improvements in understanding of academic writing, both in terms of style and the logical structuring of ideas. The methodology employed enabled students to construct and refine their understandings through open-ended questions, group discussion, and reflective learning. These activities fostered students to think more critically when selecting suitable words, adjusting tone, and organizing logical arguments. This aligns with the ideas of Lev Vygotsky (1896), a notable figure in social constructivist theory. The concepts of Zone of Proximal Development (ZPD) emphasize the role of social interaction in cognitive development. In line with Jerome Bruner's principle, the implementation of Inquiry-Based Learning demonstrates that students develop cognitive skills through an exploratory process. In alignment with Outcome-Based Education principles, the findings indicate that they have met the intended learning outcomes in academic writing. The students' capacity to maintain a consistent and appropriate language and to convey clear arguments. As Spady (1995), a key figure in the development of Outcome-Based Education, stated that this approach centers on goals, outcomes, and students' achievement attained at the end of the learning process.

In a study conducted by Adhami and Taghizadeh (2022), the integration of Inquiry-Based Learning within a flipped classroom setting was examined. The findings revealed that students in the Inquiry-Based Learning group significantly achieved higher scores in grammar and writing fluency, compared to the traditional teaching group. The gains in grammar and writing fluency reflect the improvement in the second target of Outcome-Based Education, namely, the use of complex sentence structures, lexical variation, and accuracy in written expression, following the intervention of Inquiry-Based Learning. Wahono and Zahro (2021) also investigated the impact of Inquiry-Based Learning on students' English proficiency. The findings showed that students become more engaged in inquiry activities, such as exploration, peer discussion, and expressing their ideas independently. It showed that the practices of Inquiry-Based Learning contributed to the notable improvements in language competence, particularly in critical thinking, collaboration, and communicative confidence. A subsequent study by Yeh (2024) explored the integration of Artificial Intelligence (AI) tools into the EFL teacher training through Inquiry-Based Learning instruction. The findings revealed that the combination of AI and Inquiry-Based Learning enabled teachers to design interactive and adaptive learning materials, tailored to students' needs, and fostered a pedagogical shift away from test-driven methods toward learner-centered and reflective teaching. These findings reinforce the present study's findings regarding the improvements in grammar and academic writing styles. Notably, even without AI integration, the Inquiry-Based Education strategy can effectively support expository writing development.

CONCLUSION

Through pre-test and post-test analysis, this study confirms the pedagogical impact of Inquiry-based Learning on the achievement of Outcome-Based Education targets in the context of EFL writing. The students showed improvement in the ability to organize ideas coherently, applying accurate linguistic structures, and expressing ideas in an appropriate academic style. Such improvements suggest that Inquiry-Based Learning cultivates active student participation and self-directed learning, aligning with constructivist theory. Therefore, Inquiry-Based Learning emerges as a pedagogical strategy in fostering writing competencies aligned with the Outcome-Based Education targets in EFL writing Instructions.

REFERENCES

- Richards, J. C., & Renandya, W. A. (2002). *Methodology in language teaching: An Anthology of Current Practice*. Cambridge University Press.
- Fadda, H. (2012). Difficulties in Academic Writing: from The Perspective of King Saud University Postgraduate Students. *English Language Teaching*, 5(3), 123-130.
- Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and Achievement in Problem-Based and Inquiry Learning: A Response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, 42(2), 99–107. <https://doi.org/10.1080/00461520701263368>
- Spady, W. G. (1995). *Outcome-based education: critical issues and answers*. <http://files.eric.ed.gov/fulltext/ED380910.pdf>
- Thangjai, N., & Worapun, W. (2022). Developing inquiry learning characteristics of Grade 7 students using integrated 5E's of Inquiry-Based learning and Game-Based learning. *Journal*

of Educational Issues, 8(1), 137. <https://doi.org/10.5296/jei.v8i1.19547>

Adhami, N., & Taghizadeh, M. (2022). Integrating inquiry-based learning and computer-supported collaborative learning into a flipped classroom: effects on academic writing performance and perceptions of students of railway engineering. *Computer Assisted Language Learning*, 37(3), 521–557. <https://doi.org/10.1080/09588221.2022.2046107>

Wahono, S. S., & Zahro, I. H. N. (2021). Using inquiry-based learning to improve students' speaking skills. *Journal of Language Intelligence and Culture*, 3(2), 125–138. <https://doi.org/10.35719/jlic.v3i2.55>

Yeh, H. (2024). The synergy of generative AI and inquiry-based learning: transforming the landscape of English teaching and learning. *Interactive Learning Environments*, 1–15. <https://doi.org/10.1080/10494820.2024.2335491>