

CHALLENGE-BASED LEARNING AS A MEDIATION STRATEGY FOR STRENGTHENING SCHOOL COEXISTENCE: A THEORETICAL REVIEW

María Angélica Peralta Arrauth^{1*}, Luisaana Catalina Charris Molina², Edgardo Sánchez Montero³, Laura Posso Menco⁴, Greys Nuñez Ríos⁵, Robert Miranda Acosta⁶, William Español Sierra⁷, Eimys Mendoza Arévalo⁸

¹*Estudiante del Programa Licenciatura en Educación Básica Primaria, Departamento de Humanidades, Universidad de la Costa CUC, Colombia.*

²*Estudiante del Programa Licenciatura en Educación Básica Primaria, Departamento de Humanidades, Universidad de la Costa CUC, Colombia.*

³*Universidad de la Costa CUC, Departamento de Humanidades, Colombia.*

⁴*Universidad de la Costa CUC, Departamento de Humanidades, Colombia.*

⁵*Universidad de la Costa CUC, Departamento de Humanidades, Colombia.*

⁶*Universidad Metropolitana de Educación, Ciencia y Tecnología UMECIT, Panamá.*

⁷*Universidad Metropolitana de Educación, Ciencia y Tecnología UMECIT, Panamá.*

⁸*Universidad del Atlántico, Colombia.*

Received: 05/07/2025

Accepted: 05/01/2026

Corresponding author: María Angélica Peralta Arrauth
(María Angélica Peralta Arrauth)

ABSTRACT

School coexistence constitutes a fundamental component in the construction of democratic, inclusive, and respectful educational environments. In this context, Challenge-Based Learning (CBL) emerges as an innovative pedagogical strategy that integrates academic development with the strengthening of socio-emotional competencies. This study presents a qualitative systematic review of scientific literature published between 2020 and 2024 in high-impact databases, including Scopus, Redalyc, Dialnet, and Scielo, with the aim of analyzing the extent to which CBL functions as an effective mediation strategy to enhance school coexistence. The findings indicate that CBL promotes collaborative work, critical thinking, emotional self-regulation, conflict resolution, and shared responsibility among students. Furthermore, the methodology fosters participatory environments where learners become active agents in problem-solving processes that directly affect their social context. The results suggest that CBL not only contributes to improving interpersonal relationships and classroom climate but also redefines the teacher's mediating role, encouraging dialogue, co-responsibility, and democratic participation. It is concluded that Challenge-Based Learning represents a comprehensive and transformative educational strategy capable of strengthening positive school coexistence. However, further longitudinal research is recommended to evaluate its sustained impact across diverse educational levels and contexts.

KEYWORDS: Challenge-Based Learning; School Coexistence; Educational Mediation; Socio-emotional Skills; Conflict Resolution; Active Methodologies; Collaborative Learning.

1. INTRODUCTION

School coexistence is one of the main pillars in the construction of harmonious and democratic educational environments, where respect, solidarity and the peaceful resolution of conflicts are essential for meaningful learning. In this context, Challenge-Based Learning (ABR) emerges as an innovative pedagogical strategy that not only promotes the development of academic competencies, but also strengthens students' socio-emotional skills. According to Barrantes, Umaña, and Picado (2020), the ABR facilitates scenarios where students, when faced with real situations, develop the ability to collaborate, dialogue, and solve problems together, fundamental elements to improve school coexistence.

Various studies have highlighted the importance of implementing active methodologies that favour mediation and dialogue in the educational field (Moncayo-Bermúdez & Prieto, 2022; Altamirano & Romero, 2024; Portero & Medina, 2025). In addition, Gómez & Luna (2022) argue that learning through challenges promotes emotional self-regulation and critical thinking processes, skills that can be considered essential to face the challenges of school and social life today. For their part, Méndez, López & Paredes (2020) highlight that active methodologies promote a sense of belonging and teamwork, reducing conflicts and strengthening interpersonal relationships in the classroom.

According to Rodríguez (2019), Challenge-Based Learning allows for a comprehensive approach to school coexistence, by encouraging student participation in the identification and resolution of problems that affect their environment (Macías-Jama, & Flores-Vélez, 2023). From this perspective, education ceases to be a vertical process to become a collective construction that recognizes the voice of each student (Rodríguez, Pérez, Bracho, Cuenca & Henríquez, 2021). In this sense, Martínez & Pérez (2022) indicate that ABR generates a context of co-responsibility, where students feel like agents of change and protagonists of their own learning (Gil-Juárez, Álvarez, Ribosa, & Viciano, 2024).

Likewise, Acuña, Madrigal & Rojas (2022) suggest that strategies such as ABR not only strengthen school coexistence, but also promote the emotional well-being of students, by reducing anxiety levels and improving self-esteem. Similarly, Vega, Arteaga, & Serrano (2021) show that when students work on challenge-based projects, the development of citizenship competencies is favored, which positively impacts the culture of peace within educational institutions.

Going deeper into the analysis of the uses of ABR,

Silva & Castro (2022) estimate that its success as a mediation strategy depends on the adequate planning of the challenges, its relevance to the context of the students, and teacher training in active methodologies (Díaz-Guecha, Izarra & Pabón, 2021). In addition, Restrepo & Giraldo (2020) emphasize the need to incorporate spaces for systematic reflection and feedback, to ensure that learning is transferable to other scenarios of daily life.

In light of the above, research such as that of Álvarez & León (2021) and Torres (2022) coincides in pointing out that Challenge-Based Learning (ABR) is not only relevant for the strengthening of school coexistence, but also constitutes an effective and inclusive pedagogical response to contemporary educational demands (Rincón Ortega-Alonso, & Ramírez, 2025; Tapia, 2024). This methodology promotes the formation of critical, empathetic and socially engaged citizens (García-Valcárcel & Basilotta, 2017; Bernal, Toapanta, Martínez, Correa, Ortiz, Guerra & Molina, 2024).

In this sense, the ABR is consolidated as a comprehensive educational strategy, capable of articulating academic objectives with formative and convivial objectives (Sierra, Bolaños, Ramos, & Zúñiga, 2022; Cadillo-Leiva, Valentín-Centeno, & Huaire-Inacio, 2021; Escobar, & Bohórquez, 2018) and to offer a solid alternative to traditional teaching models. In this context, the question arises: To what extent does Challenge-Based Learning act as an effective mediation strategy to strengthen school coexistence?

2. METHODOLOGY

This article presents the results of the analysis of research published in scientific articles that address Challenge-Based Learning (BRA) as a mediation strategy to strengthen school coexistence. The aim of this is to carry out a critical review of the existing literature (Guzmán & Gélvez, 2023), to understand how this approach has been applied in the educational field and to evaluate its effectiveness in improving interpersonal relationships and coexistence in school environments.

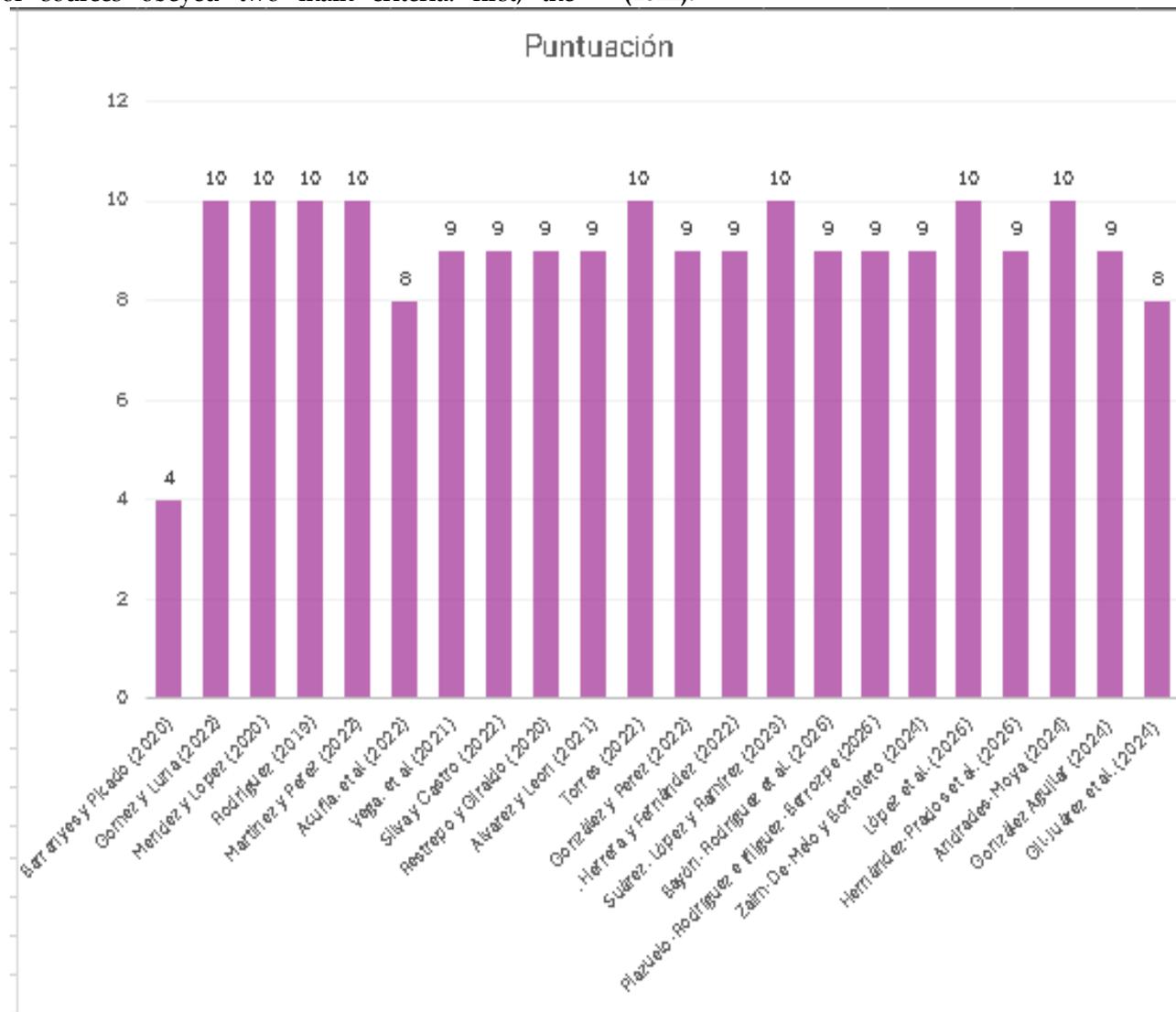
ABR has gained relevance in recent decades due to its ability to involve students in real and challenging situations that encourage collaboration, reflection and problem-solving, fundamental elements to promote harmonious coexistence in educational institutions. In this sense, it seeks to identify how this methodology has been implemented in school contexts and what its results have been in terms of behavior and relationships among students, since with the ABR they improve group dynamics in the school (González & Pérez, 2022; Suárez *et al.*, 2023).

In methodological terms, this study adopted a qualitative approach to deepen the understanding of the data collected (Piña-Ferrer, 2023). The qualitative approach adjusts to the complexity of the learning and mediation process, since it allows the results to be interpreted and analyzed in a critical and reflective way (Benito, 1988). This type of analysis seeks to identify patterns, emerging themes and relationships between ABR strategies and the effects they generate on school coexistence. According to Herrera & Fernández (2022), the qualitative approach allows the discovery of hidden meanings that contribute to improving pedagogical strategies and strengthening coexistence.

The systematic review was carried out through an exhaustive search and selection of relevant research found in specialized and high-impact databases such as Scopus, Redalyc, Dialnet, and Scielo (Villegas, Arana, Villar, Aguilar & Fernández, 2023), with articles published between 2020 and 2024. The choice of sources obeyed two main criteria: first, the

updating of the information, ensuring that the selected studies reflected the latest trends in research on ABR and school coexistence; and second, the relevance of the studies with respect to the defined research categories. Included were works such as those by González & Pérez (2022), who analyse the impact of ABR on collaborative work and conflict resolution, and Suárez et al. (2023), who study the improvement of interpersonal relationships through this methodology.

Once the publications were selected, a critical analysis and evaluation of the articles was carried out (Medina, 2023; Moher et al., 2009), extracting pertinent information related to educational mediation strategies through the ABR and their effects on coexistence in the classroom. This process made it possible to identify common trends, points of convergence, and knowledge gaps that require greater attention to improve educational practices in this field, as suggested by Herrera & Fernández (2022).



Artículo	Validez interna	Resultados	Aplicabilidad	PRISMA
Barranyes y Picado	1	2	1	4
Gomez y Luna	6	3	1	10
Mendez y Lopez	6	3	1	10
Rodriguez	6	3	1	10
Martinez y Perez	6	3	1	10
Acuña, et al	4	3	1	8
Vega, et al	5	3	1	9
Silva y Castro	5	3	1	9
Restrepo y Giraldo	5	3	1	9
Alvarez y Leon	5	3	1	9
Torres	6	3	1	10
González y Perez	5	3	1	9
Herrera y Fernández	5	3	1	9
Juárez, López y Ramírez	5	3	1	9
Bayón-Rodríguez et al.	6	2	1	9
Barranyes y Picado	5	3	1	9
De-Melo y Bortolet	6	3	1	10
López et al.	5	3	1	9
Hernández-Prados et al.	6	3	1	10
Andrades-Moya	6	2	1	9
González Aguilar	4	3	1	8
Gil-Juárez et al.	6	3	1	10

Artículo	Puntuación
Barranyes y Picado (2020)	4
Gomez y Luna (2022)	10
Mendez y Lopez (2020)	10
Rodriguez (2019)	10
Martinez y Perez (2022)	10
Acuña, et al (2022)	8
Vega, et al (2021)	9
Silva y Castro (2022)	9
Restrepo y Giraldo (2020)	9
Alvarez y Leon (2021)	9
Torres (2022)	10
González y Perez (2022)	9
Herrera y Fernández (2020)	9
Juárez, López y Ramírez (2020)	10
Bayón-Rodríguez et al. (2020)	9
Barranyes y Picado (2020)	9
De-Melo y Bortoletto (2025)	9
López et al. (2025)	10
Hernández-Prados et al. (2024)	9
Andrades-Moya (2024)	10
González Aguilar (2024)	9
Gil-Juárez et al. (2024)	8

Figure 1: Score by Author in original Spanish Language.

3. DISCUSSION

The analysis of various current research on Challenge-Based Learning (ABR) and its influence on school coexistence reveals a positive impact on the construction of more collaborative and critical educational environments (Quiñónez, Luzardo & Granda, 2016). According to Fernández et al. (2024), the ABR fosters a school climate that prioritizes the peaceful resolution of conflicts, thus strengthening

the social fabric of the classroom and developing fundamental socio-emotional skills.

Likewise, research such as that of Martínez et al. (2024) highlights that the ABR allows students to experience democratic decision-making processes, promoting co-responsibility and mutual respect. From this perspective, school coexistence is not only a desirable objective, but a competence that is taught and learned through the active and reflective practice

that the ABR promotes.

In particular, the work of **Mariscal & Martínez (2023)** underlines the importance of designing educational challenges that involve cooperation and effective communication, showing that students who work under this methodology show higher rates of empathy and tolerance. This is in line with what **Tan & Charles (2023)** have argued, who highlight that ABR not only improves academic performance, but also strengthens emotional ties and a sense of belonging in the educational community.

Regarding the research question posed "To what extent does Challenge-Based Learning act as an effective mediation strategy to strengthen school coexistence?", the studies reviewed offer a convincing answer. ABR acts as an effective mediation strategy to the extent that it promotes communication skills, encourages teamwork, and cultivates shared responsibility among students, as evidenced by **Valenzuela et al. (2023)**. Through contextualized

challenges, students not only solve problems, but also negotiate, dialogue and agree, thus strengthening school coexistence.

On the other hand, **Medina (2024)** emphasizes that the implementation of ABR must be accompanied by intentional teacher mediation that facilitates reflection on interpersonal dynamics, optimizing the benefits of the model. In this sense, the role of the teacher as mediator and guide is crucial for learning processes to translate into real improvements in coexistence.

Finally, the analysis carried out from this research allows us to affirm that Challenge-Based Learning constitutes an effective educational mediation strategy to strengthen school coexistence, by turning students into active agents of change, committed to their social environment and capable of managing their interpersonal relationships autonomously and respectfully.

Table 1: Summary of Selected Studies on School Coexistence and Challenge-based Learning

Year.	Article.	Author	Category.	Argumentative position.
2024.	Intervention programs to improve school coexistence: a systematic review,	Calixto Tapullima- Mor.	School coexistence.	A systematic review of intervention programs to improve school coexistence, highlighting emotional intelligence and sports education as the most effective, although it is concluded that the results are inconclusive and more research is needed.
2024.	Collaborative work as a pedagogical strategy to promote children's school coexistence.	Verónica Rocío García Vera, Geilert De la Peña Consuegra.	School coexistence.	Collaborative work as a pedagogical strategy significantly improves school coexistence in three-year-old children, enhancing their social and cognitive skills.
2024.	A framework for capturing student learning in challenge-based learning.	Kerstin Helker, Miguel Bruns, I. Reymen, J. Vermunt	Challenge-based learning.	This article presents a framework for capturing student learning in challenge-based learning, considering various levels and context contents, and shows its usefulness in capturing relevant aspects in course implementation.
2024.	Exploring the Influence of Game-Based Learning and the School Environment on Learning Achievement: Does Self-Intention Mediation Matter?	Atoullloh Atoullloh, Aries Fitriani, RW Daryono.	Challenge-based learning.	Game-based learning and a supportive school environment positively influence students' academic performance, and personal intention plays an important mediating role.
2023.	Human rights as the basis of school coexistence.	Marta E. López Vélez	School coexistence.	School coexistence is closely linked to human rights principles, but tensions persist in their recognition and practice in the school context.
2023.	Implementation of the pedagogical classroom project Managers of Coexistence and Peace as a strategy to promote the culture of peace in children in the department of La Guajira.	Delio Jacobo Mora Pontiluis, Emeritus Sofía Muñoz Estrada, Edibeth Joselín Mora Atencio.	School coexistence.	The implementation of recreational activities and safe environments in early education promotes harmonious coexistence, encourages dialogue in peacebuilding and strengthens educational communication.
2023.	Challenge-based learning as an authentic learning environment for building STEM identity.	R. Taconis, T. Bekker.	Challenge-based learning.	Challenge-based learning (CBL) can facilitate the construction of STEM identities through increases in motivation, a greater perception of competence, and enjoyable and experiential learning experiences, but its impact on vocational or higher education remains limited.
2023.	Positive Challenge Education: Innovative Integration of Challenge-Based Learning and Positive Education	Keisuke Horikoshi	Challenge-based learning.	Integrating challenge-based learning into positive education can improve well-being and learning outcomes, address criticism, and advance the approach.
2022.	Evaluation of the socialization	José María Bravo	School	The socialization program successfully

	program to strengthen school coexistence in basic education students.	Zambonino	coexistence.	strengthened school coexistence among students in the fifth year of basic education, improving academic performance and the quality of learning.
2022.	Developing the Capacity of Kindergarten Teachers for a Play-Based Learning Curriculum: An Analysis of Mediation	A. Cheung, Chrysa Pui Chi Keung, W. Tam	Challenge-based learning	Kindergarten teachers' beliefs and ability to design play-based learning curricula are strongly associated with their pedagogical practices and the development of the whole child.
2022.	Student motivation and disciplinary experience in challenge-based learning	M. MacLeod, Coralie Johnston, C. Poortman, K. Visscher.	Challenge-based learning.	Challenge-based learning (CBL) environments can relax commitments to experience and encourage students to take on different roles, but instructors should consider role choices based on desired project outcomes.
2021.	Detecting problems of coexistence	Carlos Monge López, David Montalvo Saborido, J. Torrego.	School coexistence.	Strategies are presented to detect problems of coexistence in schools, emphasizing the role of students in these processes, although they are often not adequately trained to do so.
2020	Aggressive school communities: transformation of coexistence through activist educational methods.	Jhon Holguin-Álvarez, Fernando Ledesma-Pérez, Aquila Montañez-Huancaya, Juana Cruz Montero	School coexistence.	Artist education in schools leads to greater sustainability of direct and democratic coexistence, encouraging adaptation between the aggressed and the aggressors.
2020	Family(s) in studies on school coexistence in Chile: a systematic review.	Jonathan Andrades-Moya, E. Castrillón-Correa, Eugenio O. Pérez-Álvarez, Andrew Philominraj.	School coexistence.	In Chilean studies on school coexistence, families are often overlooked as active educational agents, reducing their responsibility and participation in the educational process of the new generations.
2020.	The role of school coexistence in the initial training of teachers of infant and primary education.	Carlos Monge López, Patricia Gómez Hernández.	School coexistence.	The initial training of teachers in Early Childhood and Primary Education must improve their understanding of school coexistence, pluralism and conflict management, especially in relation to issues of discipline and bullying.
2020.	Challenge-based learning.	E. Vilalta-Perdomo, Rosario Michel-Villarreal, G. Lakshmi, Chang Ge.	Challenge-based learning	Challenge-based learning (CBL) in higher education can increase students' propensity to work actively and proactively and support the application of academic skills and digital capabilities to support their communities.
2020.	Challenge-Based Learning in Higher Education: An Exploratory Review of the Literature.	S. Gallagher, T. Savage.	Challenge-based learning.	Challenge-based learning (CBL) in higher education offers benefits and eight common features despite the challenges and variability of approaches.
2020.	From CDIO to challenge-based learning experiences: expanding student learning and social impact?	Kamilla Kohn Rådberg, U. Lundqvist, J. Malmqvist, Oskar Hagvall Svensson	Challenge-based learning.	Challenge-based learning (CBL) deepens student learning and social impact by fostering problem-setting, sustainable development, and interdisciplinary collaboration.
2020.	Models of didactic integration with ICT mediation: some challenges of innovation in teaching practices.	Isabel Jiménez-Becerra, Yasbley-de-María Segovia-Cifuentes.	Challenge-based learning.	Three models of didactic integration with the mediation of ICTs identified in Colombian schools can transform education by enhancing teaching techniques, curricular conception and cognitive development.
2020.	Challenge-based learning.	E. Vilalta-Perdomo, Rosario Michel-Villarreal, G. Lakshmi, Chang Ge.	Challenge-based learning	Challenge-based learning (CBL) in higher education can increase students' propensity to work actively and proactively and support the application of academic skills and digital capabilities to support their communities.
2019.	The Coexistence Plan in a Secondary School: Analysis from the Voices of Students and Teachers.	Gustavo González-Calvo, David Hortigüela-Alcalá, Alejandra Hernando-Garijo, Ángel Pérez-Pueyo	School coexistence.	This study analyzes the Coexistence Plan in a Spanish secondary school from an inclusive model of school management. The importance of the participation of the entire school community in activities that improve the school environment and student learning is highlighted

4. CONCLUSION

The findings of this research allow us to affirm that

the implementation of Challenge-Based Learning (ABR) as a mediation strategy represents an effective

pedagogical alternative for strengthening school coexistence. The results show that ABR not only favors the development of critical thinking and problem-solving skills, but also enhances fundamental socio-emotional skills, such as empathy, assertive communication, and collaborative work.

These competencies, articulated through a participatory, student-centered methodology, promote a more respectful, inclusive school environment oriented towards the collective construction of knowledge. Based on this evidence, it is concluded that the ABR contributes significantly to transforming the relational dynamics within the educational environment, positioning itself as a comprehensive training strategy that mediates the construction of a culture of positive coexistence.

An aspect that deserves further exploration is the potential of the ABR to act as a pedagogical strategy,

but also as a mechanism for transforming the teaching role and the very meaning of school mediation. The systematic implementation of this methodology questions traditional practices of authority and control, and requires a reconfiguration of the bond between educators and students, based on co-responsibility, dialogue and the ethical construction of coexistence.

This perspective opens up ways to think of the ABR as a political and cultural commitment within the educational field. However, the need to deepen longitudinal research to evaluate its sustained impact at different educational levels and contexts is recognized, since this line of analysis will be key to consolidating the ABR as a relevant and transformative pedagogical model within the framework of the challenges of contemporary education.

REFERENCES

- Acuña, G., Madrigal, M., & Rojas, L. (2022). Challenge-based learning as a methodology for strengthening soft skills in higher education. *Revista Electrónica Educare*, 26(2), 1-20. <https://dx.doi.org/10.15359/ree.24-2.17>
- Altamirano Redrovan, C. A., & Romero Romero, C. D. (2024). The application of mediation in the resolution of interpersonal conflicts in educational units. *Didactics and Education ISSN 2224-2643*, 15(3), 224-252. <https://revistas.ult.edu.cu/index.php/didascalia/article/view/2070>
- Álvarez, G., & León, S. (2021). School coexistence and its impact on meaningful learning. *593 Digital Publisher*, 6(1), 272-280. <https://dx.doi.org/10.33386/593dp.2021.6-1.900>
- Andrades-Moya, J. (2024). Construction of a conceptual basis for school coexistence activities, from a dialogic-participatory methodology. *Journal of Research in Education*, 22(3), 373-389. <https://doi.org/10.35869/reined.v22i3.5754>
- Barrantes, J., Umaña, D., & Picado, A. (2020). Challenge-based learning: innovation for the construction of knowledge. *Revista Electrónica Educare*, 24(2), 1-18. <https://dx.doi.org/10.15359/ree.24-2.17>
- Bayón-Rodríguez, L., González-Mayorga, H., & Vieira, M.-J. (2025). School coexistence in the initial training of primary education teachers. *Complutense Journal of Education*, 36(2), 151-161. <https://doi.org/10.5209/rced.93440>
- Benito, L. E. A. (1988). Between pragmatism and pansemiology. Notes on the uses (and abuses) of the qualitative approach in sociology. *Kings*, 43, 157-168. <https://doi.org/10.2307/40183346>
- Bernal Párraga, A. P., Toapanta Guanoquiza, M. J., Martínez Oviedo, M. Y., Correa Pardo, J. A., Ortiz Rosillo, A., Guerra Altamirano, I. del C., & Molina Ayala, R. E. (2024). Role-Playing-Based Learning: Fostering Creativity and Critical Thinking from an Early Age. *Ciencia Latina Revista Científica Multidisciplinar*, 8(4), 1437-1461. https://doi.org/10.37811/cl_rcm.v8i4.12389
- Cadillo-Leiva, G. S., Valentín-Centeno, L. M., & Huaire-Inacio, E. J. (2021). Strategies to improve soft skills in basic education students. In C. Milagros Arispe (Ed.), *I Congreso de Investigación e Innovación Multidisciplinario Virtual. Norbert Wiener University*. <https://www.aacademica.org/edson.jorge.huaire.inacio/46>
- Díaz-Guecha, L. Y., Izarra Vielma, D. A., & Pabón Rodríguez, N. O. (2021). Learning based on innovation challenges at the María Auxiliadora Higher Normal School (Colombia). *Apuntes Contables*, (28), 143-160. <https://doi.org/10.18601/16577175.n28.09>
- Escobar, R. E. C., & Bohórquez, M. L. P. (2018). Video game-based learning and gamification as strategies to build and live school coexistence. *Journal of Education, Teaching, Research and Information Technologies: CEDOTIC*, 3(1), 59-80.
- García-Valcárcel Muñoz-Repiso, A., & Basilotta Gómez-Pablos, V. (2017). Project-Based Learning (PBL): evaluation from the perspective of Primary Education students. *Journal of Educational Research*, 35(1),

- 113-131. <https://doi.org/10.6018/rie.35.1.246811>
- Gil-Juárez, A., Álvarez, I.M., Ribosa, J., & Viciano, S. (2024). Improvement of Consumer Education Workshops through Challenge-Based Learning in the Primary Education Degree. *European Review of Public and Social Innovation*, 9, 1-20. <https://doi.org/10.31637/epsir-2024-348>
- Gómez, C., & Luna, G. (2022). Mediation strategies for school coexistence in primary education. *Horizontes Magazine*, 8(32), 501-520. <https://dx.doi.org/10.33996/revistahorizontes.v8i32.740>
- González Aguilar, H. (2024). The challenges of designing the teaching-learning process for reflective professional development. *Medical Education*, 25(4), 100924. <https://doi.org/10.1016/j.edumed.2024.100924>
- González, M., & Pérez, L. (2022). *Impact of Challenge-Based Learning on Collaboration and Conflict Resolution in School Settings*. *Latin American Journal of Educational Research*, 1(1), 45-60. <https://doi.org/10.56712/latam.v1i1.1044>
- Guzmán Brand, V. A., & Gelvez García, L. E. (2023). Structure and construction of scientific articles. A systematic review. *Praxis*, 19(3), 498-516. <https://doi.org/10.21676/23897856.4962>
- Hernández-Prados, M. Á., Álvarez-Muñoz, J.S., & Sánchez-Martínez, R. (2025). Educate in empathy to build a culture of school coexistence. *Latin American Journal of Social Sciences Childhood and Youth*, 22(2), 1-23. <https://doi.org/10.11600/rlcsnj.22.2.5983>
- Herrera, A., & Fernández, R. (2022). *Mediation strategies in the classroom: The role of Challenge-Based Learning in school coexistence*. *Journal of Education and Psychology*, 18(1), 23-35.
- López, V., Ortíz, S., Morales, M., Urbina, C., Opazo, H., Allende, C., & Yáñez-Urbina, C. (2025). School coexistence as a practice of in/exclusion in Chilean schools. *Globalization Societies and Education*, 23(2), 526-542. <https://doi.org/10.1080/14767724.2023.2198689>
- Macías-Jama, M. G., & Flores-Vélez, A. R. (2023). Challenge-based learning to promote reading and writing in basic education students. *MQRInvestigar*, 7(4), 2553-2587. <https://doi.org/10.56048/MQR20225.7.4.2023.2553-2587>
- Martínez, D., & Pérez, F. (2022). Challenge-based learning as a mediator of coexistence skills in basic education. *Horizontes Magazine*, 6(26), 342-356. <https://dx.doi.org/10.33996/revistahorizontes.v6i26.492>
- Medina Sandoval, R. J. (2023). Geochemical anomalies: a systematic review according to the prism method. *Ciencia Latina Revista Científica Multidisciplinar*, 7(1), 1887-1903. https://doi.org/10.37811/cl_rcm.v7i1.4531
- Méndez, J., López, M., & Paredes, E. (2020). Resolution of school conflicts through active methodologies. *Mendeley Repository*. <https://www.mendeley.com/catalogue/c74363a9-579f-3649-80b9-b47caeb83019>
- Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7): e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Moncayo-Bermúdez, H., & Prieto. López, Y., (2022). The use of active learning methodologies to promote the development of visible thinking in high school students of U.E.F. Víctor Naranjo Fiallo. 593 Digital Publisher CEIT, 7(1-1), 43-57. <https://doi.org/10.33386/593dp.2022.1-1.980>
- Piazuelo-Rodríguez, I., & Iñiguez-Berrozpe, T. (2025). School Connectedness As A Differentiating Factor In School Coexistence In An Intercultural Environment. A case study. *International Journal of Sociology of Education*, 14(1), 1-19. <https://doi.org/10.17583/rise.15528>
- Piña-Ferrer, L. S. (2023). The qualitative approach: A complex alternative within the world of research. *Interdisciplinary Peer-Reviewed Journal Koinonia*, 8(15), 1-3. <https://doi.org/10.35381/r.k.v8i15.2440>
- Porter, F. B., & Medina, R. P. (2025). Theoretical Study on Active Methodologies in Basic Education. *Revista ESPACIOS*, 46(01), 68-82. <https://doi.org/10.48082/espacios-a25v46n01p06>
- Quiñónez, Yadira; Luzardo, Gonzalo & Granda, Roger. (2016). Implementation of a multi-touch system in educational environments to promote and facilitate the evaluation of collaborative work in the classroom. *RISTI*, 17, pp.57-65. ISSN 1646-9895. <https://doi.org/10.17013/risti.17.66-79>.
- Restrepo, S., & Giraldo, A. (2020). Socio-emotional competencies and school coexistence: an approach from challenge-based learning. *Psychoperspectives*, 18(1), 1-12. <http://dx.doi.org/10.5027/psicoperspectivas-vol18-issue1-fulltext-1486>
- Rincón Sánchez, Astrith Eugenia, Ortega-Alonso, D., & Ramírez Tarazona, V. (2025). Challenge-based learning in the art education classroom: experiences of designing inclusive classes in Early Childhood Education contexts. *Tercio Crescent*, 27, 273-288. <https://doi.org/10.17561/rtc.27.9200>
- Rodríguez, C., Pérez, J., Bracho, A., Cuenca, L., & Henríquez, A. (2021). Challenge-Based Learning as a teaching-

- learning strategy of the subject resistance of materials. *Revista Dominio de las Ciencias*, 7 (3), 82-97. <https://www.dominiodelasciencias.com/ojs/index.php/es/article/view/1983>
- Rodríguez, J. (2019). Challenge-based learning for the transformation of school coexistence. *Horizontes Magazine*, 6(25), 370-385. <https://dx.doi.org/10.33996/revistahorizontes.v6i25.422>
- Sierra Pinilla, L., Bolaños Tegue, N. M., Ramos Caballero, E. J., & Zúñiga Zapata, A. C. (2022). Concepts associated with social skills using the Challenge-Based Learning methodology. *Unaciencia Revista de Estudios e Investigación*, 14(27), 87-102. <https://doi.org/10.35997/unaciencia.v14i27.659>
- Silva, C., & Castro, J. (2022). Planning of challenges for the development of social skills in school contexts. *Latam Journal*, 1(1), 78-90. <https://dx.doi.org/10.56712/latam.v1i1.1044>
- Suárez, C., López, J., & Ramírez, A. (2023). *Improving School Coexistence through Challenge-Based Learning: A Practical Approach*. *Journal of Educational Research*, 32(2), 78-90. <https://dx.doi.org/10.26495/rch.v7i2.2535>
- Tapia López, S. L. (2024). The importance of creativity-based learning in future professionals to face the challenges of today's environment. *Pan-American Journal of Pedagogy*, 38, 159-172. <https://doi.org/10.21555/rpp.vi38.3110>
- Torres, E. (2022). The formation of critical citizens through challenge-based learning. *Journal of Education Issues*, 16(2), 102-118. <https://dx.doi.org/10.37843/rted.v16i2.371>
- Vega, P., Arteaga, L., & Serrano, D. (2021). Education for peaceful coexistence from challenge-based classroom projects. *Revista Horizontes*, 6(26), 520-536. <https://dx.doi.org/10.33996/revistahorizontes.v6i26.492>
- Villegas, D., Arana, M., Villar, P., Aguilar, N., & Fernández, S. (2023). Scientific dissemination: art of visibility and high impact. *Horizontes Journal of Research in Education Sciences*, 7(27), 468-480. Epub 2023, January 09. <https://doi.org/10.33996/revistahorizontes.v7i27.530>
- Zaim-De-Melo, R. and Bortoleto, MAC (2024). THE CIRCUS CHILD: THE CULTURES OF CHILDHOOD IN A TRAVELING CIRCUS. *Education & Society*, 45. <https://doi.org/10.1590/es.280667>