

DOI: 10.5281/zenodo.18866507

ANALYSIS OF THE APPLICATION PROCESS OF THE CONCEPT OF LEARNING COMMUNITY GOING THROUGH TEACHING PROFESSIONALIZATION

Luis Alfredo Álvarez Escalante¹, Jhondert Alberto Jaimes Rodríguez², David Alberto García Arango³

¹Magister en Tecnología Educativa y Medios Innovadores para la Educación, Doctorando en Educación y Estudios sociales del Tecnológico de Antioquia, ORCID: <https://orcid.org/0000-0002-7030-2720>, correo: luis.alvarez.escalante@gmail.com. Institución Universitaria Tecnológico de Antioquia CL 78B #72 A-220, Altamira, Medellín, Robledo, Medellín, Antioquia.

²ORCID: <https://orcid.org/0000-0003-2545-9363>, correo:

Jhondert.Jaimes@unilibre.edu.co. Universidad Libre de Colombia - Cúcuta. Avenida 4ta n.º 12n-81 - Urbanización El Bosque. Cúcuta, Norte de Santander, Colombia.

³ORCID: <https://orcid.org/0000-0002-0031-4275>, correo: dgarcia30@autonoma.edu.pe. Universidad Autónoma de Perú, Panamericana Sur Km. 16.3, Villa EL Salvador, Perú

Received: 18/12/2025

Accepted: 10/02/2026

ABSTRACT

This article examines the relationship between teacher professionalization, school culture, and learning communities, aiming to analyze their role in educational transformation. A systematic documentary review with a qualitative-hermeneutical approach was conducted, following PRISMA guidelines. A total of 180 studies were identified in international academic databases, of which 65 met the inclusion criteria, prioritizing empirical research with objective measures of teaching practice and reading comprehension. Findings reveal a steady growth in scientific production between 2010 and 2024, with a marked acceleration after 2017 and a peak during 2020–2024, associated with the pandemic and the expansion of digital education. Three core categories emerged: (a) teacher professionalization, linked to initial training, continuing education, and career trajectory; (b) school culture, understood as a framework of values, norms, and practices shaping institutional life; and (c) learning communities, characterized by teacher collaboration, family engagement, and pedagogical innovation. The study concludes that school transformation requires an integrated approach that articulates teacher professionalization with the strengthening of school culture and the consolidation of sustainable learning communities. The review highlights that schools combining these three dimensions develop greater capacities for innovation, resilience, and continuous improvement. Furthermore, it underscores the need for future research using mixed and longitudinal designs to simultaneously evaluate changes in teaching practice, institutional culture, and student learning outcomes.

KEYWORDS: Teacher Professionalization, School Culture, Learning Communities, Teacher Training, Educational Innovation.

1. INTRODUCTION

The analysis of the state of the art is a fundamental step in situating any research within the framework of current academic debates, identifying advances, gaps and conceptual tensions. In this case, the object of study focuses on teacher professionalization and its role in the transformation of school culture from the perspective of learning communities. These three axes have gained relevance in recent decades as decisive factors in educational quality, given that pedagogical practice is not reduced to the transmission of content, but reflects a cultural, organizational and social framework in which teachers, together with other educational actors, construct meanings and modes of interaction (Bolívar, 2020; Krichesky, 2013).

Teacher professionalization has been defined as a continuous process that integrates initial training, permanent updating and construction of professional trajectories, linked both to the acquisition of technical skills and to the development of reflective and collaborative skills (Vaillant, 2016; Flores, Bailey & Torres, 2020). In this sense, the quality of teacher training is one of the main determinants of school achievement (Ministry of National Education, 2022). In turn, school culture, understood as the set of beliefs, norms, values, and practices shared in the institution, influences the way in which teachers develop their practice, conditioning patterns of execution and modes of relationship in the classroom (Cano & Henao, 2022).

On the other hand, learning communities are consolidated as collective spaces for the construction of knowledge, where educators work collaboratively in cycles of inquiry and action aimed at continuous improvement (DuFour et al., 2010). In them, interaction between teachers transcends mere cooperation, becoming a process of mutual feedback that fosters pedagogical innovation, critical reflection, and the strengthening of professional identity (Marcelo & Vaillant, 2010; Cantero, 2017). These collaborative dynamics, being mediated by the trajectory and training of teachers, generate a direct impact on both institutional effectiveness and the learning experience of students.

In this way, the review of the state of the art allows us to understand that the interrelationship between teacher professionalization, school culture and learning communities not only shapes particular educational practices, but also affects the construction of more democratic, inclusive and sustainable school environments. This article proposes, therefore, to examine these interactions based on local, regional, and international studies, in

order to contribute to the discussion on how to strengthen teacher training processes and their transformative role in contemporary schools.

2. METHOD

In order to process the measurement of the relevant information for the research and as part of the Hermeneutic of searching for bibliographic sources, an archaeological of literature associated with the units of analysis was carried out, which are: Teacher professionalization, School culture and Learning communities. A process of documentary review was applied consulted of an international, national and regional nature, of differentiated academic depth, from journal articles, books, master's and doctoral theses, which were classified according to the logic of the PRISMA method (Singer & Alexander, 2017) generating a solid State of the Art Matrix.

The methodological process is framed in a hermeneutical qualitative approach, aimed at the understanding and analysis of meanings attributed to teacher professionalization, school culture and learning communities. Along these lines, it was assumed that scientific texts are not mere sources of information, but social and cultural representations that reflect practices, tensions, and transformations in the educational field (Gadamer, 2004; Flick, 2018).

The research was developed through a systematic documentary review, using the PRISMA method (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), adapted to the educational field. This procedure included the phases of: (1) definition of inclusion and exclusion criteria; (2) search in open access and subscribed academic databases (Scielo, Redalyc, ERIC, Scopus, Dialnet, among others); (3) selection of relevant documents based on their thematic relevance and academic rigor; (4) critical analysis of the texts and categorization according to the three units of analysis; and (5) construction of a state-of-the-art matrix.

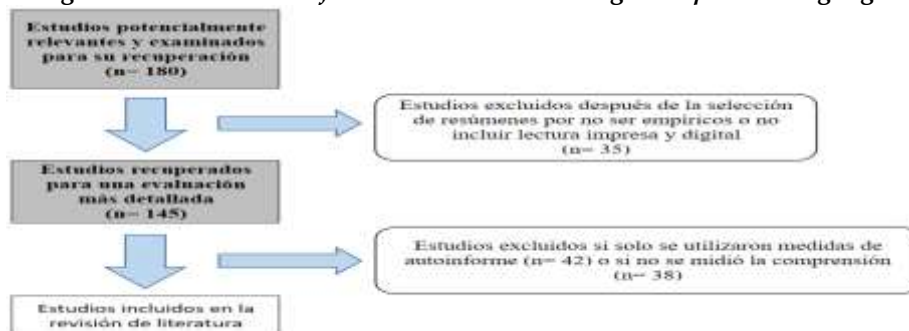
Research published between 2010 and 2024, which directly or indirectly addressed teacher professionalization, school culture, or learning communities at different educational levels, was included as inclusion criteria. As exclusion criteria, papers without access to full text, reports without academic peer-review, and documents with a merely descriptive approach without theoretical or methodological support were discarded.

To guarantee the validity of the analysis, a triangulation of sources was applied, considering master's and doctoral theses, articles from indexed

journals, specialized books, and educational policy documents. Subsequently, a thematic coding process was developed supported by content analysis techniques, identifying emerging categories and relationships between the central constructs of the study (Creswell & Poth, 2018).

In this way, the methodology not only made it possible to map relevant antecedents and findings in local, regional and international contexts, but also to highlight research gaps and innovative perspectives for future research, in order to provide theoretical and empirical foundations.

Figure 1: Prism Method for Font Selection. In original Spanish language.



Note: PRISMA Flow Chart Prepared by the Author from (Alexander, 2020).

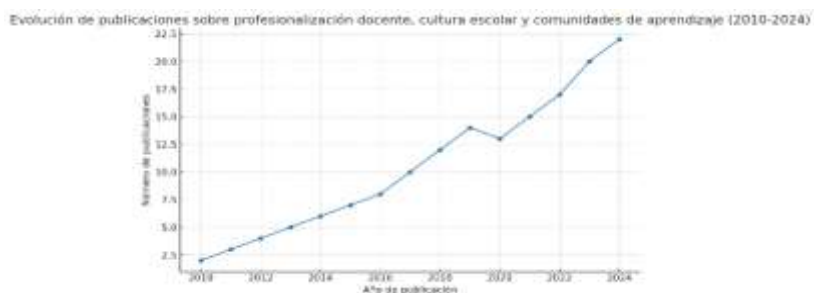
During the systematic review process, 180 potentially relevant studies were initially identified. After reading abstracts, 35 were excluded because they did not meet the inclusion criteria, either because they were not empirical in nature or because they did not explicitly address reading in its printed and digital modalities. As a result, 145 studies moved to the full-text evaluation phase. At this level, 42 studies that exclusively used self-report measures and 38 that did not include a reading comprehension measure were excluded, adding up to a total of 80 additional exclusions. Thus, the final sample was made up of 65 studies, which represents 36.1% of the initial total.

to prioritize empirical studies that incorporate objective measures of reading comprehension also responds to criticism of the common method bias associated with self-report instruments (Podsakoff et al., 2012). However, the results show that much of the literature in the field continues to focus on subjective perceptions or reports, which explains the exclusion of a considerable number of studies.

This process reflects the application of rigorous criteria aimed at privileging research with greater methodological soundness, in line with the recommendations of Moher et al. (2009) regarding the use of PRISMA guidelines to ensure transparency and replicability in systematic reviews. The decision

Consequently, the 65 included studies constitute a representative corpus of empirical research with high internal validity, although with the limitation that certain qualitative or teaching experience-focused approaches may be underrepresented. This balance between methodological demand and corpus reduction should be understood both as a strength—by ensuring reliability and comparability of the results (Creswell & Poth, 2018)—and as a limitation, insofar as it restricts the diversity of approaches included in the analysis.

Figure 2. Evolution of publications on teacher professionalization, school culture and learning communities (2010-2024). In original Spanish language.



This figure presents the evolution of publications related to teacher professionalization, school culture and learning communities in the period between

2010 and 2024. A trend of sustained growth in scientific production is observed, going from a small number of works in the first decade of the period to

a significant increase in recent years. From 2017 onwards, there is evidence of an acceleration in the curve, which coincides with the consolidation of collaborative approaches and pedagogical innovation in the international literature (Vaillant, 2016; Krichesky, 2013).

The most pronounced increase is recorded between 2020 and 2024, a phenomenon that can be explained by the impact of the COVID-19 pandemic, the expansion of educational digitalization, and the need to rethink teaching practices in hybrid and virtual environments (Flores, Bailey, & Torres, 2020; Rebour, 2024). This recent growth reflects not only a greater concern to strengthen the professionalization of teachers, but also an interest in understanding how school culture and learning communities affect educational quality and inclusion processes.

The evolution of time shows that the field of study has gone from an incipient interest to become a consolidated and expanding line of research, which reinforces the relevance of this work in the framework of contemporary discussions on educational transformation.

Figure 3: Map Of Emerging Categories In The Review. In original Spanish language

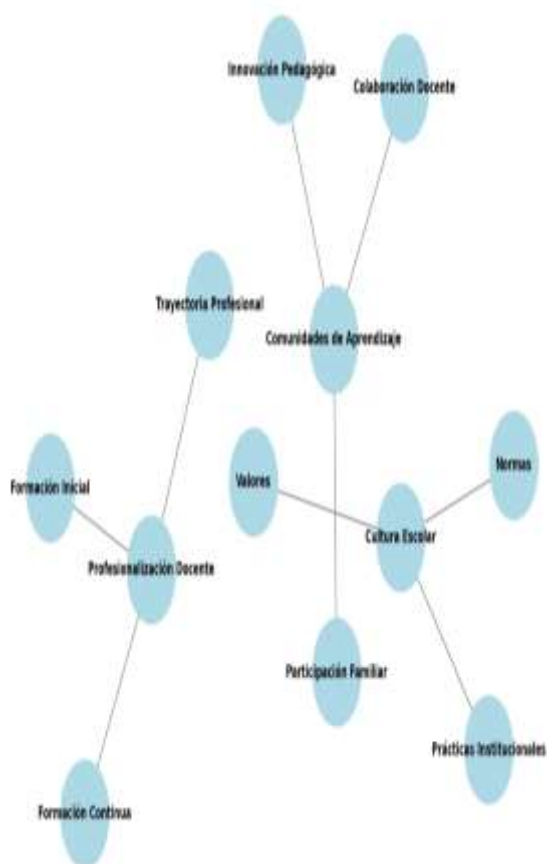


Figure 3 synthesizes the emerging categories identified in the documentary review, organized around three central axes: teacher professionalization, school culture, and learning communities. Each of these nuclei is articulated with subcategories that reflect the main research focuses found. In the case of teacher professionalization, initial training, continuous training, and professional trajectory stand out, evidencing the importance of the integral development of the teacher throughout his or her career (Marcelo & Vaillant, 2010). School culture is linked to institutional values, norms, and practices, showing how the symbolic and organizational elements of the school condition pedagogical practice (Cano & Henao, 2022). Finally, learning communities are related to teacher collaboration, family participation, and pedagogical innovation, aspects that strengthen the collective construction of knowledge and the improvement of school processes (DuFour et al., 2010; Cantero, 2017). This map shows the interdependence between categories and subcategories, underlining that educational transformation requires integrating the professional development of teachers with the cultural and institutional processes of the school and with collaborative dynamics of the entire educational community.

3. RESULTS

As the first reference source consulted, Bustillos (2014) in his master's thesis, indicates that part of the social responsibility of teachers within educational institutions is to understand that detecting their own training needs will allow them to obtain tools to face the challenges generated by training students and that they must also appropriate the way their students learn. In order to bring the pedagogical strategies that are desired to be applied to the reality of the context. This was observed by the author of this thesis within the master's degree in education and curriculum at the University of Babahoyo in Ecuador, which allowed us to appreciate in a very particular context of a basic education institution how institutional processes worked and how school culture had an impact on the development of institutional processes.

Suffice it to say that several topics were taken into account, from the work environment, the punctuality of teachers, the involvement of families in the training processes, and that allowed different conclusions to be reached how the deficiencies in the development of the above topics created an inappropriate environment for the institutional processes that were to be carried out to end up

yielding unfavorable results and left within the recommendations of the study that The school culture had to be reinforced with all the aspects that make it up, highlighting the importance and influence that this culture has in all the institutional processes that are to be developed.

Another study that also focused on the analysis of school culture was the one addressed by Cano and Henao (2022) in their Undergraduate thesis of Basic Bachelor's Degree at the University of Antioquia in Colombia, focusing their study on the classroom dynamics carried out by a teacher in a public educational institution in the city of Medellín in the department of Antioquia - Colombia. and in the study they indicate that the term school culture "is used to refer to beliefs, perceptions, postures, norms, and ways of acting and interacting with others, aspects that are related to the dynamics of the school" (Cano & Henao, 2022, p. 36).

This assertion, which may be hasty, leads to the understanding that all the ways in which the individuals who converge within the school relate to each other, and in addition, everything that these individuals bring within themselves, in their experiences and training, condition the way in which each of them responds to the situations that arise in the day-to-day of institutional dynamics. not only in terms of academic processes, but in everything that leads to relating to the other. They also indicate that: "it involves students, teachers, administrators, parents, and staff to contribute to the dynamics of the school and its maintenance" (Cano & Henao, 2022, p. 67), which is why it should not only focus on analyzing institutional results from the point of view of teachers, but should also have a holistic view, that allows observing all the actors of the educational community and the way in which each of them influences the creation and appropriation of a specific school culture for the environment to be studied.

Finally, it goes by indicating that the conclusions obtained by the researchers recommend that any strategy for the improvement of institutional processes has as its starting point an analysis of the school culture, of the actors of the educational community and the way in which each of them is understanding the institutional dynamics in order to be clear about the response that each actor will provide when permeated by these processes.

Among other previous studies, with reference to teacher professionalization, Heredia, et. al. (2016) in their thesis for the Master's Degree in Education at the Universidad Santo Tomás, which focused their study on an official educational institution of the

Municipality of Puerto Rico, in the department of Caquetá in Colombia, referred to the professionalization of teachers, indicating that:

... the professional development of the teacher is understood as the continuous growth in the performance of the educational function towards modes and situations of greater professionalism, which are characterized by the depth of critical judgment and its application to the global analysis of the processes involved in teaching, in order to act intelligently" (Heredia, et. al., 2016, p.41).

In this sense, what can be extracted from it is that everything that the teacher has acquired since the beginning of his initial functions as a teacher, is what refers to his professionalization. Not only the theoretical knowledge acquired in teacher training institutions, but also in all those empirical and situational experiences that the teacher has had to face in his teaching practice, which have provided him with tools to be able to act in a classroom situation; This aspect is also understood as their teaching career, this aspect is important to highlight, since in one of the results of the indicated research, they present that the teaching professionalization that each teacher brings with him, indicates the way in which that teacher will respond to the challenges that are presented in the classroom.

In this regard, it is stated that, the more tools the teacher has, both theoretical and situational, will allow him to have a better development in the day-to-day of institutional dynamics, and it is important to highlight another conclusion obtained from the reviewed research and that is:

The dynamics of pedagogical practice go hand in hand with professionalization due to the advances that are taking place in today's society, which implies the resignification of the school as an integral formative space and not only as a transmitter of knowledge, a space that takes into account the increasingly pressing needs of students in relation to their environment. which requires the updating of teachers' practices to meet them, the introduction of new technologies in the classroom and the coherence between what is planned, executed and evaluated in the teaching process (Heredia, et. al., 2016, p.24)

Another study addressed is that of Flores, et al. (2020), within their Article for the journal *Educare* present a study analyzing two public schools in the City of Monterrey - Mexico, who within the study reinforce the concept of teacher professionalization, and argue that: "... teachers who, voluntarily and informally, support other colleagues, sharing their expertise and knowledge, in addition to establishing initiatives in their school, without having a formal

leadership position" (p.3). It should be noted then that everything that the teacher brings with him, which the authors call expertise, is part of that professional trajectory as teachers, which will become manifest when they enter to interact with the other actors of the educational community.

Among the results, the researchers indicate that by sharing the experiences that each teacher brings with their peers in the development of institutional processes, the formation of a learning community begins, where each colleague is nourished by the experiences and teaching trajectories of their peers and mutually empowers each other.

Likewise, other documents on teacher professionalization developed by the Ministry of National Education of Colombia, have drawn different conclusions about this process, the most relevant of which point to the fact that the ministry wishes to strengthen the concept of learning communities, of collective construction by defining the National System of Teacher Training allowing the organization of the levels that make it up on the aspects of Initial Training, in-service training and advanced training strengthening recognition as education professionals, the study presented by the (MEN, 2022), indicates that this system established in 2023 seeks to strengthen the pedagogical practices of teachers and the leadership of teacher directors.

In addition, the National Development Plan (NDP) 2018-2022 "Pact for Colombia, pact for equity" of the sectoral plan "Pact for equity, pact for Education" which are aligned with Goal 4 of the SDGs of the UN's 2030 agenda, also indicates that studies by the Compartir Foundation show that one of the greatest determinants of quality in the learning processes and performance of students is directly related to the level and quality of teacher training and classroom practices carried out by teachers.

In turn, the National Education Plan 2016-2026 indicates that one of the ten challenges of education in Colombia for this decade is the construction of a public policy for the training of educators, in addition the MEN defined in 2013 the Educator Training System and Policy Guidelines (MEN, 2013a). as a framework of reference that offers the guidelines that guide the training of teachers in the country which must be implemented by the Faculties of Education, the Higher Normal Schools (ENS) and the Centers of Leadership and Excellence for Rural Education (CLEER) so that everything results in better practices in the training of children, Adolescent and Young Girls (NNAJ).

Finally, this study recommends that it is necessary to have a solid scaffolding for the teacher training

system. To this end, coordination actions between the national, territorial and institutional levels, with the faculties of education and other civil society actors interested in contributing to the professionalization and recognition of the work of teachers and teachers in the country, must continue to be deepened.

On the other hand, uniting the process of teacher professionalization, it is important to highlight what was presented by Marcelo and Vaillant (2010) who in their book indicate the importance of teacher qualification processes, highlighting the high burden and weight that society places on the shoulders of teachers, making them responsible for the entire existing social crisis. Therefore, the importance of being prepared for this social and human role makes it clear that training needs must be adapted to new realities.

In this sense, it is somewhat linked to what Moscovici proposed in relation to social representations, it is not only what the teacher is, but how he is seen by society, hence the importance of taking into account the identity, beliefs and experiences of the teachers, hence the relevance of continuous training.

Another look at the process of teacher professionalization is the one given by Rebour (2020) referring especially to initial training, and within his conclusions and discussions he indicates that training contexts should be able to be constituted as dynamic spaces, which allow the circulation of knowledge and collaborative work in a horizontal way. Contexts that in their institutional work resemble more professional communities of practice than watertight compartments of departments and disciplines.

Another success story in the South American region, specifically in Uruguay, we have the CEIBAL plan (center for educational innovation with digital technologies of Uruguay) created in 2007 in order to promote public education to encourage learning by promoting innovation, inclusion and personal growth, supported by the use of New Technologies. and within the projects led by CEIBAL together with the Education Training Council (CFE) appears the project "Tu Clase, Uruguay" an innovative training strategy executed by teacher peers, focused on pedagogical practice and its improvement by the teacher as part of the pedagogical corpus.

Similarly, to promote learning communities, there is also the contribution of Rebour (2024) as one of the authors from his role in CEIBAL, using a platform called CREA (learning management platform that facilitates a combined model between face-to-face and virtual learning), as proposed in the Journal

Temas de Profesionalización docente, of the ANEP (2020). Certainly, that the pandemic promoted radical changes in the processes of use of technology in the education sector, leading to the understanding that digital literacy processes are essential, and that the concept of the importance of the beliefs that teachers have appears again, significantly influencing receptivity, in the use of technological tools, it also indicates that teacher training should aim according to the European Union (Rebour, 2024).

Among other things, it is interesting to acquire digital skills, in order to learn to use different knowledge in solving problems in a multidisciplinary way, and not to leave aside the Universal Design of Learning (UDL) to include difference and reach all people, and more with the rise of artificial intelligence, the teaching-learning process should not be dehumanized. Another aspect that the author highlights is the importance of recognizing the previous knowledge that the student brings when entering training processes, and concludes with the importance of using technology responsibly.

On the other hand, from the perspective of the teacher as a political subject, Bordoli (2018) will address the view, who indicates that access to a National System of Public Tertiary Education that does not fragment the functioning of the public must be considered, restoring the sense of the common and the popular in university education, understanding this level of training as the intermediate of the levels of advanced training processes. It is also important to discuss the political dimension of the training of educators, in these terms it leads us to place the subject and knowledge in a central place in its relationship with the word and discourse, the latter understood as structure and event (Bordoli, 2007).

Among other previous studies, and approaching the theoretical one on learning communities, there is the doctoral thesis worked on by Krichesky (2013) as a partial requirement for the ascent to the Degree of Doctor of Education at the Autonomous University of Madrid - Spain, in which they address the concept of Professional Learning Community (CPS) quoting DuFour, Eaker and Many (2010) who indicate that: "it is a continuous process in which educators work collaboratively in recurrent cycles of collective inquiry and action research to obtain good results for the students they serve" (p.129), understanding that in order to work collectively, it was necessary to carry out an individual preliminary work to identify the teaching trajectory and the professionalization that accompanies each teacher. to be able to then put into conversation that professionalization with the one

brought by the master peers who are part of that collaborative team.

In the study, research is carried out on the real causes of the problem that is being addressed, and collectively generate intervention strategies that are the most appropriate to the context in which the process will be applied, taking this strategy to practical application in the environment, where the teacher can measure the impact of it and be able to feed back the process and achieve continuous improvement. The learning community must learn and unlearn in a repetitive cycle every time the daily situations of the school are addressed, in order to achieve this it is necessary to have within the teaching professionalization, soft skills, such as listening, patience with difference, the ability to debate and reach consensus, in order to obtain the solution that contains the contribution of the vast majority of members of the collaborative team.

Among other aspects touched by the author in the thesis, is that the results that are proposed must be tangible and measurable, they must allow comparisons of the before and after of the improvement strategies to be applied in order to determine the effectiveness of the application of said proposal. Another definition that comes out of the thesis on the Professional Learning Community is that "it must be constant, applied to the specific needs of the context, coherent with reform initiatives and based on a collaborative and inquiring approach to learning" (Krichesky, 2013, p. 3), which allows us to determine that for the processes carried out by this collaborative work strategy to come to fruition, The context where the strategy will be applied must be very clear, the characteristics of the participants must be clearly known so that the work is coherent with the real need, always seeking to enhance learning in students.

Among the conclusions drawn by this thesis, we have some that are relevant to the object of this study, and that is that it should be potentiated in the initial training of teachers to see teamwork as the best strategy to address problems within the school to gradually put aside the rhetoric that promotes competition between teachers and also motivate each school to develop its own processes for reviewing progress, which are adapted to the particular environment of each one.

Following the literature review, in Spain a Doctoral Thesis developed by Cantero (2017) is presented at the University of Jaen in which they work on the concept of Learning Community (CoA) applied to a specific context in the autonomous community of Andalusia, where an official strategy

was applied which permeated all educational institutions with this character of said community. and sought to improve institutional results at the academic and convivial level. in this study they highlight the importance that within the Learning Community not only teachers are included, but also the other social agents that are part of the educational community, especially parents, since many of the behaviors that students bring, and the way in which each of them responds to the processes within the classroom, it is conditioned by the way in which they have been formed within each of the families.

In this sense, we proceeded to bring families closer to teachers, resignifying the work of the teacher, which should be seen by families as a process in union with them and not as isolated entities, since both tend towards the formation of the same being; it also highlights that in order to generate a learning community within an educational institution, it is necessary to bear in mind that "A learning community is a project of social and cultural transformation of an educational center and its environment, aimed at improving school results and coexistence, and achieving the educational success of all its students" (Cantero, 2017, p. x).

Therefore, the school cannot work disjointed from the educational community that surrounds it. Being able to understand and know that environment will depend on the generation of the best strategy to intervene in it. Another aspect of the study reveals that the fundamental role played by the leader of the learning community will guarantee the success of the strategies that are generated, in this sense the author mentions that: "for the center to carry an adequate, coordinated and effective pedagogical line, it is necessary that there is the figure of a director with democratic leadership" (Cantero, 2017, p. x) which indicates that the process must be participatory, since any strategy that is taken from the leadership to the bases, without being consensual, will generate rejection from the outset and will augur little success, but if the leader manages to get the strategy to come from the same bases, which coexist day by day with the situation to be improved, it will guarantee that there will be more acceptance and commitment to its application.

And finally, reviewing local literature, there is a master's thesis in teaching, from the Universidad de la Salle, in Bogotá - Colombia, authored by Ortiz (2020), where a research work is carried out located in an educational community in the town of Ciudad Bolívar. Within the study, they address the theme of the learning community from a cultural perspective, highlighting the social practices that occur within the

school, leading the learning community to aim to build spaces in which the other and their characteristics are recognized, respecting and valuing their way of thinking, feeling and acting.

The documentary review allowed us to initially identify 180 studies. After reading abstracts, 35 were excluded because they did not meet the defined inclusion criteria, mainly because they were not empirical research or did not address reading in its printed and digital modalities. Subsequently, 145 studies moved to the full-text analysis phase; of these, 42 were discarded because they exclusively used self-report measures and 38 because they did not incorporate reading comprehension measurements. This process resulted in a final corpus of 65 studies, which corresponds to 36.1% of the total initial records, in coherence with the methodological guidelines proposed by Moher et al. (2009) in the PRISMA guide (see Figure 1).

The temporal evolution of publications, presented in Figure 2, shows a sustained increase in academic production between 2010 and 2024. A gradual increase is observed in the first years, with an acceleration from 2017 onwards, which coincides with the consolidation of approaches focused on learning communities and teacher professionalization (Krichesky, 2013; Vaillant, 2016). The most significant upturn occurred in the period 2020-2024, associated with the expansion of educational digitalization and the need to rethink teaching practices in hybrid contexts (Flores, Bailey, & Torres, 2020; Rebour, 2024).

As for the emerging categories, the content analysis allowed structuring three main axes: teacher professionalization, school culture and learning communities. Teacher professionalization is linked to initial training, continuous training, and professional career, in accordance with what Marcelo and Vaillant (2010) propose. School culture is associated with institutional values, norms, and practices, consistent with what Cano and Henao (2022) point out. Finally, learning communities are related to teacher collaboration, family participation, and pedagogical innovation, aspects widely recognized in the literature on school improvement (DuFour et al., 2010; Cantero, 2017). These relationships are presented graphically in the map of emerging categories (Figure 3), which visually synthesizes the documentary findings.

4. DISCUSSION

The results obtained allow us to observe that teacher professionalization, school culture and learning communities are closely interrelated

categories that have a significant impact on the transformation of educational institutions. The final selection of 65 studies demonstrates an international tendency to privilege empirical research with greater methodological strength, but also reveals a gap in the simultaneous integration of the three axes analyzed. This coincides with what Avalos (2011) points out, who argues that teacher professional development cannot be understood only from the individual perspective of the teacher, but in terms of his or her interaction with the institutional culture and with collaborative networks that amplify collective learning.

The analysis of the temporal evolution of publications (2010–2024) shows a notable increase from 2017 and an even greater rebound in the context of the COVID-19 pandemic. This finding corresponds to recent studies that identify the health crisis as a catalyst for pedagogical innovation and the reconfiguration of teaching-learning processes (Trust & Whalen, 2020). The pandemic forced teachers to rethink their practice in hybrid and virtual environments, reinforcing the need for continuous training and the construction of professional support communities (Bozkurt & Sharma, 2020).

Regarding school culture, the results highlight that it is constituted as a network of norms, values and practices that mediate the effectiveness of pedagogical innovations. Research such as that of Fullan (2021) shows that sustainable changes in schools do not depend solely on the introduction of new strategies, but on the ability of institutions to transform their culture in a collaborative and learning-focused direction. This explains why several studies analyzed recommend a holistic approach, involving teachers, families, and principals in the consolidation of more democratic and inclusive environments.

Regarding learning communities, the findings corroborate their potential as a strategy for educational improvement. The international literature argues that these communities generate spaces for critical reflection, exchange of experiences, and joint construction of knowledge (Stoll et al., 2006). The evidence collected in the review shows that teachers who participate in learning communities develop greater pedagogical leadership capacities and professional resilience, fundamental aspects in contexts of change and uncertainty (Day & Gu, 2014).

The map of emerging categories reinforces the idea that teacher professionalization cannot be disconnected from school culture or learning communities. In this sense, Marcelo and Vaillant

(2010) point out that effective professional development occurs when training experiences are articulated with daily practice and with institutional dynamics of collaboration. Likewise, DuFour et al. (2010) emphasize that professional learning communities only thrive in schools where there is distributed leadership and a culture of mutual trust.

Taken together, the results suggest that the future of educational research and practice should be geared towards designing integrated models that simultaneously strengthen initial and continuing teacher education, transform school cultures towards collaboration, and promote sustainable learning communities. This integrated perspective would contribute not only to improving student learning, but also to equipping teachers with the necessary tools to face the challenges of education in increasingly complex and digitalized societies.

5. CONCLUSIONS

The synthesized evidence confirms that the transformation of the school requires an integrated approach: strengthening teacher professionalization, cultivating a learning-oriented school culture, and consolidating professional communities that operate through cycles of inquiry and continuous improvement. This tripod explains why, even in a variety of contexts, lasting change is associated with environments where professional development is articulated with collaborative practices and coherent institutional norms, values and routines. In theoretical terms, this is consistent with frameworks that conceive of professional learning as a systemic phenomenon and not just an individual one (Opfer & Pedder, 2011; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006).

Methodologically, the refinement that culminated in 65 studies—after excluding exclusive self-report studies and without measurement of comprehension—increased the internal validity of the synthesis and allows us to assign greater weight to findings with observable performance and practice indicators. This decision reinforces confidence in the identified patterns but, at the same time, underrepresents qualitative and experiential views that illuminate processes of cultural change; therefore, future reviews should balance metrical rigor and interpretative thickness.

In terms of impact on teaching and learning, the literature reviewed converges: well-developed professional learning communities (PLCs) modify instructional practices and are associated with better student outcomes, especially when they mediate pedagogical leadership, protected time for collegial

work, and a focus on evidence of learning (Vescio, Ross, & Adams, 2008; Louis & Marks, 1998). These institutional conditions translate collaboration into professional capital—human, social, and decision-making—necessary to scale and sustain improvements (Hargreaves & Fullan, 2012).

The recent growth in production (2017–2024) and its post-2020 acceleration show that digitalization and emergency remote teaching acted as catalysts for teacher professional learning and collaborative culture. Studies show that prior preparation and training support expand the repertoire of digital strategies and student participation in hybrid environments; at the same time, they point out the need to institutionalize continuous support beyond the situation (Trust & Whalen, 2020; Bozkurt & Sharma, 2020).

In terms of policy and management, the results guide three commitments: (1) to align initial training, induction and in-service development with school goals and evidence of learning; (2) guarantee organizational conditions (times, instructional leadership, progress data) that turn PLCs into professional routine; and (3) opening the school to the community, since well-designed family participation is associated with academic and coexistence improvements, reinforcing the culture of

shared learning (Jeynes, 2012).

As for future lines, the following are recommended: (a) longitudinal studies that simultaneously measure changes in culture, practice, and student outcomes; (b) mixed designs that combine didactic experimentation and qualitative analysis of processes; (c) greater coverage of Latin America to strengthen external validity; and (d) common outcome metrics (e.g., reading comprehension, transfer) to improve comparability across contexts. These directions respond to the evidence that teacher professional learning is shaped by complex and interdependent dynamics that require more comprehensive evaluation frameworks (Opfer & Pedder, 2011; Stoll et al., 2006).

In summary, the findings support a clear theory of action: sustained investment in professional capital and collaborative cultures—through evidence-based PLCs—is the most plausible way to achieve sustainable improvements in student teaching and learning. The review, by privileging studies with objective measurement and mapping emerging categories, provides an operational framework for education systems and schools to design, evaluate and scale professionalization strategies with cultural anchorage and verifiable impact.

Clarifications and acknowledgements: Publication derived from the Doctoral work entitled "Teacher professionalization for the transformation of school culture from the learning community", to opt for the title of Doctor in Education and Social Studies.

REFERENCES

- Ávalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education*, 27(1), 10–20. <https://doi.org/10.1016/j.tate.2010.08.007>
- Bolívar, A. (2020). The improvement of the school as a cultural change. *Ibero-American Journal of Education*, 83(2), 27–50.
- Bordoli, E. (2007). The place of knowledge and politics in teacher training. *Educational Policies*, 1(1), 109–123. <https://seer.ufrgs.br/index.php/Polod/article/view/18256>
- Bordoli, E., & Romano, A. (2018). The public and the common. Challenges of teacher training in Uruguay in a context of transformation. *Identities*, 8(15), 29–38. <https://iidentidadess.wordpress.com/wp-content/uploads/2018/11/03-identidades-1582018.pdf>
- Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to Coronavirus pandemic. *Asian Journal of Distance Education*, 15(1), 1–6. <https://doi.org/10.5281/zenodo.3778083>
- Bustillos, V. (2014). Educational culture and its influence on the academic performance of teachers at the "Eugenio Espejo" basic education school, La Cadena campus, Valencia canton, Los Ríos Province, 2014 [Master's thesis, Technical University of Babahoyo]. UTB Digital Repository. <https://dspace.utb.edu.ec/bitstream/handle/49000/1694/T-UTB-CEPOS-MDC-0000043.pdf?sequence=1&isAllowed=y>
- Cano, L., & Henao, V. (2022). Incidence of a teacher's teaching professionalism in the school culture of her institution [Undergraduate thesis, University of Antioquia]. Repository University of Antioquia. <https://bibliotecadigital.udea.edu.co/server/api/core/bitstreams/d1985ed1-1b04-46de-a706-b68fc56357d5/content>
- Cantero, N. (2017). Identification and characterization of the transformative aspects of an educational center in a learning community in Andalusia [Doctoral thesis, University of Jaén]. Repository University of Jaén.

- <https://ruja.ujaen.es/server/api/core/bitstreams/c44d847a-d7d2-46d2-a68e-32d968a8d5bf/content>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.
- Day, C., & Gu, Q. (2014). *Resilient teachers, resilient schools: Building and sustaining quality in testing times*. Routledge. <https://doi.org/10.4324/9781315814617>
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2010). *Learning by doing: A handbook for professional learning communities at work*. Solution Tree Press.
- Flick, U. (2018). *An introduction to qualitative research* (6th ed.). Sage.
- Flores, M., Bailey, J., & Torres, C. (2020). Teacher leadership in professional learning communities: A case study in Mexico. *Educare Electronic Journal*, 25(1), 1-22. <https://www.scielo.sa.cr/pdf/ree/v25n1/1409-4258-ree-25-01-55.pdf>
- Fullan, M. (2021). *The right drivers for whole system success*. Centre for Strategic Education. <https://michaelfullan.ca/wp-content/uploads/2021/03/Right-Drivers-2021.pdf>
- Gadamer, H. G. (2004). *Truth and method. Follow me*.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.
- Heredia, E., Ortiz, E., & Ovalles, Y. (2016). Impact of teacher professionalization on the pedagogical practices of teachers at the Acevedo y Gómez Educational Institution and C.E. El Carmelo of the Municipality of Puerto Rico, Caquetá. *Pedagogical Hexagon*, 7(1), 78-86. <https://revistas.uninunez.edu.co/index.php/hexagonopedagogico/article/view/741>
- Jeynes, W. H. (2012). A meta-analysis of the efficacy of different types of parental involvement programs for urban students. *Urban Education*, 47(4), 706-742. <https://doi.org/10.1177/0042085912445643>
- Krichesky, G. (2013). *The development of professional learning communities. Processes and factors of change for the improvement of schools* [Doctoral thesis, Universidad Autónoma de Madrid]. UAM Repository. https://repositorio.uam.es/bitstream/handle/10486/13311/62970_Krichesky%20Gabriela%20J.pdf?sequence=1&isAllowed=y
- Louis, K. S., & Marks, H. M. (1998). Does professional community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education*, 106(4), 532-575. <https://doi.org/10.1086/444197>
- Marcelo, C., & Vaillant, D. (2010). *Teacher Professional Development: How Do You Learn to Teach?* Narcea.
- Ministry of National Education. (2022). *Teacher training in Colombia: Technical note*. Ministry of Education. https://www.mineducacion.gov.co/1780/articles-363488_recurso_18.pdf
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- National Administration of Public Education. (2020). *Issues of Teacher Professionalization*. https://ojs.cfe.edu.uy/index.php/rev_temas/article/view/724/473
- Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research*, 81(3), 376-407. <https://doi.org/10.3102/0034654311413609>
- Ortiz, F. (2020). *Learning communities as a strategy for the qualification of teaching practice at the Rogelio Salmona school* [Master's thesis, Universidad de La Salle]. Repository Universidad de La Salle. <https://ciencia.lasalle.edu.co/items/4476169c-d5f2-4c17-ab34-38b920366c04/full>
- Rebour, M. (2020). *Teacher beliefs, pedagogical use of technologies and initial teacher training* [Doctoral thesis, Universidad ORT Uruguay]. <https://rad.ort.edu.uy/server/api/core/bitstreams/bc0f0807-6f69-4d24-9081-b7577ac87300/content>
- Rebour, M. (2024, octubre 1). *Sobresalientes con Martin Rebour* [Video]. YouTube. <https://www.google.com/search?client=firefox-b-e&q=Sobresalientes+con+Martin+Rebour#fpstate=ive&vld=cid:50b8e2dc,vid:CaIEFj7KTHM,st:0>
- Singer, L. M., & Alexander, P. A. (2017). Reading on paper and digitally: What the past decades of empirical research reveal. *Review of Educational Research*, 87(6), 1007-1041. <https://doi.org/10.3102/0034654317722961>
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change*, 7(4), 221-258. <https://doi.org/10.1007/s10833-006-0001-8>

- Trust, T., & Whalen, J. (2020). Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic. *Journal of Technology and Teacher Education*, 28(2), 189-199.
- Vaillant, D. (2016). Collaborative work and new scenarios for teacher professional development. *Política Educativa*, 60, 2-13. <https://ie.ort.edu.uy/innovaportal/file/48902/1/trabajo-colaborativo-y-nuevos-escenarios-denise-vaillant.pdf>
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91. <https://doi.org/10.1016/j.tate.2007.01.004>