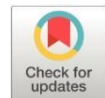# Project-based learning in the development of English reading comprehension

Aprendizaje basado en proyectos en el desarrollo de la comprensión lectora del inglés

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Palabras claves:
aprendizaje basado en proyectos, comprensión lectora, enseñanza del inglés, metodología educativa, desarrollo de habilidades.

Resumen

Introducción: La presente investigación examina el impacto del Aprendizaje Basado en Proyectos (ABP) en el desarrollo de la comprensión lectora del inglés, en el contexto del currículo ecuatoriano implementado en 2016. Se revisa la literatura existente sobre ABP y su eficacia en la mejora de habilidades lectoras. **Objetivos:** El estudio analiza cómo esta metodología, que promueve la participación y el aprendizaje contextualizado, puede influir en la comprensión lectora. **Metodología:** se centra en el análisis de datos de estudios previos y resultados empíricos para investigar cómo el ABP, al fomentar la participación y el aprendizaje contextualizado, impacta la comprensión lectora. **Resultados:** Se recopilan datos de estudios previos y se evalúan los resultados empíricos relacionados con la implementación del ABP en el aula. **Conclusiones:** Los hallazgos indican que el ABP puede potenciar significativamente la comprensión lectora al involucrar a los estudiantes en proyectos colaborativos y significativos. No obstante, se identifican desafíos como la necesidad de capacitación docente y adaptación de los proyectos. Se recomienda integrar el ABP de manera más amplia para mejorar los resultados en comprensión lectora del inglés. **Área de estudio general:** Educación. **Área de estudio específica:** Enseñanza del idioma inglés y metodologías educativas. **Tipo de estudio:** Revisión bibliográfica.

Keywords:
project-based learning, reading comprehension, English language teaching, educational methodology, skills development.

Abstract

Introduction: This research examines the impact of Project-Based Learning (PBL) on the development of English reading comprehension, in the context of the Ecuadorian curriculum implemented in 2016. The existing literature on PBL and its effectiveness in improving reading skills is reviewed. **Objectives:** The study analyzes how this methodology, which promotes participation and contextualized learning, can influence reading comprehension. **Methodology:** focuses on the analysis of data from previous studies and empirical results to investigate how PBL, by encouraging participation and contextualized learning, impacts reading comprehension. **Results:** Data from previous studies are collected and empirical results related to the implementation of PBL in the classroom are evaluated. **Conclusions:** The findings indicate that PBL can

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significantly enhance reading comprehension by engaging students in collaborative and meaningful projects. However, challenges are identified, such as the need for teacher training and adaptation of projects. It is recommended to integrate PBL more broadly to improve English reading comprehension results. **General area of study:** Education. **Specific area of study:** English language teaching and educational methodologies. **Type of study:** Literature review.

1. Introduction

In Ecuador, the teaching of English has acquired great relevance within the educational system due to the need to improve students' language skills in a globalized context (U.S. Mission Ecuador, 2019). Despite efforts to improve, reading comprehension in English remains a significant challenge, evidenced by low results in national and international assessments (Hincapié & Muñoz, 2022). This context has prompted the search for innovative pedagogical approaches that can improve student achievement in this crucial area.

In September 2016, a new National Curriculum was implemented, designed as a robust framework tailored to the learning needs of Ecuadorian society (Ministerio de Educación de Ecuador, 2016). Project-Based Learning (PBL) has emerged as an innovative methodology that promotes deeper and contextualized learning. This approach allows students to work on meaningful projects that require the application of skills and knowledge in real contexts, which can be especially beneficial for the development of reading comprehension (Castellano, 2020). Several studies have indicated that PBL can significantly improve reading skills by actively involving students in the learning process and fostering critical thinking (Yanchapaxi, 2022).

The present literature review aims to review the existing literature on PBL and evaluate its impact on reading comprehension in the English language through a methodology based on the analysis of data from previous studies and empirical results (Yanchapaxi, 2022).

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2. Methodology

The present research is based on a descriptive literature review, which aims to answer the question: How does Project Based Learning (PBL) impact on the development of reading comprehension in English? For this purpose, scientific articles, thesis and other research papers published between 2009 and 2024 were collected and analyzed. The sources consulted included databases such as Google Scholar, SciELO, ERIC, ORG and university repositories. Keywords in Spanish and English were used, such as: Project Based Learning (PBL), reading comprehension, English language teaching, Common European Framework of Reference for Languages (CEFR) and assessment, without language restrictions.

To optimize the search, Boolean operators and parentheses were used; the AND/AND operator was key to retrieve documents containing several keywords simultaneously. The strategy prioritized terms such as "Project-Based Learning", "reading comprehension" and "English Language Teaching", while other terms were considered secondary. Studies addressing the impact of PBL on reading comprehension in English were included and those published before 2009 or related to Problem-Based Learning (PBL) were excluded.

The review process was developed in several stages: first, papers were pre-selected according to the relevance of titles and abstracts; then, a detailed reading was conducted to assess their relevance and quality. Key ideas and relevant findings were extracted from each paper, providing a comprehensive view of the current state of research. Finally, the data were synthesized and organized thematically to provide a coherent narrative on the design of project-based activities, including good practices, challenges and recommendations for implementation in the classroom, detailed in table 1.

Table 1

Bibliographic Revision

No.	Author & Year	Country	Tittle	Main Objective	Methodology	Main Results
1	Arias et al. (2024)	Peru	Aprendizaje Basado en Proyectos en estudiantes de Ecuador	The objective of the research is to evaluate the skills of the learning model to improve teaching-learning and analyze the benefits students can gain from PBL.	Systematic review	The reviewed studies suggest that PBL is one of the most effective strategies to promote student learning in Ecuador.

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Table 1

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No.	Author & Year	Country	Tittle	Main Objective	Methodology	Main Results
2	Aristizábal & Andrade (2023)	Brazil	La comprensión lectora en la enseñanza del inglés en la educación superior: Una perspectiva decolonial	To reflect on reading comprehension in English teaching in higher education as a strategy that supports decoloniality and content contextualization.	Critical analysis	Highlights the importance of using reading comprehension to contextualize content, enhance learning, and promote a relational and dialogic approach to second language acquisition.
3	Coria (2016)	Mexico	El Aprendizaje por Proyectos: Una metodología diferente	To explore the benefits of Project-Based Learning as an educational methodology that fosters technological and collaborative skills among students and teachers.	Theoretical review	Project-Based Learning promotes the development of technological and collaborative skills in students and teachers, strengthening interaction and participation in the educational process.
4	Domínguez et al. (2011)	Cuba	La comprensión lectora en el contexto académico y su papel en el proceso de formación del profesional.	To emphasize the importance of developing English reading comprehension skills for non-philology students at the University of Granma, Cuba, as a key element in professional training.	Descriptive and diagnostic analysis	Demonstrates the relevance of improving English reading comprehension skills, considering them essential for future professionals to access information and perform effectively in various contexts.
5	Fragoulis & Tsiplakides (2009)	Greece	Project-Based Learning in the teaching of English as a foreign language in Greek primary schools: from theory to practice	To explore the implementation of project-based learning in English language teaching in Greek primary schools, linking theory with practice.	Theoretical-practical approach with descriptive analysis	Suggests that student participation in project-based learning provides significant benefits and offers teachers an effective tool to implement project-based learning in foreign language teaching contexts.
6	Heymo (2009)	Argentina	La valoración de la lecto-comprensión en inglés en el ámbito universitario en la formación de futuros profesionales	To analyze the importance of reading comprehension in English as a second language and how its evaluation influences the design of assessment instruments and procedures.	Descriptive and exploratory study	Defines the constructs for evaluating English reading comprehension, considering the interaction of cognitive, social, and psychological factors, which is crucial for developing effective evaluation procedures.

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Table 1

Bibliographic Revision (continuation)

No.	Author & Year	Country	Tittle	Main Objective	Methodology	Main Results
7	Martí et al. (2010)	Colombia	Aprendizaje basado en proyectos: una experiencia de innovación docente	To develop skills and competencies in students through the implementation of Project-Based Learning (PBL) in a technological environment.	Action research	Results show that project-based strategies were effective in undergraduate and postgraduate education, developing integrated skills and fostering collaborative, challenging learning.
8	Ñacato (2021)		Aprendizaje Basado en Proyectos en el desarrollo de la Comprensión Lectora en el Idioma Inglés	To identify the effects of Project-Based Learning (PBL) on the development of English reading comprehension.	Bibliographic-documentary research	PBL has a positive effect on the development of English reading comprehension, as well as on motivation, confidence, and other language skills. It is recommended to apply this methodology in classes to improve foreign language reading comprehension.
9	Segura (2021)	Spain	Aprendizaje basado en proyectos para la enseñanza de la lengua inglesa como lengua extranjera	To explore and evaluate the impact of Project-Based Learning (PBL) on the development of English reading comprehension through the analysis of existing publications, implemented projects, and new proposals for classroom application.	Literature review, case analysis, application proposals, and critical reflection	PBL is a valuable methodology for teaching English in Spain, but its implementation is complex and underdeveloped. It requires committed teachers and faces challenges such as resistance to change and lack of time. Its application in English is limited, predominating in specific contexts.
10	Solórzano-Intriago & Loor-Salmon (2023)	Cuba	Aprendizaje Basado en Proyectos para desarrollar habilidades productivas en la enseñanza y aprendizaje del inglés	To implement a Project-Based Learning model to develop productive skills in the English teaching-learning process for fourth-period students in the Software Development program at the Tena Higher Technological Institute in Ecuador.	Quasi-experimental design with a quantitative and explanatory approach	The results indicate that the intervention group made notable progress in English oral and written production, unlike the control group, which did not experience the suggested teaching methodology. The project-based proposal increased learning interest and improved productive English skills through reflection and problem-solving.
11	Yanchapaxi (2022)	Ecuador	Aprendizaje-basado en proyectos literarios en el desarrollo de la comprensión lectora de inglés.	To demonstrate how project-based literary learning can improve English reading comprehension.	Qualitative, descriptive, socio-educational, and bibliographic-documentary approach	It was concluded that project-based literary learning improves reading comprehension, vocabulary, attitudes toward reading, and critical skills. A generally positive attitude was observed toward this pedagogical approach from both students and teachers.

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Table 1

Bibliographic Revision (continuation)

No.	Author & Year	Country	Tittle	Main Objective	Methodology	Main Results
12	Hincapié & Muñoz (2022)	Colombia	El desarrollo de la comprensión lectora en inglés a través del método de aprendizaje basado en proyectos (ABP) en estudiantes de pregrado en CECAR, Sincelejo	To determine to what extent the implementation of Project-Based Learning (PBL) influences the development of English reading comprehension in undergraduate students at CECAR, Sincelejo, Colombia.	Quantitative quasi-experimental approach	No significant development in reading comprehension was observed after applying PBL, but participants showed satisfaction with the lessons and motivation to learn English.
13	Juan Rubio (2024)	Spain	La mejora de la comprensión escrita en inglés mediante el aprendizaje basado en proyectos en alumnos del Grado de Educación Infantil	To analyze the improvement in English written comprehension of Early Childhood Education students after taking an English subject during a semester using Project-Based Learning.	Quantitative approach with pretest-posttest design	The results showed a significant improvement in all dimensions of written comprehension analyzed after applying the methodology.
14	Olarte & Guzmán (2022)	Colombia	Estrategia de aprendizaje basado en proyectos para desarrollar la habilidad comunicativa en inglés.	To identify how the Project-Based Learning (PBL) strategy can improve the communicative skill (speaking) of sixth-grade students and motivate their participation in classes at Liceo Nuestra Señora de las Nieves School.	Qualitative action-research approach	The results highlighted the importance of project-based activities for improving motivation, creating a safe environment for English expression, and connecting course content with student interests and needs.
15	Pérez (2022)	Peru	Influencia del aprendizaje basado en proyectos en el nivel de logro de aprendizaje del idioma inglés en un instituto superior estatal – Lima – 2019	To demonstrate how Project-Based Learning (PBL) improves learning achievement in English among students at a State Higher Institute in Lima, Peru.	Experimental approach with quasi-experimental design	Significant differences were observed in student achievement levels due to the PBL intervention, improving listening comprehension, speaking, text comprehension, and text production in English. The benefits extended to students and other educational stakeholders.

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Table 1

Bibliographic Revision (continuation)

No.	Author & Year	Country	Tittle	Main Objective	Methodology	Main Results
16	Tenesaca et al. (2024)	Ecuador	Diseño de actividades de aprendizaje basadas en proyectos para fortalecer competencias en lengua y literatura	To analyze the impact of Project-Based Learning (PBL) on the development of competencies in language and literature.	Qualitative bibliographic review	PBL improves students' reading comprehension, written expression, and communication skills, in addition to increasing motivation and engagement. However, it faces challenges such as the need for teacher training and adequate resources.

The literature search, conducted according to the parameters described in the methodology, resulted in the selection of 33 documents, of which 10 were discarded after analysis of the title and/or abstract. Of the 23 papers analyzed, 8 were eliminated: two for being duplicates, one for being prior to 2009, and four for being studies on Problem-Based Learning. Finally, 16 articles were included in the review. No additional studies were found by manual search in the references of the selected articles, and the included articles showed concordance in the content covered.

In general terms, the reviewed publications span from 2009 to 2024. In terms of study types, the distribution was as follows: four correspond to Literature Reviews and Analysis (25%), four to Descriptive and Exploratory Approaches (25%), four to Quantitative and Quasi-experimental Approaches (25%), and four to Qualitative and Action Research Approaches (25%). The samples of studies are varied, reflecting the diversity in the methodological approaches used

3. Results

This section summarizes the findings on the implementation of Project-Based Learning (PBL) and its impact on English reading comprehension. The results show improvements in student engagement and reading skills, though challenges such as teacher training and project adaptation remain. Key aspects analyzed include PBL principles, roles of teachers and students, and the integration of technology. These findings underscore PBL's potential for enhancing reading comprehension while also highlighting areas for improvement.

1.1. Project-Based Learning (PBL)

1.1.1. Background of PBL in Ecuador

Project-based learning (PBL) is a pedagogical approach that encourages students to take an active role in their own learning, providing environments in which they can exercise

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their creativity: this methodology allows them to apply the knowledge ac-quired in the classroom in concrete activities that benefit both the educational community and the community at large (Ministerio de Educación de Ecuador, 2018).

In 2020 the Ministerio de Educación de Ecuador launched the "*Juntos Aprendemos*" program, implementing the PBA method in public schools. This program aimed to im-prove educational outcomes by promoting creativity and critical thinking in students (Arias et al., 2024).

According to Coria (2016), PBL is based on the principles of constructivism developed by Piaget, Dewey, Bruner and Vygotsky, this methodology conceives learn-ing as the result of mental constructions, whether new or pre-existing; it facilitates interdisciplinary work and allows students to explore their interests in small groups, ap-plying their experiences in the classroom to strengthen their skills.

1.1.2. *Principles of PBL*

Project Based Learning (PBL) is based on an integrated curriculum that covers various disciplines through a central theme, combining formal and informal learning; the teacher acts as a facilitator, creating learning environments where students are protagonists; this approach is inclusive, adapting to different paces and abilities; the project is based on a challenge that connects with the interests of students, ensuring their motivation; in addition, evaluation and reflection are continuous, allowing the improvement of processes and results. Finally, the socialization and dissemination of the project are carried out both among students and with other educational actors, culminating in the public presentation of the products (Gobierno de Canarias, 2017).

The pedagogical principles of Project Based Learning (PBL) highlight its ability to be motivating and engaging, as it focuses on solving students' concerns and needs. This approach fosters a high level of interest, dedication and commitment, promoting effort and creativity. Through PBL, students develop self-assessment and self-correction skills, value collaboration and become active participants in their learning process. Furthermore, PBL combats individualism and strengthens teamwork, cultivating responsibility and the ability to work together (Pérez, 2022).

1.1.3. *Roles of Teachers and Students in PBL*

According to the Universidad de Montevideo (2019) the teacher in Project-Based Learning (PBL) must understand the steps and roles within this methodology, master the subject, clearly communicate the objectives and expected learning, and manage group work techniques to foster critical thinking. In addition, he/she must act as a tutor, providing individual counseling when necessary. For his part, the student must understand the objectives of the PBL, commit to group learning, seek information

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responsibly, collaborate effectively in a team, and apply critical analysis of information. Both roles are essential for the success of the PBL, promoting active and collaborative learning

1.1.4. Project-Based Learning in English Teaching

On the other hand, one of the English Proficiency (EF) studies and its 2023 re-port indicates that Ecuador ranked 80th out of 113 countries in the EF EPI index, with a score of 467, below the global average, and ranked 18th out of 20 in Latin America, standing out as one of the countries with the lowest English proficiency in the region. Among Ecuadorian cities, Quito led the country with a score of 513, while Guayaquil and Cuenca obtained 465 and 462 respectively. In contrast, Santo Domingo had the worst performance with a score of 366, reflecting significantly lower English proficiency (EF English Proficiency Index [EF EPI], 2023).

1.1.5. Phases of PBL in the Context of Language Teaching

Project Based Learning (PBL) is an active methodology that involves the management of a series of skills to diagnose, plan, implement, execute, evaluate and monitor the acquisition of knowledge. In each of these six phases, students, organized in teams, carry out tasks independently, responsibly and cooperatively. They present their final products to the entire group, addressing challenges and questions raised through-out the process (Pérez, 2022).

Project-Based Learning (PBL) in language teaching is structured in several fundamental stages. According to Fragoulis & Tsiplakides (2009), these stages include: 1) Speculation, where the project topic is selected and an environment conducive to re-search is established; 2) Activity design, which involves the formation of heterogeneous groups, the assignment of specific roles, and the planning of methodologies and sources of information; 3) Realization, a phase in which groups execute the planned activities, collect and organize information, and present the results to the educational community; and 4) Evaluation, which involves the assessment of both the process and the results obtained, including self-assessment and evaluation by others.

Despite the extensive theoretical discussion of PBL Fragoulis & Tsiplakides (2009) note the paucity of empirical studies examining its impact on foreign language teaching. In contrast, García (2019) offers a number of practical recommendations for implementing PBL in this context, the key steps in carrying out a project include: starting with questions that motivate students; posing a challenge in the form of a problem; forming heterogeneous groups that work cooperatively; guiding students in the investigation and appropriate use of information; developing a product or solution; and concluding with a reflective evaluation of the process, incorporating both self- and group assessment.

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1.2. Reading Comprehension

Reading comprehension is essential, both at school and in daily life. Although it is a key skill, achieving deep comprehension is not easy, it is not enough to decipher the written code; it is also necessary to grasp the meaning behind the words, thus, ac-curate and fluent reading does not always guarantee comprehension; difficulties in reading comprehension affect not only the area of language, but also learning in other disciplines, since reading is the gateway to knowledge in different subjects, influencing the overall educational experience (Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura [UNESCO], 2022).

1.2.1. The Reading Comprehension Process

For effective reading comprehension, it is essential that both the teacher and the student ask themselves three key questions: what do we read, why do we read, and how do we read, the relationship between these questions affects the motivation and effectiveness of reading; in addition, it is important that the student recognizes different reading styles according to the objective, such as globalized reading to grasp general ideas, focused reading to search for specific facts, extensive reading for global com-prehension, intensive reading for detailed information, and critical reading to evaluate the text, as Clouet (2010) considers.

Authors such as Domínguez et al. (2011), identify four fundamental stages in the reading process in foreign languages:

1. Approach to information prepares the student to search, classify and anticipate information in various formats, facilitating self-management of learning and selection of appropriate texts.

2. Textual information processing: Develops skills to comprehend, systematize and interpret texts, organizing information hierarchically and creating a mental model of reading.

3. Textual reconstruction: Allows the student to transmit the information processed in the foreign language, either orally or in writing.

4. Recontextualization: Contextualizes the information and skills acquired in terms of professional training and the demands of the educational process.

These stages promote fluent and effective reading comprehension, integrating diverse reading approaches.

1.2.2. Reading Comprehension in English Language Teaching

According to Aristizábal & Andrade (2023), reading comprehension in a foreign

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language, such as English, contributes to improve the acquisition of specific concepts of a discipline or field of knowledge, especially when the information is not available in the mother tongue; in addition, it facilitates the understanding of dialogues and the complexities present in texts that deal with people, places, situations and diverse contexts. Also Aristizábal & Andrade (2023) argue that it is crucial to emphasize that this process is strengthened by a solid training in reading competence, both for teachers and students, which improves the quality of the content transmitted and facilitates students' access to academic documents, both interdisciplinary and transdisciplinary; this helps to reduce the negative perception that students may have towards readings in another language, a perception that is often rooted in coloniality and resistance to integration.

1.2.3. Common European Framework of Reference for Languages (CEFR) and Reading Comprehension

The Common European Framework of Reference for Languages (CEFR) is a standard established by the Council of Europe in the 1990s to describe and assess language proficiency in any European language, from A1 to C2 level. This framework is not linked to any specific exam, but rather establishes a series of competency statements that al-low for the assessment of foreign language skills; although it is widely used in Europe, its adoption is less common in other regions of the world. Initially, it was criticized for the breadth of its levels, which led educators to break them down into more specific sublevels for teaching and assessment purposes (EF-Education, 2021).

1.2.4. Reading Comprehension categories according to the CEFR

Reading comprehension covers both written and signed texts and is organized according to the purpose and type of text; the main objectives are reading for orientation, which includes reading quickly and selectively to find specific information, and reading for information and argument, focusing on specific details in longer texts; a distinction is also made between reading for information and reading for pleasure, which ranges from literature to non-fiction texts. In addition, there are specialized forms of reading, such as following instructions or reading correspondence, reading for pleasure was added (table 2) (Instituto Cervantes, 2020).

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Table 2

Shows the scales of illustrative CEFR descriptors related to reading comprehension activities

	General reading comprehension
C2	Understands virtually any type of text, including abstract and complexly structured texts, or literary and non-literary texts with many colloquialisms.
	Comprehends a wide variety of lengthy and complex texts, appreciating subtle distinctions in style and meaning, both implicit and explicit.
C1	Comprehends in full detail lengthy and complex texts, whether related to their field of expertise or not, if they can re-read difficult sections.
	Understands a wide range of texts, including literary works, newspaper or magazine articles, as well as professional or academic publications, provided they can re-read the text and have access to reference tools.
B2	Reads with a high degree of independence, adapting reading style and speed to different texts and purposes, and selectively using appropriate reference sources. Has a broad active reading vocabulary but may encounter some difficulty with less common idioms
B1	Reads straightforward factual texts related to their area of interest with a satisfactory level of comprehension.
A2	Understands short, simple texts on familiar topics using very common every day or work-related vocabulary.
	Comprehends brief, straightforward texts that contain high-frequency vocabulary, including a good proportion of internationalisms.
A1	Understands very short and simple texts by reading them sentence by sentence, recognizing familiar names and words and basic phrases, and re-reading when necessary.
Pre-A1	Recognizes familiar words/signs accompanied by images, such as in the case of a fast-food restaurant menu with photos or a picture book containing familiar vocabulary.

Note: Instituto Cervantes (2020, p. 66)

1.2.5. *Assessment of Reading Comprehension in English*

It is necessary to implement alternative methods of English language assessment for students, in addition to standardized tests, since assessing them solely in that way results in a biased and prescriptive assessment; the goal should be to create task that resemble real-life reading situations and those performed by experts, in order for students to

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understand what it means to master a language in our society (Heymo, 2009).

*1.3.	Project-Based Learning in the Development of English Reading Comprehension*

*1.3.1.	Relationship between PBL and English Reading Comprehension*

Comprehension of a written text refers to the ability to identify and extract the relevant information needed, doing so quickly and effectively (Grellet, 1981). This means not only reading the words, but also interpreting their meaning, connecting ideas and applying the content to what you are looking for or need to know, all this optimizing time and effort. It is a process that combines reading, analysis and critical thinking skills to achieve complete comprehension with the least possible difficulty.

The learning of English as a foreign language is crucial in basic, secondary, technical and higher education in the country; therefore, the aim is to develop reading skills in students that allow them to understand and use texts in various educational and professional contexts (Ministerio de Educación Nacional de Colombia, 2004).

For Fandiño-Parra et al. (2012), project-based pedagogy, as a methodology for teaching English, has been treated in a late and superficial manner, without adequately exploring its potential to enrich learning through practical and collaborative experiences; moreover, it is considered one of the causes of the problems in the process of teaching and learning English.

Project Based Learning (PBL) has proven to be an effective methodology in language teaching, and the research by Hincapié & Muñoz (2022), provides key information on how its implementation can improve students' performance in the acquisition of a second language, such as English; in particular, it highlights how PBL contributes to the development of various skills, with a special emphasis on reading comprehension.

*1.3.2.	PBL for the Development of English Reading Comprehension*

According to Ñacato (2021) Project Based Learning (PBL) has shown significant improvement in students' reading comprehension in English compared to traditional teaching methods. This methodology not only facilitates text comprehension, but also contributes to the development of crucial skills such as critical thinking, judgment, interpretation, and synthesis of information. The implementation of PBL allows students to explore, make judgments, interpret and synthesize information in a meaningful way, thus enriching their learning process.

In addition, PBL has been shown to be effective for the development of productive skills in English. This methodology facilitates the resolution of social problems through the creation of activities that encourage students' research. It also promotes motivation to develop, apply and present projects and their results in English, thus reinforcing

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language skills, especially productive ones (Solórzano-Intriago & Loor-Salmon, 2023).

1.3.3. Technologies in PBL for English Reading Comprehension

With the use of ICT in Project-Based Learning (PBL), students develop problem-solving and task-completion skills by efficiently using a set of technological tools that enhance their mental abilities. Any teacher can design a project that allows students to take advantage of information technology. However, many teachers find that, regardless of their initial level of ICT knowledge, they learn as they go, learn from their students and acquire knowledge through practice (Martí et al., 2010).

The use of ICT has a significant and positive impact on students' comprehension of English texts, improving the literal, inferential and criterial levels of com-prehension (Aguirre et al., 2021).

1.3.4. Assessment of PBL in the Development of English Reading Comprehension

To evaluate the PBL learning process in the development of English reading comprehension, tools such as observation templates, rubrics, questionnaires and learning diaries can be used. Assessment can be self-assessment, co-assessment or hetero-assessment; in self-assessment, students assess their own learning with resources pro-vided by the teacher; co-assessment allows students to assess each other using criteria established by the teacher; hetero-assessment involves assessment by people outside the group, such as teachers or families. At the end of the project, it is crucial to analyze the data, interpret the results and prepare a report (Segura, 2021).

1.3.5. Analysis of Implemented PBL Projects for the Development of English Reading Comprehension

This section analyzes the implementation of projects based on the PBL method in educational contexts for the development of reading comprehension in English. The focus is on how these projects have been designed and executed, as well as on the results obtained.

A recent study entitled "Literary project-based learning in the development of English reading comprehension; they concluded that project-based learning combined with literary activities" has a positive impact on the development of reading comprehension, vocabulary enrichment and attitudes towards reading, as well as improving critical skills; finally, the results indicated that both students and teachers have a favorable attitude towards the application of project-based learning, as this pedagogical approach not only facilitates the improvement of reading comprehension, but also fosters the comprehensive development of all language skills (Yanchapaxi, 2022).

Another outstanding study entitled "The development of reading comprehension in

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English through the Project-Based Learning (PBL) method in undergraduate students at CECAR, Sincelejo"; the results indicated that no significant progress was observed in the students' reading comprehension between the pre-test and post-test after the implementation of PBL. However, participants showed satisfaction with the lessons and were motivated to learn English (Hincapié & Muñoz, 2022).

A study carried out, entitled "The improvement of written comprehension in English through project-based learning in Early Childhood Education students"; after applying PBL for one semester in a subject in English, the results of the written tests taken at the beginning and at the end of the semester, analyzed with the statistical program JASP, revealed a significant improvement in all the dimensions analyzed. This indicates that the methodology not only contributed to the development of written comprehension, but also increased student motivation and satisfaction, thus confirming that PBL is an effective strategy for improving academic performance in language learning (Juan Rubio, 2024).

4. Discussion

An analysis of the literature reviewed on the impact of Project-Based Learning (PBL) on the development of reading comprehension in English has revealed significant and varied findings. The results indicate that PBL favors a more interactive and meaningful teaching approach, which enhances reading comprehension by actively involving students in the learning process. Studies such as those by Zhang & Ma (2023), have pointed out that the integration of authentic projects in English teaching not only enhances students' motivation, but also facilitates the practical application of language skills, especially in reading contexts. This approach, in line with Kolb's Experiential Learning Theory and Hymes' communicative approach, has been shown to be effective in promoting deeper and more contextualized learning.

On the other hand, several studies also identify challenges in the implementation of PBL. For example, Tenesaca et al. (2024) highlights that limited time and resources may hinder the widespread application of this approach. Also, the effectiveness of PBL depends considerably on teacher preparation and training. Olarte & Guzmán (2022) emphasize that teachers must be adequately trained to guide projects that truly contribute to the development of reading comprehension. This underscores the importance of considering teacher training within PBL implementation strategies.

In addition, variability in educational contexts and differences in students' ability levels have a significant influence on the results obtained. Some studies, such as Chen and Lee (2021), suggest that PBL is more effective in settings with students who already have an intermediate level of reading comprehension. On the other hand, at lower levels, the results are less consistent, which could imply the need to adapt the projects to the level of

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the students or to combine PBL with other methodologies that offer additional support in the initial stages of learning.

In the discussion, similarities and differences with the existing literature are evident. On the one hand, the results confirm the effectiveness of PBL in English language teaching contexts, in line with Paul Nation's theory on the importance of active exposure and practice in vocabulary acquisition. On the other hand, the dependence on factors such as resource availability and teacher preparation align with the limitations observed in other communicative approaches.

Limitations of the study: One of the main limitations is the dependence of the reviewed studies, which vary in methodological design and educational context, which may affect the generalizability of the results. In addition, most of the included studies focused on specific contexts, such as classes with intermediate level students, which limits the application of the findings to lower-level students.

Directions for future research: It would be beneficial to conduct empirical studies examining the impact of PBL on different levels of reading proficiency, as well as to explore the effectiveness of teacher training in implementing PBL. In addition, it is recommended to investigate the integration of PBL with other methodological approaches to maximize its benefits on reading comprehension.

5. Conclusions

- This study concludes that Project-Based Learning (PBL) is an effective methodology for the development of reading comprehension in English, especially in educational contexts that promote active and meaningful learning. The main findings indicate that PBL not only facilitates the acquisition of language skills, but also fosters critical competencies such as problem solving, collaboration, and the application of knowledge in real situations, which increases students' motivation and interest in learning English.

- The literature reviewed shows that PBL improves the transfer of reading skills to practical contexts, favoring long-term retention and comprehension, in contrast to traditional methods focused on memorization. However, significant challenges were also identified, such as lack of resources, time and the need for specific training for teachers, factors that affect the effective implementation of PBL.

- In addition, it was observed that the impact of PBL varies according to the ability level of the students and the educational context; it is more effective in students with an intermediate level of English, while, at lower levels, the results are less consistent. This highlights the importance of adapting projects to the specific needs of each group of students.

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- In summary, although PBL has significant potential to improve reading comprehension in English, future research should explore its application in different contexts and ability levels to optimize its effectiveness and provide more precise guidelines for its implementation in English language teaching and other disciplines

Recommendations

Considering the findings of this review, the following recommendations are suggested:

1. Teacher training: it is essential that teachers receive specific training in PBL methodology, with a particular focus on how to guide students in reading comprehension during the projects

2. Adaptation to Specific Contexts: PBL should be adapted to the specific needs and levels of students, considering their level of reading comprehension and the educational context in which they find themselves (García-Valcárcel & Basilotta, 2017)**.**

3. Development of Adequate Resources: It is necessary to invest in didactic resources that facilitate the implementation of PBL, including adequate reading materials and technological tools that support learning (Tenesaca et al., 2024).

4. Continued Research: More empirical studies evaluating the impact of PBL in different educational contexts and ability levels are recommended to more accurately establish its benefits and limitations in English language teaching (Zambrano et al, 2022).

6. Acknowledgement

7. Declaration of conflict of interest

I declare that there is no conflict of interest.

8. Contribution of the article to the line of research

The present study constitutes a contribution in the research line of Foreign Language Didactics and Active Methodologies, as it explores the impact of Project Based Learning

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(PBL) on the development of reading comprehension in English, providing a comprehensive view on how this methodology can improve students' language skills in the context of teaching English as a foreign language.

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