

**PROJECT-BASED LEARNING AND COMPETENCY DEVELOPMENT IN SOCIAL SCIENCES AT
THE SECONDARY EDUCATION LEVEL: AN ANALYSIS OF THE COLOMBIAN CONTEXT**

**Aprendizaje basado en proyectos y desarrollo de competencias en ciencias
sociales en el nivel de la básica secundaria: un análisis del contexto colombiano**

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Manuscript information:

Recibido/Received: 12/12/24

Revisado/Reviewed: 09/05/25

Aceptado/Accepted: 07/07/25

ABSTRACT

Keywords:

Project-Based Learning (PBL),
Social Sciences Competencies,
Colombian Educational Context,
Active Learning.

This systematic review examines the effectiveness of Project-Based Learning (PBL) in developing social science competencies in secondary education, with emphasis on the Colombian context and the competencies assessed by Colombian Institute for the Promotion of Higher Education (ICFES). Studies published between 2009 and 2024 addressing PBL in social science teaching were analyzed, focusing on competency development and its application in secondary education. Participants in the reviewed studies primarily include secondary students and their teachers. Evidence suggests that PBL is effective in developing critical thinking skills and historical analysis abilities. However, a significant gap was identified in specific research on the development of competencies evaluated by ICFES in the Colombian context. Limitations include the scarcity of longitudinal studies and lack of uniformity in competency measurement. The review concludes that there is an urgent need for contextualized research on the application of PBL to develop specific social science competencies assessed in Colombia. It is necessary to adapt PBL to the Colombian educational context, develop assessment instruments aligned with ICFES competencies, and conduct longitudinal studies to evaluate its long-term effectiveness.

RESUMEN

Palabras clave:

Aprendizaje Basado en Proyectos,
competencias en ciencias sociales,
contexto educativo colombiano,
aprendizaje activo.

Esta revisión sistemática examina la efectividad del Aprendizaje Basado en Proyectos (ABP) en el desarrollo de competencias en ciencias sociales en la educación básica secundaria, con énfasis en el contexto colombiano y las competencias evaluadas por el Instituto Colombiano para el Fomento de la Educación Superior (ICFES). Se analizaron estudios publicados entre 2009 y 2024 que abordan el ABP en la enseñanza de ciencias sociales, centrándose en el desarrollo de competencias y su aplicación en educación secundaria. Los participantes en los estudios revisados incluyen principalmente estudiantes de secundaria y sus docentes. La evidencia sugiere que el ABP es efectivo para desarrollar habilidades de pensamiento crítico y análisis histórico. Sin embargo, se identificó una brecha significativa en la investigación específica sobre el

desarrollo de las competencias evaluadas por el ICFES en el contexto colombiano. Las limitaciones incluyen la escasez de estudios longitudinales y la falta de uniformidad en la medición de competencias. Se concluye que existe una necesidad urgente de investigación contextualizada sobre la aplicación del ABP para desarrollar las competencias específicas en ciencias sociales evaluadas en Colombia. Se requiere adaptar el ABP al contexto educativo colombiano, desarrollar instrumentos de evaluación alineados con las competencias del ICFES y realizar estudios longitudinales para evaluar su efectividad a largo plazo.

Introduction

Project Based Learning (PBL) has established itself as a fundamental educational methodology for the development of 21st century skills. This methodology engages students in a deep investigation of complex and authentic problems, allowing them to work more autonomously to construct their own learning. As a result, more meaningful and lasting knowledge is obtained, improving not only information retention, but also developing critical skills such as problem solving and critical thinking (Thomas, 2000).

Kokotsaki et al. (2016) emphasize that PBL fosters student autonomy, improves their problem-solving skills and promotes critical thinking. By facing real-world challenges, students not only acquire deeper knowledge, but also develop essential skills for their professional and personal future.

The advantages of PBL are multiple and significant. Blank (1997) and Dickinson et al. (1998) note that students develop essential skills and competencies such as collaboration, project planning, communication, decision making and time management. These skills are critical to success in the world of work and in everyday life, making PBL a highly valuable educational strategy.

Chen and Yang (2019) note that PBL significantly improves long-term knowledge retention and the ability to apply what has been learned in new situations. In addition, these researchers emphasize that PBL promotes collaborative and communication skills, preparing students for increasingly collaborative and globalized work environments.

The competency-based learning approach emerged in the 1970s as a response to the need to link education with the demands of the labor and social world (Mulder et al., 2007). This approach has spread globally, influencing educational policies in many countries, including Colombia. In the Colombian context, the Ministry of National Education (MEN) has adopted this approach to align the educational system with international standards and local needs, seeking to train citizens capable of applying their knowledge in real and complex situations.

In the specific field of social sciences, the Colombian Institute for the Promotion of Higher Education (ICFES) has established three fundamental competencies that permeate the curriculum and are subject to assessment: social thinking, interpretation and analysis of perspectives, and reflective and systemic thinking (ICFES, 2019). These competencies seek to develop in students the ability to understand and analyze social phenomena from multiple perspectives, foster critical thinking and promote a holistic understanding of social reality. The MEN has integrated these competencies into the curricular standards, with the objective of forming citizens capable of understanding and actively participating in Colombian society.

Social thinking focuses on understanding social reality; interpretation and analysis of perspectives seeks to develop the ability to examine and contrast different points of view; while reflective and systemic thinking promotes the understanding of the interrelationships between social phenomena (ICFES, 2019). These competencies are not only evaluated by the ICFES in standardized tests, but also guide curriculum planning and pedagogical practices in Colombian classrooms. The fundamental objective of these competencies is to train critical, reflective citizens capable of contributing positively to society, addressing the country's social, political and economic challenges from an informed and analytical perspective.

In this context, the need arises to examine how Project Based Learning (PBL) can contribute to the development of these specific competencies in social sciences in the field

of basic secondary education in Colombia. Therefore, the central question guiding this literature review is: What are the most common pedagogical uses of Project Based Learning in scientific publications related to the development of competencies in social sciences at the secondary school level in the Colombian context?

To address this question, the present literature review proposes the following objectives:

1. To investigate the current state of research in social sciences using PBL to develop competencies at the secondary school level, with a particular focus on the Colombian context.
2. To examine to what extent existing research on PBL in social science teaching is aimed at developing the specific competencies assessed by the ICFES: social thinking, interpretation and analysis of perspectives, and reflective and systemic thinking.
3. Analyze how the PBL approach has been addressed in the field of social science education, identifying the main trends and predominant areas of focus.
4. To evaluate the need and potential of adopting the PBL model to strengthen or develop specific competencies in social sciences in the Colombian educational context.
5. Propose future lines of research that can contribute to the effective adaptation of PBL for the development of the competencies evaluated by the ICFES in the area of social sciences.

With these objectives in mind, it is crucial to examine the available evidence on the application of PBL in social science teaching and its potential to develop the specific competencies assessed by the ICFES. Several studies have explored the effectiveness of PBL in different aspects of social studies teaching.

In the field of education, Project Based Learning (PBL) has proven to be an innovative and effective methodological strategy, especially in the teaching of social sciences. The research by Cárdenas-Contreras et al. (2020) showed that PBL not only fosters more meaningful learning by linking content to real-life situations, but also promotes students' active participation and enhances their understanding of social phenomena, allowing them to explore issues from multiple perspectives.

For their part, Martínez Camarena and Colomer Rubio (2019) explored the potential of PBL for the development of historical thinking competencies in Compulsory Secondary Education. Their findings suggest that PBL facilitates students' construction of historical narratives and enhances their ability to interpret and analyze historical sources, thus fostering a more critical and analytical approach to historical events.

Fernández Naranjo (2016) addressed the application of PBL in the teaching of social sciences, highlighting its potential to integrate different disciplines. Their research indicates that PBL enables students to make connections between history, geography and economics, fostering more holistic and systems thinking.

In a more recent study, Obando-Arias (2021) explored the pedagogical mediation of learning based on the generative question in secondary education, using PBL. The results of their research suggest that the use of generative questions in social science projects stimulates critical thinking, improves students' ability to tackle complex problems, and fosters autonomy and self-regulation in learning.

Corica (2021) conducted an exploratory study on the experience of in-service teachers with PBL in Argentine secondary schools. Their results highlight that teachers recognize the potential of PBL to develop transversal competencies, but also identify

significant challenges in its implementation, especially in terms of planning and evaluation.

Following this line, Urrea-Polo (2022) investigated the influence of PBL in the teaching-learning of history. Their results indicate that PBL significantly improves retention of historical knowledge, develops critical thinking skills and analysis of historical sources, and increases students' motivation and engagement in learning history.

Pimenta and Calderón (2023) conducted a literature review on PBL as a facilitator of school success. Their findings suggest that PBL is especially effective in the social sciences and humanities, improving not only academic performance but also critical thinking and problem-solving skills.

With respect to academics, Gómez and Miralles (2015) point out that the teaching of history, as a crucial component of the social sciences, must transcend memorization and focus on the development of historical thinking. This approach aligns with the competencies assessed by ICFES, but raises the question of how PBL can facilitate this development in an effective and measurable way in the Colombian context.

Mergendoller and Maxwell (2016) provide a solid foundation for the effective implementation of Project-Based Learning (PBL) in the classroom, highlighting the crucial importance of meticulous planning and structured execution to maximize the benefits of this innovative methodology. These authors emphasize that successful PBL is not a matter of chance, but the result of careful design and skillful management by the teacher. Its principles emphasize the need to set clear objectives, create a conducive learning environment and facilitate collaboration among students.

In line with this perspective, Martínez-Rodríguez and Sánchez-Agustí (2018) broaden the scope of the discussion by emphasizing the vital importance of contextualizing educational research. This approach underscores the imperative need to thoroughly examine the applicability of PBL in the Colombian curricular framework, considering the cultural, social and educational particularities of the country. The authors argue that this contextualization is fundamental to ensure that the implementation of PBL is not only effective, but also responds to the specific needs of the Colombian educational system and its potential to develop essential social and civic competencies in the national context.

Complementing these ideas, Larmer et al. (2015) set rigorous standards for PBL, providing a methodical and systematic approach to classroom instruction. These standards offer a robust framework that could be adapted and customized to the specific context of social sciences in Colombia. The authors detail key elements such as challenge or guiding question, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision, and public product, all of which could significantly enrich social science teaching in the Colombian context.

Integrating the technological dimension to this discussion, Hernández-Ramos and De La Paz (2009) innovatively explored the learning of history in high school through multimedia design in a PBL experience. Their research highlights the enormous potential of technology to substantially improve student engagement and understanding in the social sciences. This approach not only makes learning more engaging and relevant to 21st century learners, but also fosters the development of crucial digital skills in the information age.

Finally, Brush and Saye (2014) propose a sophisticated and well-structured instructional model to support problem-based historical research. This model could be particularly relevant and applicable to the development of the specific competencies

assessed by the ICFES in social sciences in Colombia. The authors present an approach that combines historical thinking with problem solving, which is closely aligned with the Colombian educational objectives of forming critical and analytical citizens.

Finally, Summers and Dickinson (2012) conducted longitudinal research on project-based instruction and student achievement in high school social studies, providing long-term evidence of the benefits of PBL in this field.

Taken together, these authors offer a multifaceted and complementary perspective on the implementation of PBL in social science teaching. Their contributions, from effective classroom management to technology integration to the development of specific models for historical research, provide a robust theoretical and practical framework. This framework can be adapted and applied to the Colombian educational context, thus enhancing the development of crucial competencies in social sciences and preparing students for the challenges of the contemporary world.

It also highlights the relevance and effectiveness of PBL as a methodology that not only enriches the educational experience in the social sciences, but also prepares students to face the challenges of the real world with a critical and analytical approach.

This introduction has established the central issues surrounding the application of Project Based Learning (PBL) for the development of specific competencies in social sciences in the context of basic secondary education in Colombia. Clear objectives have been outlined to guide the literature review, focused on examining the current state of research, analyzing existing trends and evaluating the potential of PBA in the Colombian context.

The review of the available evidence has revealed a significant body of research on PBL in social science teaching, but it has also revealed a need for specific application to develop the competencies assessed by the ICFES in Colombia. Aspects that will be discussed in depth in the results of this review.

In summary, this literature review seeks to explore the intersection between Project Based Learning and the development of specific competencies in social sciences in the Colombian context of junior high school. Through an exhaustive analysis of the existing literature, the aim is to identify the most effective PBL practices in the teaching of social sciences and to examine their potential for developing the competencies assessed by the ICFES. This study seeks to contribute to the educational field by providing a solid foundation for future research and pedagogical practices that effectively integrate PBL with the development of social science competencies in Colombia. The results of this review could inform educational policies and teaching practices, promoting a more effective and contextualized teaching of social sciences in Colombian secondary education.

Method

This research is based on a systematic and analytical literature review on Project Based Learning (PBL) as a methodological strategy for teaching Social Sciences in the context of secondary education, with emphasis on the development of competencies assessed by the ICFES in Colombia.

Sources of information and search period: The following databases and specialized information sources were used: Scielo, Google Scholar, Dialnet, ERIC, Redalyc and university institutional repositories. In addition, journals specialized in education and

social science didactics were consulted. The search period covered publications from 2009 to 2024, to ensure the inclusion of recent and relevant research in the field.

The search strategy used keywords and combinations in Spanish and English: "Project-Based Learning" AND "Social Sciences", "PBL" AND "secondary education", "Project-Based Learning" AND "Social Sciences", "social sciences competencies" AND "Colombia", "PBL" AND "historical thinking", "active methodologies" AND "social sciences", "PBL" AND "history education"

The inclusion criteria included articles and studies published in specialized academic sources, research specifically addressing PBL in the teaching of social sciences, studies relating PBL to the development of competencies in social sciences, publications contextualizing PBL in the Colombian educational system or in similar contexts, and research providing empirical evidence on the effectiveness of PBL in social sciences.

In turn, for exclusion criteria, opinion articles or editorials with no empirical basis, studies that do not focus specifically on social sciences or secondary education, publications that do not address PBL as a main methodology, and research that does not provide relevant information on competencies or learning outcomes.

These criteria were established to ensure the relevance and quality of the sources included in the review. Empirical studies and systematic reviews were prioritized to ensure a solid evidence base. The inclusion of contextualized research in Colombia or similar educational systems seeks to ensure the applicability of the findings to the specific context of the study.

The review process began with a total of 41 articles and studies initially identified. After an initial review of titles and abstracts, 12 articles were excluded for not meeting the inclusion criteria, mainly because they did not focus specifically on PBL in the social sciences or were not relevant to the secondary education context.

In a second review phase, the full texts of the remaining 29 articles were analyzed. Five more were excluded: 2 for lack of solid empirical evidence, 2 for not explicitly addressing social science competencies, and 1 for focusing on an educational context that is not comparable to the Colombian context.

Finally, 24 articles were selected for inclusion in the final review. These articles met all inclusion criteria and provided relevant and quality information to address the research objectives.

The content analysis technique was used to analyze the selected articles. An Excel matrix was designed to organize and categorize the information extracted from each article. The main categories of analysis included: characteristics of PBL implemented, social science competencies developed, assessment methodologies used, results and effectiveness of PBL, challenges and limitations in implementation, and recommendations for educational practice. This matrix allowed for a systematic synthesis of the information and facilitated the identification of patterns, trends and key findings across the different studies.

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Results

The analysis of the 24 selected articles on Project Based Learning (PBL) in the teaching of social sciences reveals significant findings in relation to the development of competencies in basic secondary education, with particular attention to the

Colombian context. The results are presented organized according to nine established categories of analysis, addressing the research objectives and responding to the problem posed.

1. Characteristics of PBL implemented in social sciences

The studies analyzed show a diversity of approaches in the implementation of PBL in the social sciences, although some common trends can be observed.

Mergendoller and Maxwell (2016) provide a solid foundation for effective PBL implementation, highlighting the importance of meticulous planning and structured execution. His study, based on the experience of 12 secondary school teachers, emphasizes that successful PBL is not a matter of chance, but the result of careful design and skillful management by the teacher. The authors identify key principles as setting clear objectives, creating a conducive learning environment, and facilitating collaboration among students.

Larmer et al. (2015) set rigorous standards for PBL, providing a systematic approach to classroom instruction. His book, based on an extensive review of literature and practice, details essential elements such as the challenge or guiding question, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision, and public product. These standards have been adopted and adapted in several of the subsequent studies analyzed, suggesting a convergence towards a more structured model of PBL in the social sciences.

The integration of technology in PBL projects is emerging as a significant trend. Hernandez-Ramos and De La Paz (2009) explored the learning of history in high school through multimedia design. Their study, which involved 100 eighth-grade students, demonstrated how creating multimedia presentations about historical events significantly improved students' historical understanding and writing skills compared to a control group.

2. Social science competencies developed

In relation to the competencies assessed by the ICFES, the studies show an uneven approach:

Social thinking: This competence emerges as the one most addressed in the studies analyzed. Brush and Saye (2014) propose an instructional model to support problem-based historical inquiry. Their study, which involved 15 high school history teachers and their students, demonstrated how this approach significantly improved students' ability to analyze historical events from multiple perspectives and understand connections between the past and present.

Gómez and Miralles (2015) examined the assessment of historical content in compulsory education in Spain. Although his study does not focus specifically on PBL, it provides valuable input on how to assess historical thinking, which is a key component of social thinking. The authors argue that assessments should go beyond memorization of facts and dates, and focus on skills such as historical contextualization and use of primary sources.

Interpretation and analysis of perspectives: Martínez-Rodríguez and Sánchez-Agustí (2018) emphasize the importance of contextualizing educational research. Their study, based on a review of 50 articles on history teaching, highlights the need to examine the applicability of PBL in different educational contexts. The authors argue that PBL can be particularly effective in developing students' ability to interpret historical events from multiple perspectives.

Reflective and systemic thinking: This competence appears as the least explicitly studied in the articles reviewed. However, Summers and Dickinson (2012)

conducted longitudinal research on project-based instruction and student achievement in high school social studies. Their study, which followed 114 students for three years, found that PBL fostered more holistic and reflective thinking about social and historical systems compared to traditional teaching methods.

3. Evaluation methodologies used

The studies reviewed employ a variety of methods to evaluate the effectiveness of PBA:

Cárdenas-Contreras et al. (2020) used a mixed approach in their study on PBL as a methodological strategy for teaching social sciences in high school. They used pre- and post-intervention questionnaires to measure change in students' knowledge and skills, supplemented by interviews with teachers and students to obtain qualitative findings about the learning experience.

Martínez Camarena and Colomer Rubio (2019) adopted a qualitative approach in their study on the development of historical thinking competencies through PBL. They used classroom observations, analysis of student products, and interviews to assess how the projects contributed to the development of skills such as historical contextualization and the use of primary sources.

Urrea-Polo (2022) employed a quasi-experimental design in his study on the influence of PBL in the teaching-learning of history. It used an experimental group and a control group, applying standardized tests before and after the intervention to measure the impact of PBA on academic performance and historical thinking skills.

4. Results and effectiveness of PBA

Most studies report positive results in terms of motivation, student engagement and development of specific competencies in social sciences.

Obando-Arias (2021) found that the use of generative questions in the context of PBL significantly improved student engagement and critical thinking in social science courses. Their study, which involved 60 middle school students, demonstrated how PBL can foster deeper and more meaningful learning.

Corica (2021), in his exploratory study on the experience of secondary school teachers with PBL in Argentina, found that teachers perceived an improvement in students' research and analysis skills. However, he also identified challenges in implementation, such as lack of time and resources.

De la Torre Neches (2021) conducted a case study on the potential of PBL as a teaching-learning model in secondary education, focusing on the subject of Economics. Their results suggest that PBL is particularly effective in developing critical thinking and problem-solving skills in the context of the social sciences.

5. Implementation challenges and constraints

The studies identify several common challenges in implementing PBA:

Time and resources: Several studies, including that of Espinosa Atero (2021), point to the need for additional time for project planning and execution, as well as adequate technological and material resources.

Teacher professional development: Fernández Naranjo (2016) emphasizes the importance of teacher training to effectively implement PBL in social science classes.

Evaluation: Gómez and Miralles (2015) highlight the difficulty of assessing complex competencies developed through PBL, suggesting the need for new assessment tools.

6. Colombian context and applicability

Although specific research in the Colombian context is limited, some studies provide relevant contributions:

Cárdenas-Contreras et al. (2020) demonstrate the viability and effectiveness of PBL in the development of citizenship competencies in the Colombian high school. Their study, conducted in an educational institution in Ecuador, but with implications for the Latin American context, suggests that PBL can be an effective strategy to address the competencies assessed by the ICFES.

Urrea-Polo (2022) points out the need to adapt PBA to the socioeconomic realities of Colombian schools. Their study, although focused on the teaching of history, provides important insights on how PBL can be effectively implemented in the Colombian educational context.

7. Critical evaluation of the reviewed studies

In this category, strengths and weaknesses were analyzed as determining factors in the evaluation of these studies.

strengths:

- Methodological rigor: Studies such as Summers and Dickinson (2012) and Hernandez-Ramos and De La Paz (2009) employ robust designs, including control groups and longitudinal measurements.
- Diversity of contexts: The studies cover diverse educational contexts, from Spain (Gómez and Miralles, 2015) to Argentina (Corica, 2021) and Colombia (Urrea-Polo, 2022), providing a broad view of the applicability of PBL.
- Focus on specific competencies: Several studies, such as Brush and Saye (2014), focus explicitly on the development of key competencies in social sciences.

Weaknesses:

- Shortage of longitudinal studies: With exceptions such as Summers and Dickinson (2012), few studies evaluate the long-term impact of PBA.
- Limited research in the Colombian context: Although studies such as that of Cárdenas-Contreras et al. (2020) and Urrea-Polo (2022) address the Latin American context, there is a need for more research specific to Colombia.
- Lack of uniformity in the measurement of competencies: The diversity of approaches to assessing social science competencies makes direct comparisons between studies difficult.

8. Similarities, contradictions and relationships between the articles reviewed

Similarities:

- Focus on historical thinking: Several studies, including Brush and Saye (2014), Gómez and Miralles (2015), and Martínez Camarena and Colomer Rubio (2019), emphasize the importance of PBL for developing historical thinking skills.
- Importance of authenticity: Studies such as that of Larmer et al. (2015) and Obando-Arias (2021) stress the need for authentic and relevant projects for students.
- Implementation challenges: Most studies, including Corica (2021) and Espinosa Atero (2021), identify similar challenges in terms of time, resources and teacher training.

Contradictions:

- Structure level: While studies such as Mergendoller and Maxwell (2016) advocate a highly structured approach to PBL, others such as De la Torre Neches (2021) suggest a more flexible approach.

- Effectiveness compared to traditional methods: Although most studies report positive results from PBA, there are variations in the magnitude of impact compared to traditional methods.

Relationships:

- Time progression: There has been an evolution in the PBL approach, from more general studies such as that of Hernández-Ramos and De La Paz (2009) to more specific and contextualized research such as that of Urrea-Polo (2022).
- Complementarity: Theoretical studies such as that of Larmer et al. (2015) provide a framework that is tested and refined in subsequent empirical studies.

9. Implications for the Colombian context

The findings suggest that PBL has a significant potential to develop the competencies assessed by the ICFES in social sciences in the Colombian context. However, several areas are identified as requiring attention:

Contextual adaptation: As Urrea-Polo (2022) points out, it is crucial to adapt PBL to the socioeconomic and cultural realities of Colombian schools.

Teacher training: Studies such as that of Fernández Naranjo (2016) underscore the need for specific professional development to effectively implement PBL in social sciences.

Evaluation: Following the reflections of Gómez and Miralles (2015), it is necessary to develop assessment instruments that are aligned with the specific competencies assessed by the ICFES and that are compatible with the PBL approach.

Technological integration: Research by Hernández-Ramos and De La Paz (2009) suggests that the integration of technology in PBL projects can be particularly beneficial, but this requires careful consideration of the technological capabilities of Colombian schools.

In conclusion, this review reveals a promising outlook for the implementation of PBL in social science teaching in Colombia, with evidence of its effectiveness in the development of key competencies. However, it also highlights the need for more contextualized research in Colombia and for a more balanced approach to the study of the three competencies assessed by ICFES. Future studies should focus on the adaptation and evaluation of PBL models specifically designed for the Colombian educational context, with a particular emphasis on how this methodology can address the competencies of social thinking, interpretation and analysis of perspectives, and reflective and systemic thinking in the framework of ICFES assessments.

Discussion and Conclusions

This systematic review of Project-Based Learning (PBL) in social science teaching reveals significant findings and crucial gaps in current research. The studies reviewed demonstrate valuable methodological diversity and provide consistent evidence of the benefits of PBL in the development of critical thinking skills and historical analysis in diverse geographic contexts. This methodological diversity, which includes qualitative, quantitative and mixed studies, strengthens the validity of the findings and provides a more complete understanding of the effectiveness of PBL in different educational settings.

However, the review has also revealed significant weaknesses in the existing literature. The paucity of longitudinal studies limits the understanding of the long-term effects of PBL on the development of social science skills. In addition, the limited research

in the Colombian context regarding the research problem raises questions about the direct applicability of international findings to the country's educational system. This gap is particularly problematic given the specific focus of the competencies assessed by the ICFES in Colombia.

The lack of uniformity in the measurement of competencies emerges as another notable weakness. This inconsistency makes direct comparison between studies difficult and hinders the formulation of solid conclusions about the relative effectiveness of PBL in different contexts. Future studies should address this limitation by developing and using standardized assessment instruments that are aligned with the specific competencies assessed in the Colombian context.

The results suggest a significant potential of PBL to develop key competencies in social sciences. In particular, several studies highlight the effectiveness of PBL in fostering critical thinking skills, analysis of historical sources, and understanding of multiple perspectives. These findings are promising for the development of the competencies of social thinking and interpretation and analysis of perspectives assessed by the ICFES. However, the evidence is less clear on the development of reflective and systems thinking, suggesting an area that requires further research.

The lack of studies that specifically address the competencies assessed by ICFES - social thinking, interpretation and analysis of perspectives, and reflective and systems thinking - represents a significant gap in the literature. This shortcoming limits the ability of Colombian educators and educational authorities to make informed decisions about the implementation of PBL in the social sciences curriculum.

This review contributes to the advancement of knowledge by identifying this critical gap and providing a solid foundation for future studies and for the adaptation of PBL to the Colombian educational context. The novelty of the work lies in its specific focus on ICFES competencies and in the identification of the gaps between international research on PBL and the particular needs of the Colombian educational system. This approach has not been previously addressed in the literature, which makes this article an original and valuable contribution to the field.

The findings also underscore the importance of considering practical challenges in implementing PBL. Several studies point to obstacles such as lack of time, limited resources and the need for teacher professional development. These factors should be carefully considered in any attempt to integrate PBL into the social science curriculum in Colombia.

In conclusion, there is an urgent need for contextualized research on the application of PBL to develop the specific social science competencies assessed in Colombia. It is necessary to adapt PBL to the Colombian educational context, taking into account the socioeconomic and cultural realities of the country. In addition, it is crucial to develop assessment instruments aligned with the ICFES competencies, which allow for accurate and consistent measurement of the impact of PBL on the development of these competencies.

Longitudinal studies are strongly recommended to evaluate the long-term effectiveness of PBL in the development of social science competencies. These studies should examine not only academic performance, but also the development of critical thinking skills, the capacity for historical analysis and the understanding of complex social systems.

Finally, it is important that future studies explore how PBL can be effectively integrated with other pedagogical strategies and educational technologies to maximize its impact on competency development. Future research should also consider how PBL can

be adapted to address existing educational inequalities in Colombia and promote more equitable access to quality social science education.

These actions are crucial to inform educational policies and teaching practices, promoting a more effective and contextualized teaching of social sciences in Colombian secondary education. Only through rigorous and contextualized research will we be able to take full advantage of the potential of PBL to improve social science education in Colombia and prepare students for the challenges of the 21st century.

Consequently, despite the wealth of research on PBL in social science teaching, there is a significant gap in the literature when it comes to specifically addressing the competencies assessed by the ICFES in the Colombian context. This void manifests itself in several aspects:

1. Lack of focus on specific competencies: None of the aforementioned studies focus directly on how PBL could develop social thinking, perspective interpretation and analysis, and reflective and systemic thinking as defined in the Colombian curriculum framework. This gap is crucial, as these competencies are the basis for evaluation and curriculum development in Colombia.
2. Lack of contextualization to the Colombian educational system: Martínez-Rodríguez and Sánchez-Agustí (2018) point to the need for more contextualized research in national education systems. This observation highlights the importance of examining the applicability of PBL in the development of specific competencies in the Colombian curriculum, considering the particularities of the country's educational system.
3. Lack of longitudinal studies: Hernández-Ramos and De La Paz (2009) note that while PBL shows promising results in history learning, more research is needed to determine how this methodology can be adapted to develop specific competencies over time. This observation underscores the need for long-term studies examining the impact of PBL on the development of social science competencies.
4. Gap in PBL adaptation for specific competencies: Brush and Saye (2014) argue that there is still a gap in understanding how PBL can be adapted to develop more sophisticated historical thinking skills. This observation is aligned with the need to investigate how PBL can foster competencies such as the interpretation and analysis of perspectives in the context of Colombian social sciences.
5. Lack of integration between theory and practice: Although there are numerous pedagogical productions in the field of the teaching-learning process of social sciences related to PBL, little or no concrete work has been done to develop competencies in social sciences through this pedagogical approach. This gap between theory and practice limits the applicability of existing findings in the Colombian educational context.
6. Absence of specific evaluation tools: No studies have been identified that provide specific assessment tools or methods to measure the development of social science competencies through PBL, particularly in the context of ICFES assessments.
7. Lack of comparative studies: There is a lack of research comparing the effectiveness of PBL with other pedagogical approaches in the development of specific competencies in social sciences as assessed by the ICFES.

This gap in knowledge underscores the urgent need for contextualized research that can inform educational practice in Colombia. Studies are needed that specifically examine how PBL can be adapted and applied to develop the social science competencies defined by the ICFES, considering the particularities of the Colombian educational system and the specific needs of secondary school students in the country.

The review of the available evidence has revealed a significant body of research on PBL in social science teaching, but it has also revealed an important gap in terms of its specific application to develop the competencies assessed by the ICFES in Colombia. This gap underscores the need for contextualized research that can inform educational practice in the country.

This literature review seeks to contribute to the educational field by providing a solid foundation for future research and pedagogical practices that effectively integrate PBL with the development of social science competencies in Colombia. The results of this study have the potential to inform educational policies and teaching practices, promoting a more effective and contextualized teaching of social sciences in Colombian secondary education.

the article's conclusions will be presented in a final section, followed by the main conclusions.

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