

The impact of Project-Based Learning (PBL) on the development of the writing skill

El impacto del Aprendizaje Basado en Proyectos (ABP) en el desarrollo de la habilidad de escritura

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Resumen

El presente estudio explora el uso de ABP en el desarrollo de la habilidad de escritura en inglés en estudiantes de décimo año de educación básica. El objetivo de esta investigación fue determinar el impacto del ABP para mejorar la habilidad de escritura. Se utilizó una metodología cuantitativa y se aplicó un pretest, un postest y un cuestionario diseñado con la escala de Likert como instrumentos de investigación. Se utilizó la prueba de Wilcoxon para examinar las diferencias entre los grupos pareados con respecto al nivel intragrupo, y la prueba U de Mann-Whitney se utilizó para evaluar las diferencias entre los grupos individuales con respecto al nivel intergrupacional. Los resultados mostraron que el ABP tiene un impacto significativo en el desarrollo de la habilidad de escritura. Esto lleva a determinar que el ABP es un método poderoso para garantizar un aprendizaje activo y una mejora en los aspectos de la escritura como el contenido, el uso del lenguaje y la organización. Además, los estudiantes demostraron un alto nivel de colaboración/cooperación, creatividad y comunicación al trabajar en grupo, así como satisfacción con los productos escritos finales. En conclusión, el ABP tuvo un impacto positivo en el desarrollo de la escritura.

Palabras clave: *aprendizaje activo, aprendizaje basado en proyectos (ABP), colaboración, habilidad de escritura*

Abstract

The present study explores the use of PBL in the development of English writing skill in tenth-grade students. This research aimed to determine the impact of PBL on improving writing skill. A quantitative methodology was applied, and a pretest, posttest, and a questionnaire designed with the Likert Scale were used as the research instruments. The Wilcoxon test was employed to examine the differences between the paired groups in the intra-group level, and the Mann-Whitney U Test was used to assess the differences between the individual groups in relation to the inter-group level. The results reported that PBL significantly impacts the development of writing skill. It leads to determine that PBL is a powerful method to guarantee active learning and successful writing performance as students showed betterment in the writing aspects such as content, language use, and organization. Furthermore, students demonstrated a high level of collaboration/cooperation, creativity, as well as communication when working in groups. Those elements allowed them to feel satisfied with their final written products. In conclusion, PBL had a positive impact on the development of writing skill.

Keywords: *active learning, collaboration, project based learning (PBL), writing skill*

INTRODUCTION

Writing is a fundamental skill in English Foreign Language Teaching (EFLT). It is a must that learners develop and master this skill, so they can produce written information with quality and readability to convey clear and concise messages. Writing is a productive skill, which is crucial in the educational setting since it refers to the ability that permits students to express their thoughts or understanding in pieces of writing (Yusri et al., 2021).

Writing is also important because it enhances the development of critical thinking, analysis, and arguing skills which help students to have a better writing performance (Manao et al., 2024). What is also needed to highlight is that creativity and problem-solving skills flourish when producing writing tasks.

Writing is a skill that for a great amount of people is challenging. Students struggle with it. Some factors or situations that contribute not to having a solid writing

performance are detailed as follows. Oroh and Wilar (2022) point out that it is because learners do not master the correct use of grammatical structures, have a weak vocabulary range, do not dedicate time to practice this skill, low level of English understanding, and the exercises and samples provided by the instructors are not adequate, which lead to demotivation and poor writing skills.

The current challenges and demands in the educational process require teachers to make use of innovative instructional approaches to promote writing. Consequently, it is relevant to provide learners with a suitable context and setting to work with enthusiasm, in collaborative environments to achieve better writing tasks. The Project-Based Learning (PBL) approach has offered learners great opportunities to empower their writing process. PBL is recognized for promoting learning through the development of projects and it is student-centered (Zulfi & Fitrawati, 2024). Furthermore, Edi et al. (2024) manifest that PBL focuses on learners and aligns with the idea that students learn more while they are involved in the realization of authentic and realistic projects.

Some previous studies have been developed focusing directly on enhancing the writing skill. The study done by Winarni (2023) revealed that PBL has a powerful impact on the development of writing skills like theme, diction, and imagination simultaneously. Thus, this research study recommends incorporating PBL to improve students' creativity when carrying out writing tasks. Besides, in the research conducted by Rahardi et al. (2023), it was demonstrated that PBL enhances the betterment of relevant skills like writing, problem-solving, and critical thinking. This method also improves students' motivation, time organization, instructional process, and group collaboration and cooperation. Additionally, Zhang and Ma (2023) in their study revealed that PBL greatly enhances students' learning and has a positive impact on their emotional attitudes, thinking skills, and academic performance. Similarly, Wardani et al. (2021) claim that as a result of PBL, students can write better as it promotes the improvement of aspects such as content, organization, structure, vocabulary, and mechanics.

Writing is a complicated skill that requires thinking and the ability to express clear and precise information in written activities. Arochman et al. (2024) posit that writing is an active and hard process that requires the management of different aspects like organization, coherence, and cohesion to convey authentic meaning. Writing is also considered the art of communicating ideas, emotions, or knowledge by using the appropriate words to promote effective communication (Zega et al., 2023). Besides, writing is a way in which students can demonstrate their

language skills by applying their language understanding and style to transmit meaning to the language receptor or reader (Arochman et al., 2024). Writing is a useful productive skill that is essential to communicate information in written ways. Having good writing proficiency is difficult and provokes students to feel blocked mainly for a deficient amount of vocabulary (Fadhillah et al., 2023).

Fitri and Wening (2024) argue that writing skills require plenty of time to successfully acquire and improve them. Writing needs constant practice to achieve success in every single task. The purpose of continuous practice is to develop writing products with good content to transmit clear messages to the readers. Undoubtedly, to develop high-quality writing, students must invest time to improve their writing skills. The production of effective writing reports contributes to achieving success in their personal and academic area. Besides, writing empowers students' imagination and help them to prepare information to express it in authentic and creative ways (Abdelazim et al., 2022). Certainly, writing is a great skill to be domain as it helps to communicate information to others in written ways. It also enhances creativity and allows learners to be active learners who reflect their knowledge on a specific subject matter in writing tasks.

Referring to writing, it is also important to talk about that it can be developed in individual and collaborative ways (Milla & García, 2024). Collaborative writing plays a crucial role in language improving. This is because, students are suggested to work together to create better writing products. In words of Nggawu et al. (2022), collaborative writing is a process that enroll students in group activities where they should work together to share ideas and make them interesting and strong to communicate a message to the reader. In fact, collaborative learning is a strategy that involves learners in the development of group works to give solutions to problems, carry out activities or create final products (Rofik, 2023). What is important to add is that when students develop collaborative writing, they have chances to correct and improve their writing performances collaboratively with the aim to construct significant pieces of writing. In short, it is great to facilitate language understanding and writing skills.

It is important to pinpoint that when teaching writing, it is necessary to follow the process of writing in sequence. This process consists of planning, drafting, revising, editing and publishing (Khulel, 2022). For developing perfect writings, the previous stages must be followed one by one to ensure writing activities free of mistakes in terms of grammar, word usage or punctuation.

PBL is an instructional approach that has its basis in the constructivism theory. This theory highlights the importance of knowledge construction based on the idea of topic exploration and the development of activities to guarantee long-term knowledge and success. When PBL is used in the teaching and learning process, the constructivism approach also takes place. According to Mohamad (2021), this occurs because learners have opportunities to explore subject topics, become active agents of knowledge, and take responsibility for their learning by being involved in authentic projects. PBL and constructivism make a variety of learning opportunities possible. Students are active participants in constructing their knowledge. These two terms are crucial when students do writing projects.

Constructivism and PBL are a must in the classroom. Both require learners to be active participants and develop their social skills when doing activities. At the same time, they need to challenge their problem-solving skills (Mariscal et al., 2023). It is demonstrated that constructivism and PBL work effectively to ensure students' active involvement in different stages of the project, which has a real-world focus. Both constructivism and PBL make a strong emphasis on collaborative skills and social interaction which are indispensable for achieving positive learning outcomes when working in groups.

Likewise, Huang and Ma (2022) set up that PBL is considered as a student-centered approach which is mainly focused on social constructivism and real-world subjects where learners do their best effort when putting their knowledge into practice to solve those situations. PBL is an approach that is supported by constructivism. For constructivism, the activities students do are more significant for a successful learning experience. Additionally, Fitri et al. (2024) assume that PBL is leaning toward the development of projects focused on their experiences where they can propose solutions to real problems as well as show their creativity and innovation skills to face those situations in easier ways. They also think that PBL is a great method that provides instructors opportunities to foster students' learning through the exploration, interpretation of information to do projects.

For PBL, students can acquire new knowledge by expressing what they know in final products which are worked in groups helping each other to develop and improve their language skills (Cahyono et al., 2024). Bearing in mind this, it is evident that PBL facilitate students' learning through the development of projects which are focused on specific and real-world topics. Additionally, Maheswari (2024) state that the primary objective of PBL is to enroll students in the development of projects which enable them to enhance their literacy

skills, foster their thinking skills and the essential competences of the 21st century.

There are some relevant skills that need to be promoted in the 21st century since they contribute to achieve success especially in the academic and professional field. These skills are critical thinking, creativity, communication and collaboration (Farida & Sukraini, 2024). Abe and Birabil (2022) define critical thinking and creativity as follows. They manifest critical thinking deals with the students' knowledge and their motivation to build knowledge through the application of deep thinking; it is with aim to acquire meaningful learning. Creativity is considered as the process to promote innovation with the application of imagination interactively (Abe & Birabil, 2022); it gives students plenty of opportunities to express their talents in an innovative way. For Makuasa et al. (2024), communication is the process in which people convey meaning by sharing knowledge or thoughts with others. Likewise, Marwa et al. (2024) remark that collaboration takes place when the members of a group work in order to achieve common goals. Unquestionably, these four skills are wonderful to be managed for the development of interactive and significant language final products. These skills also enhance students' learning as they must do their best to carry out noteworthy learning projects.

PBL has a variety of benefits for achieving confident learning experiences and outcomes. Suryani et al. (2024) point out that some of the benefits of PBL are as follows: promotes students' teamwork, and enhances the development of problem-solving skills and creativity. Similarly, Romsy and Sulistyaningsih (2024) mention other benefits of PBL. For instance, it fosters students' active participation and guarantees authentic learning through the realization of projects. This approach is the vehicle to facilitate the development and practice of the English language and the writing skill.

MATERIALS AND METHODS

This research study used the quantitative approach and adopted a quasi-experimental design, which was employed to emphasize the participation of two groups of students: the experimental and control groups. In the words of Creswell (2012), both groups were pretested but only the experimental group was subjected to the treatment, and when it finished, the two groups were tested again through the administration of the posttest to analyze the differences that emerged between them. The sample involved in this study was selected based on the convenience sample. According to Obilor (2023), this sample is focused on the facility of the researcher to collect information about the groups involved in the research

process. The number of learners that took part in this research study was 60.

One-half of the students belonged to the experimental group and the other one to the control group. Each group included 30 students who were about 14 and 15 years old and had an A2.1 English proficiency level established by the MinEduc (2016). What is important to remark is that in order to carry out the intervention plan, the researcher had the permission of the principal of the institution and students were informed about the purpose of the research and the application of the research instruments.

A pretest, posttest, and questionnaire were used as research instruments. Both tests consisted of one writing question where students had to write an email. They were administered to collect data about the students' writing

proficiency. Regarding the questionnaire, it contained six close-ended statements to gather data on the students' perceptions of PBL in the instructional process to boost their writing performance.

Similarly, inferential and descriptive analyses were carried out. They were done after the results from the research instruments were collected. Then, the Wilcoxon test was used to determine the differences of paired groups regarding the intra-group level, and the Mann-Whitney U Test was utilized to assess the differences of individual groups concerning the inter-group level. Furthermore, the results obtained from the questionnaire were tabulated with the support of Excel and displayed in tables to reflect the students' level of acceptance of the formulated statements about PBL when developing writing activities.

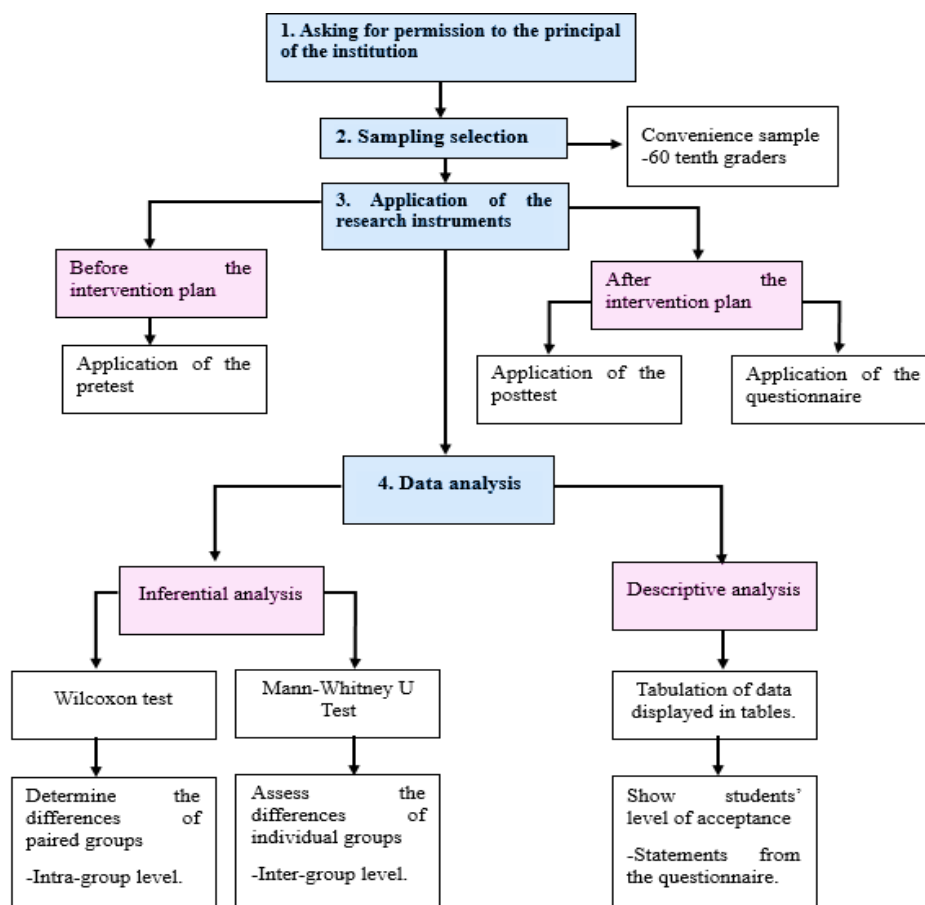


Figure 1. Research process

RESULTS AND DISCUSSION

The implementation of modern methods such as PBL in the teaching and learning process offers apprentices

favorable circumstances to develop an inquiry process to acquire deep information on real topics. To know the impact of PBL, it is crucial to analyze the following data.

Table 1

Differences of paired groups (Intra-group level)

Wilcoxon Test							
Aspects of Writing	Group	Pretest		Posttest		Z	Sig. (Bilateral)
		Mean	Standard Deviation	Mean	Standard Deviation		
Content	Experimental	1,50	1,503	4,07	,785	-4,730	,001
	Control	,97	,928	2,00	1,597	-3,598	,001
Organization	Experimental	1,27	1,413	3,90	,759	-4,734	,001
	Control	,97	,928	1,90	1,470	-3,471	,001
Language Use	Experimental	1,43	1,382	3,83	,648	-4,654	,001
	Control	,97	,964	1,93	1,461	-3,575	,001

Table 1 demonstrates that the means of the pretest and posttest of both groups focusing on the intra-group level, are not equal and reflect a significant difference (sig. bil<0.05). It shows that the students had betterment in their

writing performance in its three aspects (content, organization, and language use). It is without taking into consideration the methodologies applied to each group.

Table 2

Differences of individual groups (Inter-group level)

The Mann-Whitney U Test								
Aspects of Writing	Test	Experimental Group		Control Group		U	Z	Sig. (Bilateral)
		Mean	Standard Deviation	Mean	Standard Deviation			
Content	Pretest	1,50	1,503	,97	,928	379,500	-1,088	,277
	Posttest	4,07	,785	2,00	1,597	132,000	-4,801	,001
Organization	Pretest	1,27	1,413	,97	,928	423,000	-,420	,675
	Posttest	3,90	,759	1,90	1,470	116,000	-5,070	,001
Language Use	Pretest	1,43	1,382	,97	,964	380,500	-1,078	,281
	Posttest	3,83	,648	1,93	1,461	116,500	-5,094	,001

Table 2 illustrates the findings. Students from the experimental group who were involved in a treatment with PBL to improve their writing production achieved better writing outcomes compared to the learners from the control group even though they were in the same conditions before the intervention plan. In the realm of it, these results significantly contribute to this study by evidencing the value and potential benefits of PBL over traditional instructional approaches to enhance writing. These results highlight that it is of paramount importance

to include PBL in teaching instruction to optimize time and obtain outstanding writing products.

Questionnaire Results

This research instrument was employed to gather information regarding students' perceptions when PBL was implemented in the instructional process to enhance writing skill.

Table 3

Relevant statements of the questionnaire

Statements	Level of acceptance		
	Strongly agree	Agree	Neutral
The development of writing projects helps you to increase your creativity.	57%	43%	0%

Statements	Level of acceptance		
	Strongly agree	Agree	Neutral
PBL encourages you to improve your writing performance when working collaboratively as well as to improve your communication with the classmates.	43%	50%	7%
When working with PBL, you feel satisfied with the final product of your writing activities.	63%	30%	7%

Table 3 helps to state that with writing projects, students increase their writing creativity. It enables them to develop tasks with relevant information and drawings to facilitate the understanding of their content. This data coincides with the one posited by Cahyani (2021) who claims that PBL is an approach to promote creativity since it involves learners in projects to make them improve writing. Undoubtedly, this result contributes to this study because it reveals that PBL is an effective teaching approach to boost learners to write down their ideas in creative ways to get successful written works.

Focusing on collaborative writing, it is vital to highlight that PBL motivates students to improve their writing production and communication skills when working in groups. This strategy facilitates sharing experiences and different perspectives to gather ideas from all the members of the group to enhance practical writing activities. It is consistent with the findings of Fatimah (2022) who states that PBL helps students improve different skills, such as creativity, collaboration, and communication. These results contribute to making this study significant because it suggests teachers to implement PBL to motivate their learners to improve their quality of writing and communication skills in the groups.

Furthermore, the last statement displays that students feel satisfied with the final writing projects developed with PBL. The results above are in line with the ones found by Yusri et al. (2021). They indicate that PBL encourages students to negotiate meaning and paraphrase information to develop projects that contribute to improving their language performance and lead to building writing reports with appropriate language and organization. This data contributes to making this study advantageous for teachers and learners because PBL is a useful approach that makes students feel satisfied with their final writing products.

Problem-based learning is a student-centered approach; thus, learners are the primary protagonists of the teaching and learning process. To improve their writing competence, they develop writing projects based on real-life topics. Throughout the intervention plan of this

research, students have been involved in several writing tasks such as paragraphs, posters, comic strips, newspaper articles, and essays considering their level of English. When carrying out these types of writing activities, apprentices significantly improved three writing aspects: content, language use, and organization of the information to construct pieces of writing with coherence and cohesion. Then, they significantly upgraded their writing performance. These results are supported by the findings of the study conducted by Wardani et al. (2021). They claim that due to PBL, students can organize their ideas better and use content and language suitably. Moreover, vocabulary, structure are practiced and enhanced. Winarni (2023) found that PBL has a remarkable impact on the mastering of different writing skills such as theme, diction, and imagination at the same time. Undeniably, PBL has a substantial impact on the students' writing production.

PBL requires learners to work in groups to develop creative writing projects and demonstrate their ability to think deeply and analyze information regarding a particular topic. This allows learners to have a powerful participation in collaborative environments to develop the writing skill and guarantee positive learning outcomes. Winarni (2023) recommended incorporating PBL in the English lessons to enhance students' writing creativity to obtain meaningful written products. Based on the aforementioned, it is alluded that students get better and positive learning outcomes when working in groups. Group work involves students' interaction, conveyance of information in general and learning from each other to improve writing performance. Likewise, Rahardi et al. (2023) claimed that PBL has the power to enhance students' writing skill and higher-order thinking skills. Remarking the value of PBL, it results positive to establish that it fosters learners' motivation, time organization, collaboration, and cooperation.

The positive writing outcomes obtained after apprentices were subjected to a treatment with PBL, permitted to demonstrate the positive impact PBL has on the development of students' writing production, as well as higher-order-thinking skills. These results can be seen in

Table 7 which displays that in the experimental group, the means are higher than the ones of the control group showing a level of significance <0.05 . Consequently, this data reveals that PBL positively contributes to the improvement of students' writing scores and practice. These findings resemble those that Zhang and Ma (2023) discovered. They found that PBL greatly enhances students' learning and has a positive impact on their emotional attitudes, thinking skills, and academic performance.

CONCLUSIONS

The application of PBL in the instructional process resulted in a positive impact on the students' writing skill development. This was reflected in the improvement of three writing aspects such as content, organization, and language use which contribute to refining and polishing their writing performance. When developing writing projects, students are enrolled in an inquiry process that enables them to connect the theory to practice. It is that students search for information, analyze, evaluate, summarize, and organize it when building knowledge and generating their pieces of writing. PBL is a notable instructional approach that significantly impacts the development of the students' writing skill. It encourages apprentices to work in teams, collaborate, and demonstrate their creativity and critical thinking skills to construct readable writing projects. Moreover, as PBL brings with it several advantages to the learning process, it is recommended to use this approach to help learners improve their writing production and offer them successful writing experiences. Finally, it is essential to develop further research to identify the most successful practices of PBL to be used in the educational setting to enhance writing production.

AUTHORS' CONTRIBUTION

The authors of the article entitled "The impact of Project-Based Learning (PBL) on the development of writing skills" contributed significantly to the development of the manuscript. The main author worked on the design of research, conceptualization, methodology, study administration, data analysis, interpretation, statistical analysis, and writing the manuscript. The second author played a guiding role in ensuring the accuracy and reliability of the research, helped with the methodology, the statistical analysis, revising and editing. The role played by the two authors was vital to the final manuscript.

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