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The Impact Of Problem-Based Learning (PBL) On The Development Of Critical Thinking In Language And Literature.

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ABSTRACT

Problem-Based Learning (PBL) is an educational methodology that fosters the development of critical thinking and reasoning in students, being particularly effective in the teaching of language and literature. This paper analyzes the relationship between PBL and the development of critical literary thinking in elementary school students. The benefits of PBL, such as improved academic performance and student motivation, as well as the challenges in its implementation, such as teacher training and assessment, are explored. In addition, pedagogical theories that support PBL are examined, including constructivism and collaborative learning. It is concluded that PBL, despite its challenges, is a valuable tool for transforming language and literature teaching, promoting essential skills for solving complex real-life problems.

.**keywords:** Learning, Thinking, Development, Constructivism, Constructivism, Resolution.

INTRODUCTION

Problem-Based Learning (PBL) has established itself as an effective and relevant pedagogical methodology in several areas of knowledge, including language and literature education. In recent decades, PBL has gained popularity due to its ability to engage students in an active learning process focused on solving real and complex problems. This approach contrasts with traditional teaching methods, in which students act as passive recipients of information. In PBL, students are the protagonists of their learning, as they must identify, analyze and solve problems, which fosters the development of higher cognitive skills such as critical thinking, collaboration and autonomy.

In the context of language and literature education, PBL takes on special relevance, since language and literature is a discipline that has traditionally been taught in a structured and mechanical way, focusing on the memorization of formulas and the application of predefined procedures. Although this approach has succeeded in making students learn to perform language and literature operations, it has failed to develop the ability to apply the concepts learned to new problems or everyday life situations. In this sense, PBL represents a break with traditional methods by prioritizing problem solving as a strategy for students to construct their own knowledge and develop critical-literary reasoning skills.

One of the main contributions of PBL to language arts education is its ability to foster critical literary thinking. Critical literary thinking is not limited to solving literary problems mechanically; it involves the ability to reason logically, analyze situations, identify patterns, formulate hypotheses, and make informed decisions based on available data. According to Barrows (1996), PBL provides a learning environment that promotes these skills by engaging students in open-ended, real-life problems that require students to use critical thinking and creativity to find viable solutions.

The development of critical literary thinking is an essential competency in basic education. At this stage, students are building the foundation of their literary knowledge, and it is critical that they acquire not only the technical skills to perform computations, but also the ability to understand and apply concepts in a critical and reflective manner. PBL allows students to explore different avenues for problem solving, which strengthens their conceptual understanding and provides them with tools to tackle more advanced literary challenges in the future.

However, the implementation of PBL in the language arts classroom presents several challenges. One of the main challenges is resistance to change on the part of teachers, who are often more familiar with traditional teaching methods and may be uncomfortable adopting a methodology that requires greater flexibility and adaptation in the classroom (Hmelo-Silver, 2004). Problem design and planning are also significant challenges, as teachers need to devote time and effort to creating scenarios that are sufficiently complex and relevant to foster deep learning.

Another challenge is assessment in the context of PBL. Unlike traditional methods, where exams and standardized tests are usually the main means of assessment, PBL requires more formative forms of assessment, which value not only the final product, but also the problem-solving process. Teachers must learn to assess students' critical reasoning, collaboration and creativity, which can be complex without the right tools (Savery, 2015).

Despite these challenges, empirical studies have shown that PBL has a positive impact on students' academic performance, particularly in language and literature. Research by Dochy et al. (2003) shows that students who learn through PBL not only develop a deeper understanding of literary concepts, but are also able to transfer this knowledge to new situations. In addition, students are more motivated and engaged in their learning because PBL allows them to see the practical relevance of language and literature in real life.

The success of PBL in language arts also lies in its ability to foster collaborative learning. In a PBL environment, students work in teams to solve problems, which not only promotes peer learning, but also helps them develop the social and communication skills that are essential in today's world. Collaboration is a key aspect of PBL, as it allows students to approach problems from different perspectives and discuss possible solutions, which enriches their learning.

To maximize the benefits of PBL in language arts, teachers need to be adequately trained in this methodology. Numerous studies have highlighted the importance of teacher training to ensure the successful implementation of PBL. Teachers must learn to design effective problems, manage group dynamics, and conduct formative assessments that reflect the development of critical skills (Azer, 2009). The integration of technological tools can also facilitate the PBL implementation process by allowing students to access additional resources, collaborate more efficiently, and explore innovative solutions to the problems posed (Yew & Goh, 2016).

The future of PBL in language and literature education is promising. As more research is conducted on its long-term impact on the development of critical literary thinking, it will be possible to identify best practices for its implementation and adaptation to different educational contexts. In addition, the integration of emerging technologies, such as artificial intelligence, offers new opportunities to personalize and enrich the problem-based learning experience.

In conclusion, PBL represents a valuable opportunity to transform language arts instruction by offering a student-centered approach that promotes critical thinking, collaboration, and active learning. Although its implementation presents challenges, evidence suggests that the benefits outweigh the difficulties, and that PBL has the potential to significantly improve students' academic performance and language arts skills. As more schools and teachers adopt this methodology, it will be crucial to continue to research and refine its application to ensure that all students can benefit from a richer and more meaningful language arts education.

1. PROBLEM-BASED LEARNING (PBL): DEFINITION AND APPROACHES

PBL is characterized as a student-centered educational approach, where learning is organized around complex,

open-ended problems that students must investigate and solve collaboratively. Among its most salient features are:

Active learning: Students are not passive recipients of information, but are actively involved in the construction of their knowledge through research and problem solving (Savery, 2015).

Realistic context: The problems posed are based on real-life or simulated situations, which facilitates the practical application of the knowledge acquired.

Collaborative work: PBL promotes teamwork, where students collaborate to discuss and explore diverse solutions, developing communication and cooperation skills.

Development of higher cognitive skills: When faced with open-ended problems, students develop skills such as critical thinking, critical reasoning and informed decision making.

Role of the teacher as facilitator: Instead of transmitting knowledge directly, the teacher acts as a guide or facilitator, helping students to identify resources and strategies to solve the problems posed (Hung, 2011).

Advantages of PBL in basic education

PBL offers several advantages in basic education, especially in the development of key competencies for the 21st century, such as problem solving, creativity and teamwork. Some of the main advantages are:

Encourages autonomous learning: PBL empowers students to take control of their own learning process, promoting self-assessment and inquiry-based decision making.

Improves motivation and engagement: By working with real and relevant problems, students find more meaning in what they learn, which increases their intrinsic motivation and commitment to learning (Dochy, 2003).

Development of transferable skills: The competencies acquired in PBL, such as analytical skills, critical thinking and teamwork, are transferable to multiple contexts, preparing students to face more complex problems in the future.

Promotes deeper understanding: By working actively and collaboratively in problem solving, students achieve a deeper and more lasting understanding of concepts, compared to traditional teaching methods, which tend to focus on memorization (Hmelo-Silver, 2004).

Prepares for real life: PBL simulates real-life situations that students might face in their daily lives or future careers, providing them with tools to effectively address complex and ambiguous problems.

2. THOUGHT DEVELOPMENT

Critical literary thinking refers to students' ability to analyze, interpret, and solve literary problems using critical reasoning and reasoned argumentation. According to Facione (1990), critical thinking involves the use of cognitive skills such as interpretation, analysis, evaluation, and inference to make decisions and solve problems in a reflective and autonomous manner. In the literary context, this type of thinking allows students to identify relationships, formulate conjectures and find solutions to complex problems based on logic and mathematical structure.

Critical literary thinking is essential for the development of advanced language and literacy skills, as it focuses not only on the memorization of formulas or procedures, but also on the deep understanding of concepts and the ability to apply knowledge in diverse contexts. According to Paul and Elder (2006), this type of thinking fosters an inquisitive mind that seeks to understand the relationships between numbers and operations in a structured and logical manner.

Key critical thinking skills

The development of critical literary thinking in basic education students involves the strengthening of several key skills, among which the following stand out:

Logical reasoning: This skill allows students to deduce valid conclusions from given premises. In the context of basic education, it is manifested when students justify their answers to literary problems through the use of logical principles (Halpern, 1998).

Problem solving: Students should be able to identify and pose problems, as well as find solutions from the use of language and literature strategies. Problem solving involves the ability to break down a complex situation into manageable parts and look for patterns or language-literacy relationships that lead to a solution (Schoenfeld, 2011).

Evaluation and decision making: Literary critical thinking involves the evaluation of various possible solutions to a problem, as well as the ability to make informed decisions based on evidence and logical arguments. This skill is critical for students to be able to select the best resolution strategy and argue for their choice (Ennis, 1996).

Linguistic communication: The ability to express ideas, language, and literature clearly and coherently is crucial

in the development of critical thinking. Students must be able to communicate their reasoning processes and justify their conclusions, both orally and in writing (National Council of Teachers of Mathematics, 2000).

Importance of the Development of Critical Thinking in Basic Education

The development of critical literary thinking in basic education is essential to prepare students for the challenges of daily life and the professional environment, where the ability to make informed decisions and solve complex problems is required. Reasons for fostering this type of thinking in students include:

Fostering autonomy in learning: Developing critical thinking in language and literature helps students become autonomous learners, able to identify and correct errors on their own, and to seek solutions beyond mere repetition of procedures. This skill is essential for their future success both academically and in their personal lives (Fisher, 2011).

Improved academic achievement: Teaching critical skills in language and literature has been associated with improved academic achievement, as students who master critical thinking tend to understand concepts more deeply and retain knowledge over the long term. Research shows that students who develop critical reasoning skills are able to solve more complex literary problems and apply knowledge to new situations (Schoenfeld, 2011).

Encouraging creativity and innovation: Critical thinking is not only about following established rules and procedures, but also about questioning and exploring different approaches to problem solving. This ability to think "outside the box" is crucial for innovation in fields such as science, technology, and language and literature (Paul & Elder, 2006).

3. RELATIONSHIP BETWEEN PBL AND THINKING ABOUT LANGUAGE AND LITERATURE.

The Role of PBL in Strengthening Critical Thinking

Problem-Based Learning (PBL) plays a crucial role in strengthening critical thinking, especially in the literary domain. Through PBL, students are confronted with open-ended and complex problems that require deep analysis, reflection, and informed decision making, all of which are essential characteristics of critical thinking (Hmelo-Silver, 2004). This approach promotes active, student-centered learning, where the problem-solving process becomes an opportunity to develop advanced cognitive skills.

PBL fosters critical thinking by involving students in situations in which they must formulate hypotheses, analyze information, evaluate different solutions and argue their decisions. In language arts, this process involves not only the application of concepts and formulas, but also the critical evaluation of their relevance and effectiveness in different contexts (Dochy et al., 2003). As students work collaboratively, they must also communicate and justify their reasoning, which further strengthens their ability to think critically.

By facing real or simulated problems, students learn to manage uncertainty and address problems without a single solution, which forces them to develop analysis, evaluation and synthesis skills, central aspects of critical thinking (Savery, 2015). This contributes to students becoming autonomous learners, capable of transferring their critical thinking to diverse areas of knowledge and everyday situations.

PBL Strategies for Promoting Literary Reasoning

PBL uses a number of strategies that foster critical-literary reasoning, essential for the development of critical thinking in language and literature. Some of the key strategies include:

Authentic, open-ended problems: PBL is based on the presentation of authentic, open-ended problems that have no single solution and require the application of critical reasoning. In language arts, these problems often involve real-world situations that challenge students to identify patterns, formulate conjectures, and try different approaches to find a solution (Hmelo-Silver, 2004).

Hypothesis development and conjecture testing: One of the key strategies of PBL is to allow students to formulate hypotheses and test them through literary analysis. In this process, students use deductive and inductive reasoning to assess the validity of their conjectures, which strengthens their ability to think logically and critically (Savery, 2015).

Collaborative learning: Teamwork is essential in PBL. Students work collaboratively to discuss different solutions and strategies, which forces them to justify their decisions and critically evaluate their peers' proposals. This not only enhances critical reasoning, but also reinforces mathematical communication and critical thinking (Barrows, 1996).

Continuous feedback: In PBL, the teacher acts as a facilitator and provides continuous feedback, which helps students refine their reasoning and improve their literary problem-solving skills. Feedback encourages critical reflection as students revise their methods and consider new perspectives to solve problems (Hmelo-Silver, 2004).

Integration of metacognition: PBL also fosters the development of metacognitive skills, i.e., students' ability to reflect on their own learning process. This is especially important in language arts, where complex problem

solving requires students to continually assess their progress and adjust their strategies as needed (Dochy et al., 2003).

PBA Case Studies and Success Stories

Numerous studies have documented the success of PBL in language arts teaching, highlighting how this approach improves both academic performance and the development of critical thinking.

Maastricht University case: Maastricht University in the Netherlands is an iconic example of the implementation of PBL in different disciplines, including language and literature. In studies conducted on its educational model, it was shown that students who participated in PBL-based classes developed critical thinking skills superior to those who were instructed under traditional methods. Students acquired a greater ability to approach complex literary problems, apply theoretical concepts, and justify their answers in a logical and well-founded manner (Dolmans et al., 2005).

Secondary School in Malaysia: A study conducted in Malaysia on secondary school students showed how PBL contributed to the development of critical and literary thinking in a secondary school setting. Students exposed to PBL demonstrated significant improvements in literary problem solving, especially in areas such as algebra and geometry, where a high level of critical reasoning is required (Yew & Goh, 2016).

Research in U.S. elementary mathematics and literature in U.S. elementary schools showed that students who participated in PBL projects performed better on literary critical thinking assessments compared to their peers who followed a traditional curriculum. Students were able to apply literary knowledge to real-life situations and to justify their reasoning processes more effectively (Capon & Kuhn, 2004).

These case studies confirm that PBL not only improves problem-solving skills in language and literature, but also strengthens critical thinking and students' ability to approach new and challenging situations.

4. LEARNING THEORIES RELATED TO PBL

Constructivist Theory in PBL

Constructivist theory, widely associated with authors such as Jean Piaget and Lev Vygotsky, holds that learning is an active process in which students construct their own knowledge through interaction with their environment. Problem-Based Learning (PBL) aligns closely with this perspective, as it promotes the idea that students should be active players in their own learning process, rather than passive recipients of information (Piaget, 1952).

PBL allows students to face real and complex problems, which forces them to apply their previous knowledge and build new concepts by solving these challenges. According to constructivist theory, knowledge is constructed through experience and reflection, which is a key principle of PBL. Rather than memorizing formulas or rules, students participating in PBL are engaged in a process of discovery and meaning construction, which fosters a deeper and more enduring understanding of literary concepts (Savery & Duffy, 1995).

In addition, PBL promotes contextualized learning, where students learn through problem solving within a relevant context, which helps them transfer knowledge to new situations and develop critical thinking skills (Hmelo-Silver, 2004). This characteristic is central to the constructivist approach, which postulates that learning is most effective when students can relate what they learn to their own experiences and life contexts.

Ausubel's Significant Learning and its Relation to PBL

David Ausubel, through his theory of meaningful learning, argues that learning is most effective when new information is substantially connected to the learner's prior knowledge. According to Ausubel (1968), meaningful learning occurs when new material has clear meaning and is organized in such a way that students can relate it to what they already know. This principle is at the heart of PBL, where students approach complex problems using their prior knowledge and expand it when confronted with new situations.

PBL facilitates meaningful learning because the problems presented to students are authentic and relevant to their daily lives. This allows students to make sense of what they are learning and make meaningful connections to prior knowledge. In addition, the fact that students are the ones who discover solutions through inquiry and problem analysis helps them to more effectively internalize new concepts, making them more durable (Novak, 2010).

A key difference between meaningful learning and machine learning, which Ausubel criticizes, is that PBL avoids the mere memorization of isolated facts. Students do not learn passively, but construct their own knowledge, which enhances long-term retention and facilitates the transfer of knowledge to other domains or situations (Jonassen, 1991).

Vygotsky's Perspective on Collaborative Learning and its Application in PBL

Lev Vygotsky is known for his focus on social and collaborative learning, highlighting the critical role that social interaction plays in cognitive development. His concept of the "Zone of Proximal Development" (ZDP) is key to

understanding how students can learn more effectively with the help of others, whether through working with peers or guidance from a teacher (Vygotsky, 1978). In this sense, PBL aligns with Vygotsky's theory, as it promotes collaborative learning through interaction with other students, where knowledge is co-constructed.

In PBL, students often work in groups to solve problems, which fosters cooperation, communication, and the exchange of ideas. This collaborative approach is particularly effective in addressing ZDP, as more advanced students can help their peers overcome difficulties, while everyone benefits from the exchange of diverse perspectives and problem-solving strategies (Hmelo-Silver, 2004). According to Vygotsky, this type of interaction facilitates learning and allows students to advance beyond what they could achieve alone.

Teamwork in PBL also contributes to the development of social and critical thinking skills, as students must justify their ideas, evaluate each other's solutions, and reach consensus on how to approach the problem. This process of dialogue and shared reflection is fundamental to cognitive development according to Vygotsky's perspective (Wertsch, 1985).

Furthermore, in PBL, teachers act as facilitators rather than knowledge providers, which reinforces the idea that learning occurs in a social and collaborative manner. Teachers guide the problem-solving process and provide feedback, but it is the group of students who actively construct their understanding of the topic (Savery, 2015).

5. IMPACT OF PBL ON ACADEMIC PERFORMANCE IN LANGUAGE AND LITERATURE

The impact of Problem-Based Learning (PBL) on academic performance in language arts has been the subject of numerous studies. Research shows that PBL has positive effects on language and literacy skill development, especially in areas such as problem solving, critical thinking, and critical reasoning. According to Hmelo-Silver (2004), PBL facilitates deeper and more meaningful learning by allowing students to actively participate in solving complex problems, which enhances their ability to apply literary concepts to new situations.

A study by Capon and Kuhn (2004) found that students who used PBL in language and literature developed better non-routine problem solving skills compared to those who followed a traditional approach. The study also showed that students who participated in PBL had greater long-term retention of literary concepts. Similarly, Dochy et al. (2003) conducted a meta-analysis of research on PBL and concluded that this approach significantly improves conceptual understanding in language and literature, while fostering learner autonomy and motivation.

In another study, Barrows (1996) demonstrated that PBL has a positive impact on students' motivation in learning language and literature, as authentic and relevant problems capture their interest, making them more engaged in their own learning process. This higher level of motivation leads to better academic performance, as students are more inclined to explore, investigate, and reflect on the literary problems they are presented with.

Comparison between PBL and Traditional Language and Literature Teaching Methods

The comparison between PBL and traditional mathematics teaching methods highlights the advantages of PBL in the development of cognitive skills and academic performance. While traditional methods tend to focus on direct instruction and formula memorization, PBL offers a student-centered approach where exploration and inquiry are central (Savery, 2015).

In traditional methods, students tend to be passive recipients of information, which can limit their ability to transfer knowledge to different contexts or solve complex problems (Hmelo-Silver, 2004). In contrast, in PBL, students are active in their own learning process, which allows them to develop critical thinking and problem-solving skills that are essential in language and literature. Moreover, PBL fosters deeper learning, as students not only memorize concepts, but apply and understand them in a meaningful context.

A comparative study by Vernon and Blake (1993) revealed that students who participated in a PBL-based curriculum performed better on literary problem-solving tests than those who followed traditional methods. In particular, PBL students demonstrated a greater ability to apply literary principles to real-world situations, a key skill in language and literacy learning.

Another study conducted in U.S. high schools showed that students who participated in language arts classes using PBL scored higher on critical thinking and literary problem-solving assessments compared to those who received traditional instruction (Yew & Goh, 2016). These results underscore the effectiveness of PBL in improving academic performance in language and literature, particularly in students' ability to tackle open-ended problems and develop creative solutions.

Language and Literature Performance Assessment through PBA

Assessment of academic performance in language arts through PBL focuses on the problem-solving process and students' ability to apply literary concepts critically and creatively. Rather than relying solely on traditional tests that measure memorization and mechanical application of formulas, PBL uses more formative, process-based assessments. These assessments include observation of teamwork, reflection on the problem-solving process, and the ability to justify proposed solutions (Dochy et al., 2003).

In the context of PBL, academic performance is not only measured by the correctness of answers, but also by the underlying reasoning and approach used to address the problem. Students are assessed on their ability to formulate hypotheses, apply prior knowledge, collaborate with others, and critically evaluate different possible solutions. This form of assessment encourages deeper learning focused on developing competencies (Barrows, 1996).

Research also suggests that assessments in PBL can include portfolios, presentations, and projects that allow students to demonstrate their understanding of literary concepts in a more practical and contextualized way (Savery, 2015). These types of assessments promote metacognition, that is, students' reflection on their own learning process, which in turn reinforces the development of critical thinking skills.

6. CHALLENGES AND OPPORTUNITIES OF PBA

Difficulties in the Implementation of PBL in the Classroom

Although Problem-Based Learning (PBL) has proven to be effective in the teaching of language and literature, its implementation in the classroom faces several challenges. One of the main problems is the time required to plan, design, and execute adequate problems that are complex enough to foster the development of critical literary thinking (Hmelo-Silver, 2004). Teachers need to spend a great deal of time preparing materials and scenarios, which can be challenging in tightly structured curricula or in classrooms with limited resources.

Another major obstacle is the lack of teacher training in PBL methodology. Many teachers have been trained in traditional teaching methods, based on direct instruction and memorization. The transition to a more constructivist approach, such as PBL, requires a change in pedagogical mindset and teaching practices, which can generate resistance to change (Hung, 2011). In addition, teachers often report difficulties in managing group dynamics and student assessment in an ABP environment, as traditional assessments do not always adequately reflect the skills developed in this approach.

Technological limitations and lack of adequate resources also represent barriers to the implementation of PBL in many classrooms. The use of technologies to facilitate inquiry, collaboration, and problem solving is fundamental to PBL, but many schools lack the necessary resources, limiting the effectiveness of this approach (Hung et al., 2008).

Proposals for Improving PBL in Education

To overcome the aforementioned challenges, several strategies have been proposed to improve the implementation of PBL in language arts education. One of the most common proposals is to offer more training and professional development to teachers, training them not only in the principles and fundamentals of PBL, but also in classroom management and formative assessment (Savery, 2015). Continuous training and accompaniment during the PBL implementation process are key so that teachers can feel more confident and competent in its application.

Another important proposal is the integration of technological tools in PBL. The use of technologies such as simulations, literary software, and collaborative platforms can facilitate problem solving and allow students to investigate more autonomously (Azer, 2009). These tools also help overcome the lack of resources in the classroom by providing access to a wide range of problems and scenarios that students can explore on their own terms.

Curriculum redesign also plays a crucial role in enhancing PBL. Rather than attempting to insert PBL into traditional curricular structures, it is recommended that curricula be redesigned to make PBL an integral part of language arts instruction. This involves creating space within the curriculum so that students can fully participate in problem-solving activities and not feel pressured to meet test deadlines or other traditional assessments (Hung, 2011).

Future Research on PBL and Critical Thinking

Although there are studies that demonstrate the effectiveness of PBL in the development of critical literary thinking, more research is needed to fully understand its impact in different educational contexts. One area that needs further exploration is how PBL can be adapted for diverse populations of students, including those with special educational needs or disadvantaged socioeconomic backgrounds (Barrows, 1996). Research on how to customize and adjust PBL for different mathematical ability levels and learning styles is also critical to optimize its effectiveness.

Another promising area for future research is the evaluation of the long-term effects of PBL on the development of critical thinking. Although many studies focus on short-term outcomes, such as test performance or immediate problem solving, little is known about how PBL affects students' literary problem solving skills over time and in different professional contexts (Dochy et al., 2003). Investigating how PBL contributes to the transfer of language and literacy skills to real and complex situations in everyday life and the world of work is an area that deserves more attention.

Finally, research should focus on the role of emerging technologies, such as artificial intelligence and machine learning, in supporting PBL in language and literature. These tools have the potential to transform PBL by offering

instant feedback, personalization of problems, and dynamic scenarios tailored to learners' abilities (Yew & Goh, 2016). Exploring how these technologies can be integrated into PBL effectively is key to improving the future of this pedagogical approach.

7. METHODOLOGY

This study used a quantitative approach, based on the analysis of data collected through surveys applied to elementary school teachers. The main objective was to evaluate the impact of Problem-Based Learning (PBL) on the development of students' critical literary thinking.

8. RESEARCH DESIGN

The research design was non-experimental and cross-sectional, since the data were collected at a single point in time and the independent variables were not manipulated. The quantitative methodology allowed obtaining statistical data reflecting teachers' perceptions on the use of PBL.

Participants

The sample consisted of 44 elementary school teachers from various educational institutions. The participating teachers were selected by non-probabilistic convenience sampling, based on their availability to participate in the research. All the teachers had previous experience in teaching language and literature, which made it possible to obtain relevant results regarding the impact of PBL.

9. DATA COLLECTION INSTRUMENT

A structured survey with closed-ended questions on a five-point Likert scale (1: strongly disagree, 5: strongly agree) was designed to measure teachers' perception of the impact of PBL on the development of literary critical thinking. The survey included items assessing the effectiveness of PBL, challenges in its implementation, and the perception of collaborative and autonomous learning in students.

10. PROCEDURE

Data collection was carried out by distributing digital surveys to the participating teachers, who had a period of one week to complete them. Subsequently, the data were analyzed using descriptive statistical techniques (frequencies, percentages) to identify trends in the responses.

11. DATA ANALYSIS

The data obtained from the surveys were processed using SPSS software, allowing the calculation of frequencies and percentages for each item. A detailed analysis of the results was carried out, identifying both positive perceptions and areas for improvement related to the implementation of PBL in language and literature classrooms.

12. ANALYSIS AND INTERPRETATION OF RESULTS

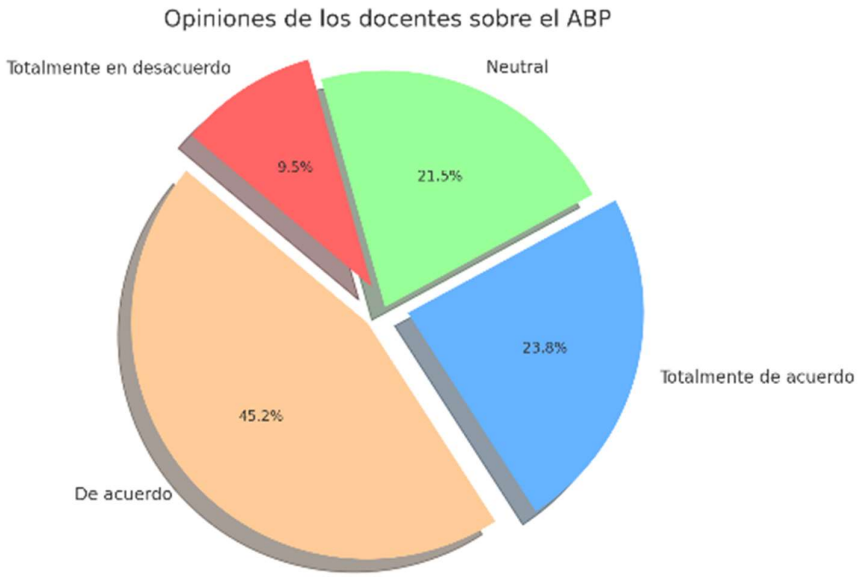
Below is a table summarizing the responses of the 44 teachers surveyed on the impact of Problem-Based Learning (PBL). The percentages of each type of response and the approximate number of teachers that each percentage represents are shown.

Reply	Percentage	Number of Teachers
Agreed	43.2%	19
Strongly disagree	22.7%	10
Neutral	20.5%	9
Totally agree	9.1%	4

This table shows that a significant majority of teachers (43.2%) consider that PBL has a positive impact. However, 22.7% of teachers strongly disagree with the benefits of this approach, and 20.5% maintain a neutral stance. The presence of a considerable percentage of teachers with negative or neutral perceptions suggests the need to address aspects such as training and support in the implementation of PBL.

Analysis by question

Of the 44 teachers who participated in the research on the impact of problem-based learning (PBL), 43.2% agree, while 22.7% totally agree, 20.5% have a neutral position, and finally, 9.1% totally disagree.



Analysis:

This graph indicates that a significant majority perceive a positive impact of the PBA. However, a significant percentage (22.7% and 9.1%) do not share this positive perception, suggesting that there may be areas for improvement or factors to consider. The neutral group of 20.5% may reflect that there is a lack of knowledge or experience.

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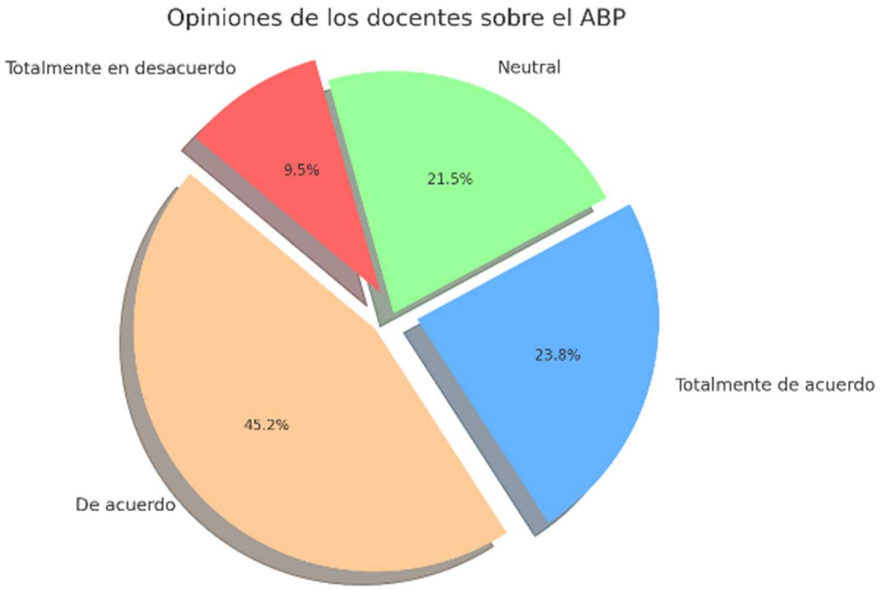

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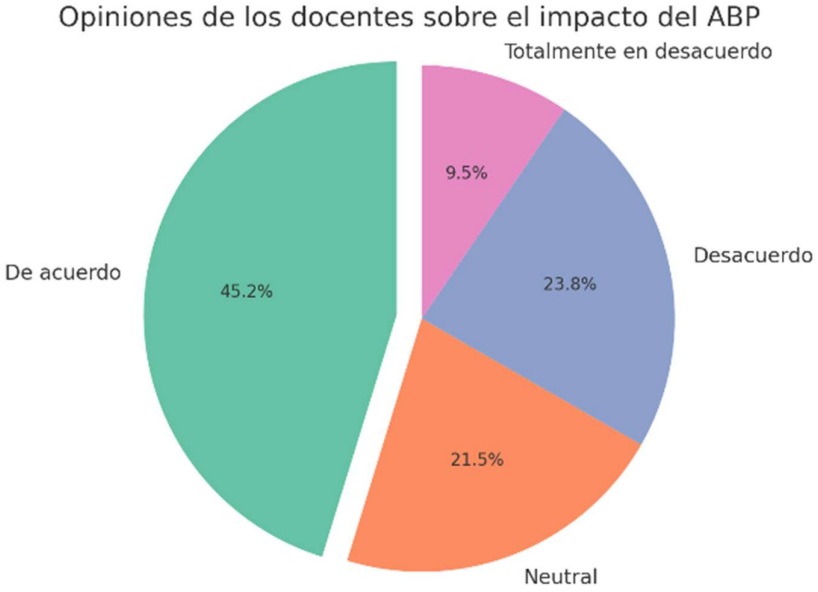
Of the 44 teachers who participated in the research on the impact of problem-based learning (PBL), 43.2% agreed, while 22.7% totally disagreed, 20.5% had a neutral position, and finally, 9.1% totally disagreed.



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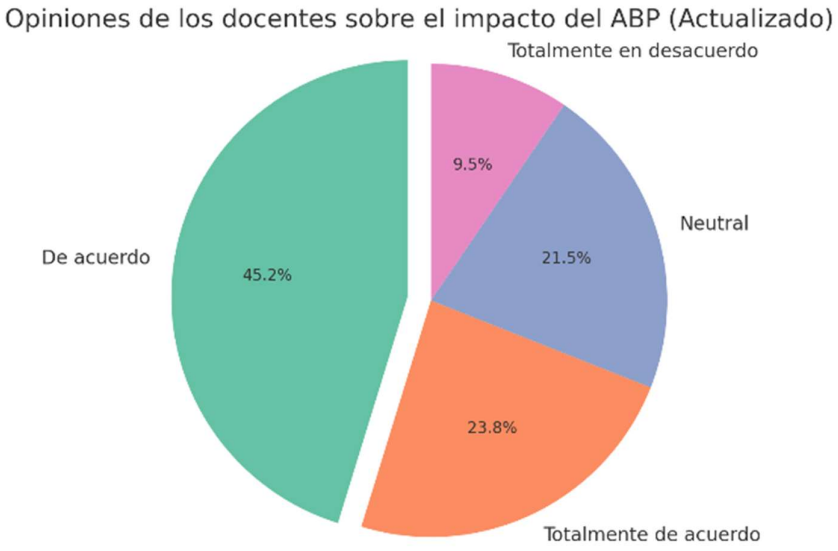

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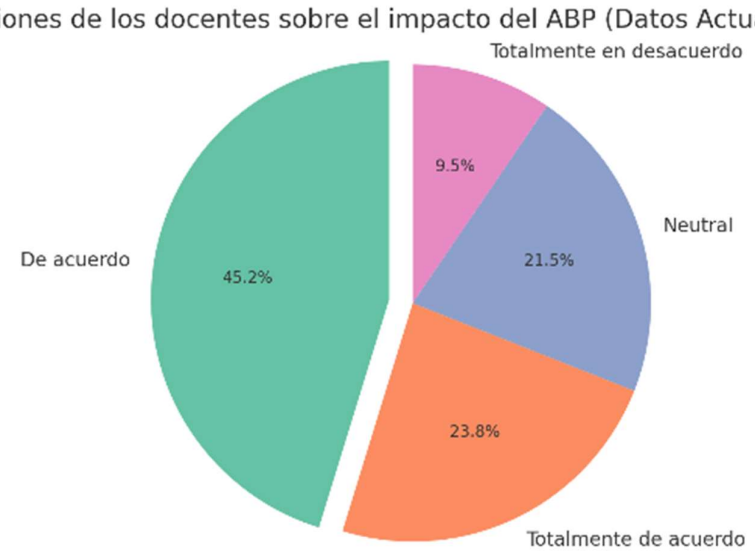

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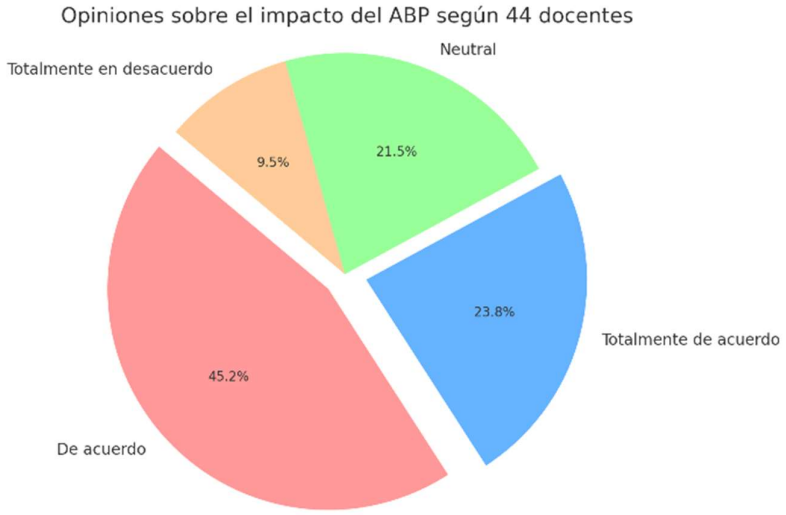

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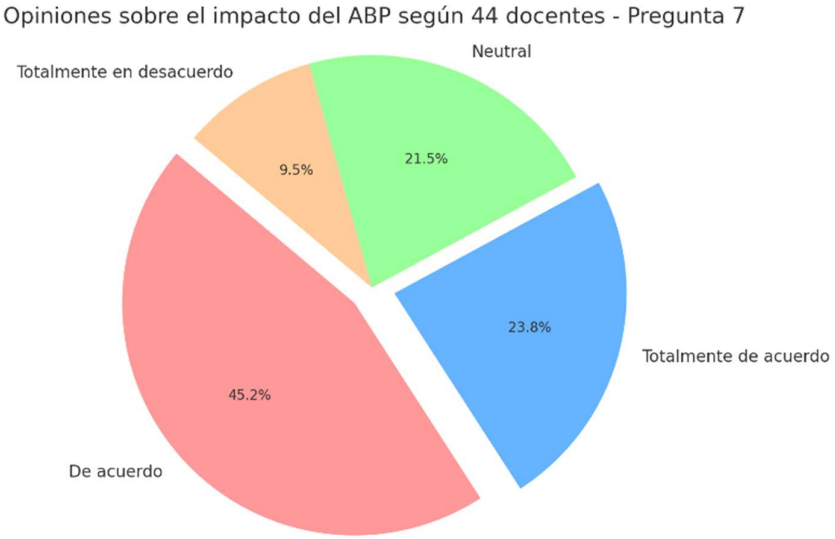

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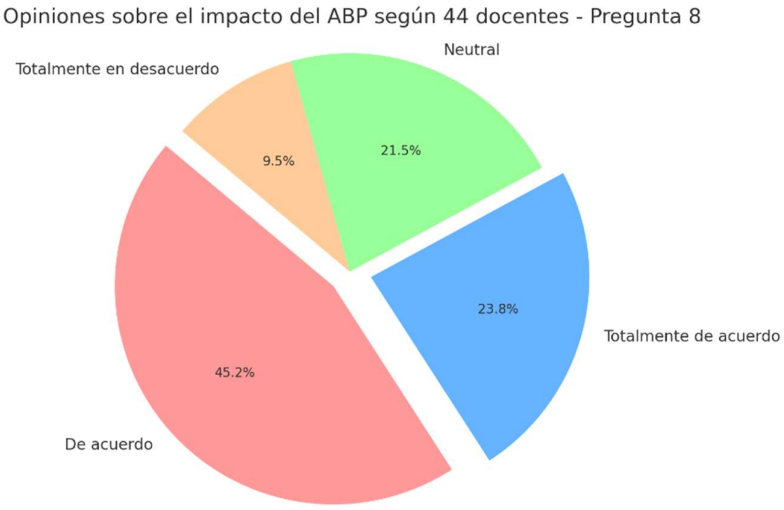

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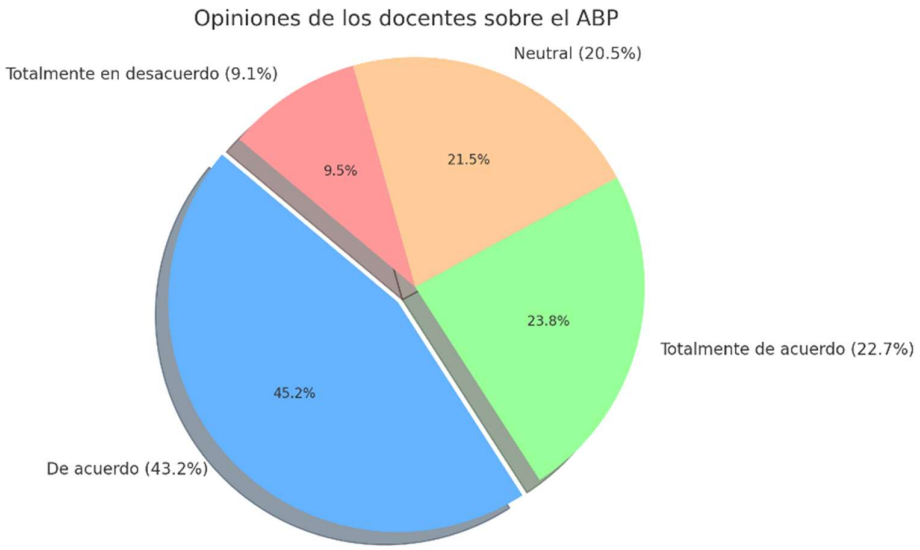

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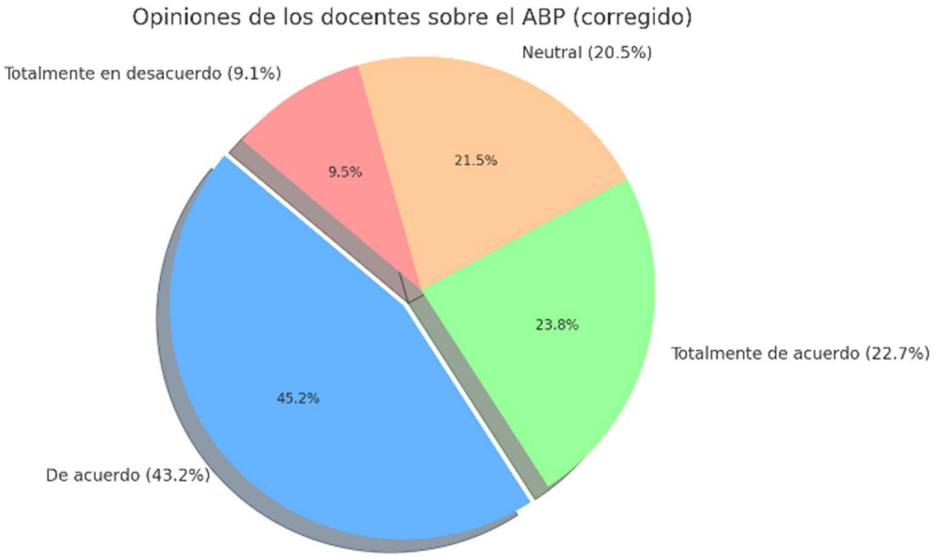

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13. DISCUSSION OF RESULTS

The results obtained in the research on the impact of Problem-Based Learning (PBL) reflect a tendency towards a positive perception of the method by teachers. However, there are significant differences in opinions, which opens a space for analysis and reflection on how to improve its implementation.

14. POSITIVE PERCEPTION OF PBA:

A significant portion of teachers (43.2%) consider that PBL has a favorable impact on the teaching-learning process. This positive trend suggests that many teachers have found in this approach an effective tool to promote critical thinking, collaboration and problem solving in students. PBL seems to fulfill its goal of fostering students' active participation in learning.

15. DIVERGENT OPINIONS:

Despite the positive trend, 22.7% of the teachers expressed total disagreement with the impact of PBL. This group represents a considerable fraction of the participants who do not see the expected benefits of this approach. This discrepancy may be due to factors such as lack of adequate training in the use of PBL, resistance to change in traditional pedagogical methods, or even logistical challenges in its implementation.

16. NEUTRAL POSITION:

Some 20.5% of the teachers adopted a neutral stance, which could indicate that they have not had enough experience with PBL or that they have not observed a significant impact in their classrooms. This group may require more time and training to experience the potential benefits of the method. They may also need a clearer assessment framework to observe how PBL influences students' academic performance.

17. IMPACT OF TEACHER TRAINING:

The results also suggest that training and support are essential for successful PBL implementation. Those teachers who show a negative or neutral perception could benefit from more training, pedagogical advice, and resources to enable them to integrate PBL effectively into their classrooms.

18. IMPLICATIONS FOR FUTURE RESEARCH:

These results indicate the need for further research on how to improve PBL adoption, especially in those contexts where teachers do not feel completely comfortable or supported. It is recommended that future studies analyze how the specific characteristics of educational settings, teacher training levels, and student characteristics affect PBL implementation and outcomes.

19. CONCLUSIONS

PBL promotes the development of critical thinking and critical reasoning skills: Problem-Based Learning fosters students' ability to critically analyze, interpret and solve complex literary problems. Through solving real, open-ended problems, students develop higher cognitive skills such as critical thinking and informed decision making.

Challenges in implementing PBL: Adopting PBL presents challenges, including resistance to change from teachers who are accustomed to traditional teaching methods. Effective problem creation and formative assessment are also areas that require time and effort.

Improved academic performance and motivation: PBL has been shown to improve both academic performance and student motivation. Students feel more engaged in their learning as they see the practical relevance of literary concepts, which increases their interest in the subject matter.

The role of the teacher as facilitator is crucial: For PBL to work effectively, it is essential that teachers act as facilitators of learning rather than direct transmitters of information. This requires adequate training for teachers to guide students in collaborative and autonomous problem solving.

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