

DOI: 10.5281/zenodo.18866558

# ANALYSIS OF THE PROCESS OF INCIDENCE OF THE LEARNING COMMUNITY IN THE SCHOOL CULTURE OF AN OFFICIAL PRIMARY AND SECONDARY EDUCATIONAL INSTITUTION PERMEATED BY TEACHER PROFESSIONALIZATION

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Received: 19/12/2025

Accepted: 11/02/2026

## ABSTRACT

*This study analyzes the incidence of teacher professionalization on school culture, with learning communities as the central axis of interpretation. Using a naturalistic-interpretive paradigm and a qualitative design, the research combines a bibliographic review with empirical techniques such as semi-structured interviews, participant observation, and data triangulation. A methodological complement is proposed, including focus groups with teachers, students, and administrators; systematic documentary analysis of institutional policies (PEI, improvement plans, coexistence manuals); the use of qualitative analysis software (ATLAS.ti, NVivo); and validation of preliminary results through participatory processes. Findings reveal a robust theoretical foundation on teacher professionalization, school culture, and learning communities, but a significant gap in integrating these three categories into a unified analytical framework. The results highlight the importance of professional trajectories and the concept of professional capital—human, social, and decisional—as conditions for teacher professionalization to transcend the individual level and become an organizational driver of cultural transformation. Analytical tools such as radar charts and network graphs underscore imbalances between basic and secondary cycles and reveal partial collaboration patterns, with central nodes concentrating influence and peripheral teachers at risk of exclusion. The study concludes that teacher professionalization only transforms school culture when it becomes a socially organized practice anchored in institutional structures—protected time for peer collaboration, distributed pedagogical leadership, and*

*systematic feedback protocols. Under these conditions, the learning community shifts from being an aspirational ideal to becoming the everyday mode of doing school.*

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**KEYWORDS:** Teacher Professionalization; School Culture; Learning Communities; Professional Capital; Qualitative Triangulation; Social Network Analysis.

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## 1. INTRODUCTION

The teaching profession, or the art of being a teacher, in recent years has been taking a rather drastic turn, in the sense that the essence of the profession has been modified, leaving aside the primordial aspect of education, which is: "to maintain the essential elements and teach to live better through knowledge, experimentation and the formation of a personal culture" (Delors, et. al., 1997, p. 17). On the contrary, educational institutions and their processes have been led to respond to other elements of an administrative and managerial nature, such as the "pressure to achieve higher grades and the obsession with data on numerical achievements" (Hargreaves & Fullan, 2012, p. 146), together with the reduction of the time for teachers to meet and work among pedagogical peers, in order to analyze the best way to address the new challenges faced by educational institutions.

In this regard, it is important to be clear about the contribution of teacher professionalization, understanding that teachers have a fundamental function in their hands, which is to lead the processes of change in the *ethos* and/or in the educational context. Educational institutions, in order to achieve their achievements, have clearly delimited the need to meet socio-educational demands; and in particular, to attend to the teaching professionalism (Cano & Henao, 2022) which is composed of elements such as beliefs, scientific knowledge, practical knowledge, professional knowledge, everything that the teacher brings behind him accumulated by years of experiences, experience and training; together with the concept of teaching trajectory, which must be vindicated by highlighting the role of the teacher, that is why the institutional processes that are carried out are directly permeated by that teaching professionalization that each teacher brings.

There is also research on the way in which teacher professionalization transforms school culture. Countries such as Spain (Elías, 2015; Martín, 2015) has been developing educational research in favor of teacher professionalization, as an imperative reason for transformation and that is achieved from an active participation by the teacher in situ and with pedagogical actors, achieving as a goal: the transformation of school culture.

However, there is also a systematic dynamic in the context of Education in Latin America. Some of the countries in this reflective and inquiry faculty are Chile (Guzmán, 2016), Ecuador (Bustillos, 2014), Argentina (Sánchez & Suárez, 2019), Mexico (Agüero-Servín, et. al., 2022) and Colombia (Beltrán, et. al., 2015) that have carried out research on school

culture as knowledge and learning societies, among others that focus on the topic of learning communities. Even so, there are no reported notes that express the intention or need to merge both concepts, but a priori, both investigated intentions are necessary by themselves or together, because both school culture and other existing phenomena are situations that demand, per se, an innovative and updated teaching professionalization.

That is why, in the present research, a point of union between these two currents is sought, focusing on the impact of everything that refers to teacher professionalization and how it determines this transformational perspective of culture in the school context, particularly from the learning communities, since not being clear about this level of incidence in school culture, Most of the pedagogical and training practices that are carried out do not manage to provide the expected fruits and this is reflected in inefficient classroom dynamics and institutions and in peer work processes that are not expected in a learning community, yielding as an added value of this research to identify how teacher professionalization determines the reason for this study: the transformation of school culture from learning communities.

This leads to the research once again delimiting several levels of review. Mainly, bearing in mind the ability to analyze the characteristics in the construction of the concept of teacher from various perspectives and how that teacher appropriates the concept of teacher professionalization and all that it encompasses for their processes, it will also try to identify the factors that may influence the transformation of the school culture and how to consolidate successful learning processes. and ending with the verification of the effects that teacher professionalization generates in the consolidation of school culture, all this in order to achieve potentiation of institutional processes and that the results obtained allow to provide a contribution to the processes of teacher training and those linked to the teaching framework.

## 2. METHODOLOGY

To approach the process of posing the problem, it was done starting from a naturalistic-interpretative paradigm since it sought to understand the phenomenal reality that is investigated from each of the actors, within their ordinary cosmos of development and where the study was developed, and from the observation of that context the idea of research is conceived by applying parameters from a qualitative approach. making it clear what will be

the object of study and the respective question to be reviewed, which is: How does teacher professionalization determine the transformation of school culture from learning communities? Once the topic to be investigated was clear, a process of analytical review of existing literature on the topics that concern the research was carried out.

That is to say, for this article on the problem statement, it was based on a theoretical perspective in the light of Hernández, *et. al.* (2014) as: "A process of immersion in existing and available knowledge that can be linked to our problem statement" (p.60), which implies inquiring bibliographic sources, so a search was made in search of documents (thesis, articles, etc.) that have addressed the intention of the present study, which allowed familiarizing oneself with the subject of study and having a clear background on which all the research was based.

After having theoretically based all the topics under study, it should be clear that the research work, with a qualitative approach, is oriented to social processes, which is why it is conceived that the research is of a descriptive nature, which is based on manifestations of lived lives where emotions, experiences, ordinary or scientific knowledge emerge. apprehended through written media or through the application of the concept of biographical notion, to highlight those accentuated aspects of each experiential or experiential contribution of the social actors of the research, bearing in mind that all qualitative research is based on inductive principles, where the concepts are put together from contrasts between the theory and what is observed in the context, and observing the participants with a holistic view that allows us to understand the role that each of them plays within the context of the object of study.

It should be noted that in this case they will be primary and middle school teachers from an official educational institution, there semi-structured interviews are applied to a group of teachers who will meet a set of selection criteria and whose answers and the analysis of the videos when they answer them will give tools to determine the reasons with which they look at the social world in which they work as a heterogeneous reality that in itself demands needs that incite human intuition to scrutinize it (Sancho, *et. al.*, 1998).

And, it is the investigative activity that, transcending all human, institutional, organizational, even social reality, is carried out through each word as a contribution and each action subscribed in notes derived from the participated observations addressed to the group of teachers at

the secondary and secondary level of an Official educational entity of the Department of Antioquia. As instruments for the collection of information, the interview was held, following a script of semi-structured questions, with the purpose of obtaining the perspective of each teacher-informant about the context of the school culture, as well as biographical notions of the trajectories of the teachers in their professionalization process. Once all the information was obtained, the organization and analysis of the same was carried out starting from a triangulation of data and thus be able to extract trends present in the institution and represent them in the section concerning results.

In summary, it is important to highlight another particular aspect within the analysis of the problem. The incidence of international policies through external tests, applied to the education sector, both in the form of processes and in the form of evaluation, are the PISA tests (Programme for International Student Assessment), which have been applied since 2000 and in which Colombia participates, being its last application in 2022, The country ranked 28th out of 64 countries evaluated (icfes, 2024), generate a series of impacts according to the results obtained, and within these results and recommendations, which highlights in its findings and recommendations regarding the Colombian education system, the importance of capacity building and professionalism of the personnel involved in the educational process, not only at the teaching level but also at the administrative level (Rivas, 2015).

In order to strengthen the initial proposal, a methodological complement is proposed to expand the validity, depth and applicability of the results. First, an expanded triangulation of sources is suggested that combines semi-structured interviews with focus groups of teachers, students, and principals, which would facilitate contrasting perceptions of the impact of teacher professionalization on school culture from different actors (Flick, 2015).

Secondly, a systematic documentary analysis of institutional instruments such as the Institutional Educational Project (IEP), improvement plans, and coexistence manuals is recommended, to identify the coherence between normative discourses and real practices (Yin, 2018).

Likewise, it is proposed to incorporate structured participant observation, both in classroom dynamics and in collegiate spaces (academic councils and pedagogical committees), which would allow to capture in a situated way how learning communities

materialize in institutional life (Stake, 1995).

Regarding data processing, the use of qualitative analysis software such as ATLAS.ti or NVivo is suggested, which makes it possible to organize and encode the information from interviews, documents, and observations, favoring the construction of emerging categories and the relationship between professionalization, learning community, and school culture (Creswell & Poth, 2018).

In addition, a participatory validation of the preliminary findings with teachers and educational actors is proposed, in line with collaborative methodologies that promote the co-construction of knowledge and strengthen contextual relevance (Kemmis, McTaggart & Nixon, 2014). Finally, a comparative analysis between elementary and middle school levels is suggested, which would allow identifying variations in the incidence of teacher professionalization according to the dynamics of each educational cycle.

This methodological complement ensures a more comprehensive approach, coherent with the complexity of the object of study, and enhances the capacity for transfer of findings to similar contexts in the Colombian and Latin American educational system.

### 3. RESULTS

Within the application of the process of analytical literature review, in the search of documents related to this study, several doctoral theses from Spain and Colombia were found, others more master's theses in South American countries; some books and articles in refereed and indexed journals, considering within the findings, that good information on teaching professionalization was evidenced, about school culture and learning communities. However, to date, no research has been found that points to the union of these issues and the impact they have on each other. Next, a presentation of what was found will be made.

#### 3.1. Importance of Considering Teacher Professionalization

In educational institutions, academic, pedagogical, curricular and administrative processes are addressed that are crossed by different situations that depend on the actor of the educational community that is executing or participating in it. This article addresses processes permeated by the role of the teacher, including in this concept, teachers with functions of teaching directors, taking the aspect of teacher professionalization (Romera & García, 2018) this covers all aspects related to what makes up

the teacher's profile, in terms of preparation, to address the demands of the environment in which they are going to develop but also with the demands that the teacher brings. mentioned teacher within his professional career.

There is no doubt that teachers must have an academic education and qualification that makes them competent to face a complex and changing society, thus highlighting the educational urgency in the training of teaching professionals. The teaching development of teachers must be authentic, potential education professionals must be trained with and/or on tools that allow them to respond or give appropriate attention to the challenges that social, historical and spatial contexts demand. The training excellence of the teacher leads to the training of professionals to face the new educational environments, which are currently quite complex, and which are influenced by very rapid changes in the social and scientific field, together with the great influence of new technologies, which create new scenarios of communication and information management.

Among other challenges, which require reliable teacher preparation for an effective teaching and training service, it is designed to address new situations of school violence. The arrival at school of students with complex social situations as a result of displacement, migration, realities that mean that the teacher must not only have preparation in their disciplinary area, but also in soft skills that allow them to overcome the day-to-day life in the classroom and everything that is part of the school environment.

Another important aspect to take into account when referring to teacher professionalization is the conditions of teacher training. The learning acquired in university training as a teacher is not entirely sufficient to correspond to the demands that are aroused as a constant in professional work. The formative/educational event does not end with graduation; This must be studied in the process since it is understood as a situational learning activity, which depending on the environment where it is developed, will also require different strategies to be addressed, since professionalization is not only acquiring knowledge of the pedagogical and professional component; it is to apprehend orientations, acquire innovative tools that contribute to solving educational-formative problems, and make the task of teaching dynamic and meaningful (Agüero-Servín, et. al., 2022).

This allows us to understand that the processes of teacher professionalization present must be based on

the understanding that each teacher brings behind him individual expectations at the work and personal level. The teaching trajectory is intrinsically brought to the classroom and the way in which each teacher responds to the situations they must face day by day in the classroom depends on it. It is very important to be clear about the concept of teacher that is held in the institution and how that teacher is permeated by this entire process of professional development and by all the dynamics associated with their teaching career, understood as their professionalization.

Therefore, it is very important to understand the group of teachers in the institution as associated with the concept of professional capital (Hargreaves & Fullan, 2012), if teachers are understood as a group that represents a great professional capital for institutions. And, if it is possible to integrate the components of the same, such as human capital, social capital and decision-making, changes will be achieved in the teaching processes and the quality of

the same for the benefit of the institution, forming a professional learning community. Among the aspects to be taken into account in teacher training processes, we cannot ignore what is proposed by the United Nations (UN) in its 2023 Agenda and the Sustainable Development Goals (SDGs) proposed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Economic Commission for Latin America and the Caribbean (ECLAC).

All these aforementioned non-governmental and global organizations have seventeen (17) objectives to be achieved. For this study, some of these goals were analysed, namely: Sustainable Development Goal 4 (SDG4) or on Quality Education, as well as UNESCO Chapter 5 (2022 and 2024) on the transformation of education from the teacher community and the role it plays in society and described in Figure 4, respectively.

Figure 1: Global Propositions on Education.



*Note: Data taken from UN Sustainable Development Goal 4 (2015) and UNESCO Global Report on Transforming Education and Teachers (2022 and 2024), respectively. In original Spanish language.*

These data indicate that the transformation of education is achieved to the extent that there is accurate and efficient teacher training, as well as improvements in demands that contribute in turn to the sustainability of permanent training, making clear the importance of the professional qualification of teachers. One of the ways to be able to align with the Sustainable Development Goals is to strengthen training policies to promote the development of

communities. Thus, in Chapter 5 of UNESCO (2022), as shown in Figure 4, it states that the fundamental transformation of teachers lies in the right extent to which the social contract of teachers is defined as a human entity contributing to the transformation of the school and, consequently, of society, more just and equitable (Unesco, 2024).

Teacher professionalization is a cardinal facet in training processes, which results in the dynamics of salary and labor improvements for teachers linked to

the official sector. Fecode, which is the union of official teachers in Colombia, has the *Revista Educación y Cultura*, which is led by the Center for Teaching Studies and Research (CEID), a means of dissemination through which it allows the presentation of authors' views on issues that concern teachers, mainly in the area of evaluation of the professional performance of teachers. When in view there are some conceptions and theoretical and practical implications of the teacher's qualification (Malaver, 2018).

It should be noted that the training that the practising teacher must assume must come out of his or her own resources and time limitations, which means that the alternatives sought are aimed at being able to respond to these limitations and not necessarily to the research and training desires of the teacher. This is more oriented to meet requirements to be able to access the salary benefits of the teaching career, when in reality, it is the political duty of the state to facilitate these processes for teachers.

When analyzing the processes of teacher professionalization, and the approaches that the education portfolio has had in being able to modernize the qualification of official teachers, the process carried out in the *Todos a Aprender* (PTA) Program implemented since 2011 together with the National Development Plan 2010 - 2014 and directed by the Ministry of National Education (MEN) of Colombia was found. aimed at improving pedagogical processes in mathematics and Spanish language in primary school, in which two categories of this study are permeated: teacher professionalization and learning communities.

This whole topic, in the real world, delimits fundamental characteristics of this methodology that is led by academic peers of the teachers and learning is generated from the experiences and experiences of the tutors. This program has been evolving over time, having it at this time under the name of Tutoring Program for Comprehensive Learning and Training (PTA/FI 3.0), annexing to the previous objectives, training in socio-emotional competencies and cultural diversity (MEN.2022).

### **3.2. School Culture and what it Entails**

Once the literature on teacher professionalization presented in the previous section and how it with all its components generate dynamics of behavior and response to daily situations within the educational institution has been reviewed, a series of concepts to be considered regarding school culture are presented. Martín and Fraile (2015) rightly indicate that: "The work of teachers arises from the

combination of the three cultures of the school: the culture of practice, the culture of theory and the culture of norms: curricular practice, educational theory and school policy" (p.147), so that all the processes carried out within the institution, that are permeated by teachers and their internal processes of teacher professionalization, are the determining elements of school culture, which must be contextualized, despite the fact that reality dictates otherwise.

Certainly, the ways in which pedagogical practice is defined within the institution and the way in which the government permeates the school through legislation, give rise to school culture, which is nothing more than the way in which the actors of the educational community respond to each process that is presented. and it must be clear whether the professional identity of teachers and the way they respond to daily work is a response to the particular needs of the teaching profession, or if, on the contrary, it is seen as a profession and as an art, the art of teaching.

This definition, the art of teaching, is very classic because of its Greek and Roman historical significance. At present, it is addressed and used in the concept of social representation applied to the role of the teacher, and it is there where it is important to keep in mind what Moscovici (1979) has studied, who maintains that: "... social representation is a particular modality of knowledge whose function is the elaboration of behaviors and communication between individuals" (p. 17). From the point of view of social anthropology, school culture must be taken into account under the premise of the cooperative and collaborative work carried out by teachers and students, it is all social reproduction that emerges from them, and that, seeing it from an educational perspective, is the whole set of strategies used by educational actors in their daily work to respond to the rules and institutional mechanisms that govern life within the school (Rockwell, 2018).

From this analysis, not only must the way in which situations are approached be taken into account, but also from a historical perspective it must be reviewed how these situations move between the different rhythms and times with which each individual approaches the processes, and the subjectivities with which each individual observes the situation. This often goes against the processes that are indicated within educational research, which want to unify and standardize without knowing the social dynamics of each institution, it is also important not to leave aside what Hargreaves (2003) indicates when he argues that: "... the teaching

culture includes values, habits and ways of doing things assumed by the communities of teachers who have to face similar demands and limitations over many years" (p.82).

That is why all the processes that are developed within the Educational Institution (EI) will be understood as part of the institutional school culture. Another aspect to take into account is that in the processes of analysis of the concept of culture, it is what is approached as ethnology (Geertz, 2003); From another perspective, it is a process of individual internal questioning, where each character who interacts in social dynamics does so from their own interests and desires, constantly leading them to question and resignify themselves.

### **3.3. How to transform from a Learning Community**

Once the concept of teacher professionalization has been understood, which permeates the school culture in educational institutions, the concept of learning community must be reviewed and all significant experiences carried out in an educational institution in Colombia immersed in a difficult cultural and social environment must be analyzed, and in which they propose that "the concept of "learning community" (Beltrán, et. al., 2015) is proposed as a project for the social and cultural transformation of the educational center and its environment, based on dialogic learning, with the aim of linking the entire community with the educational process of a specific space, including the realization of classrooms, in which a participatory process is facilitated in the educational community and strengthens the relationship between cultural and academic knowledge of the community as a whole.

This means that each educational institution must identify its strengths, potentiate them and from there generate improvement strategies so that any process that is carried out within said institution is reflected in processes of change and continuous improvement, it should also be reviewed where they highlight the theory that learning communities should aim to exercise processes of reflective pedagogical action where each situation faced by teachers inside and outside the classroom they must generate proposals and training processes, where the situation is analyzed (Sánchez & Suárez, 2019).

In line with the above, it leads to the best way in which the strategy should be addressed, tabulated, applied and then systematized, in order to be able to evaluate its impact and in the future replicate said solution when a similar situation arises again. All this

will potentiate the pedagogical knowledge of what is addressed in the educational institution, relying on collaborative and peer work, generating learning networks which will permeate teaching practices and all institutional dynamics, which will benefit not only students, but teachers themselves in all their situational and administrative work, and teaching directors since the efforts will be enhanced, By giving greater relevance to collaborative work and depending on the model of the teaching framework chosen, these collaborative learning networks will reduce tensions within the educational institution in all processes of continuous improvement.

Consequently, the work carried out together with the actors of the educational community of the Official Educational Institution must go in the direction of strengthening this community as a learning community. This must also be seen from the theory of emancipatory processes and cultural liberation, based on the concept of cultural negotiation that defines all the processes of interaction between actors of the communities and the exchanges and agreements that occur to define behaviors that benefit the parties involved.

Returning to the process of the Learning Tutoring Program (PTA), good impacts have been found on the learning processes in the community, strengthening the motivation for the qualification of the teacher in practice, together with the fact that the PTA processes are better placed in the classroom. (2021).

The analytical review made it possible to verify the wealth of information existing on teacher professionalization, school culture and learning communities, but also the absence of studies that articulate these categories in a common framework of analysis. Based on the proposed methodological complement, the findings can be enriched with a broader view, which triangulates discourses, practices and representations of educational actors.

The graphs presented in the document show the importance of professionalization as a transversal axis of school processes, highlighting the role of the teaching trajectory and professional capital as factors that determine the impact on school culture. By including comparisons between elementary and middle school in the analysis, variations in perceptions and pedagogical practices could be identified according to the educational cycle, providing relevant nuances for the understanding of cultural transformation.

Systematic documentary analysis (IEP, improvement plans, coexistence manuals) would contribute to complement the findings by contrasting

the normativity with the observed practices, allowing to evidence tensions between the institutional guidelines and the experience lived by the teachers. Participant observation in classrooms and pedagogical councils would offer an empirical correlate of the dynamics of collaboration and the challenges faced by learning communities.

The use of qualitative software would strengthen the systematization of interviews and observations, generating emerging categories that delve into how teacher professionalization translates into concrete practices and how these affect the strengthening of school culture. The participatory validation of results with teachers and directors would not only legitimize the findings, but also promote processes of collective appropriation and continuous improvement in the institution.

The results show that teacher professionalization cannot be analyzed in isolation, but in its articulation with the school culture and learning communities. By incorporating complementary methodological techniques, the validity of the findings is reinforced and the possibility of generating applicable and transferable recommendations to other institutions with similar contexts is opened.

#### 4. DISCUSSION

The results show a consolidated theoretical basis on teacher professionalization, school culture and learning communities, but also an absence of studies that integrate these three dimensions in the same analysis. This gap is significant, since professionalization only acquires transformative meaning when it manages to be institutionalized in collective norms and practices; otherwise, it is reduced to individual trajectories with no impact on the school ethos (Hargreaves & Fullan, 2012). Administrative pressure and numerical results, together with the reduction of time for peer work, weakens the necessary conditions for the strengthening of professional learning communities (Delors et al., 1997; Hargreaves & Fullan, 2012).

The study emphasizes that teacher professionalization goes beyond specific training, since it involves beliefs, practical and professional knowledge accumulated in the teacher's career. This perspective is linked to the notion of professional capital (Hargreaves & Fullan, 2012), understood as the integration of human, social and decision-making capital. The presence of these components explains why institutions with collaborative cultures and pedagogical deliberation tend to show greater coherence and better results in improvement processes (Romera & García, 2018).

The results also relate to global frameworks. Figure 4 takes up Sustainable Development Goal 4 and UNESCO reports (2022, 2024), which highlight that educational transformation is only achieved through permanent teacher training and working conditions that allow it to be sustained. This connects the findings with an international agenda that calls for moving from reactive training to permanent ecosystems of professional learning (United Nations, 2018; UNESCO, 2022).

At the national level, the experience of the Todos a Aprender Program shows that the effects do not come only from offering more training, but also from organizational designs that promote peer tutoring, co-planning spaces, and situated accompaniment, which generates changes in school culture (Ministry of National Education, 2022; García, 2021). Where these collegiate practices are institutionalized, the learning community is consolidated as a cultural practice; in contexts where it does not occur, the effects are restricted to isolated innovations (Sánchez & Suárez, 2019).

The proposed methodological complement suggests new routes of interpretation of the results. Documentary analysis of IEPs and improvement plans can reveal gaps between normative discourse and everyday practice (Yin, 2018). Participant observation in classrooms and academic councils would allow us to verify whether collegiate work is really oriented towards pedagogy (Stake, 1995). In addition, the comparative analysis between elementary and secondary education could show variations in the incidence of professionalization according to the educational cycle (Flick, 2015).

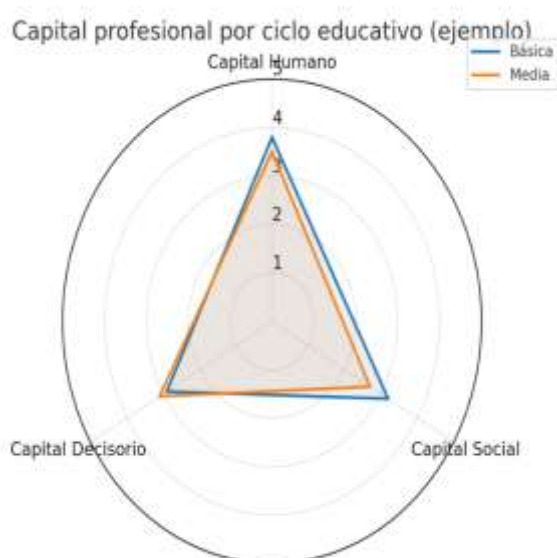
It's also important to consider limitations and biases. The use of semi-structured interviews can introduce social desirability and self-selection bias of more engaged teachers (Creswell & Poth, 2018). Likewise, the influence of global frameworks such as PISA can oversize teacher training in the face of other structural factors such as infrastructure or workload (Rivas, 2015).

According to the findings, the organizational levers that emerge are clear: guaranteeing institutional time for peer work, including the contribution to learning communities in teacher evaluation, promoting cycles of collective inquiry, and aligning training with real classroom problems (Beltrán, Martínez, & Torrado, 2015; Cano & Henao, 2022). These actions strengthen pedagogical governance and allow learning communities to consolidate themselves as the articulating axis of school culture (Rockwell, 2018).

The discussion points to an operative conclusion:

teacher professionalization transforms school culture only when it becomes a socially organized practice. This change requires moving from the isolated training offer to the construction of an architecture of teaching work, which includes times, leadership, protocols and systematic feedback. In institutions where these elements are consolidated, learning communities cease to be an abstract ideal and become the usual way of doing school (Hargreaves, 2003; Martín, 2015).

**Figure 2. Radar chart comparing "Human Capital", "Social Capital" and "Decision-Making Capital" between Basic and Secondary (with example data on a scale of 1-5). In original Spanish language.**



The basic polygon stands out in human capital (3.8) and social capital (3.2), while it retracts in decision-making (2.9). This suggests teachers with a good background in training and active collaboration networks, but with a low capacity to decide on curriculum, time and resources. The risk is "leverless collaboration": a lot of peer-to-peer work that doesn't translate into institutional change because it lacks a mandate, budget, or clear rules.

On average, the profile inverts the logic: slightly higher decision-making capital (3.1), with human (3.5) and social (2.7) capital behind. Specialization by areas and coordination roles give more formal power to adjust practices, but with a low density of networks, implementation can be fragmented into "islands of innovation" without cultural drag.

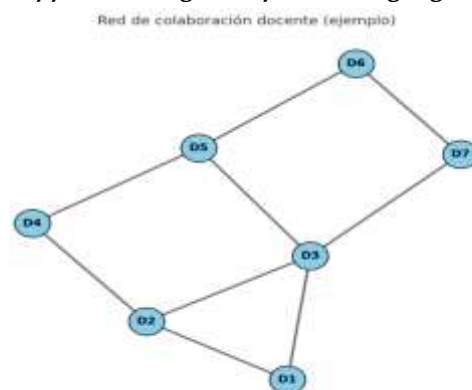
The figure shows imbalance in both cycles: cultural transformation requires synergy between the three capitals. The human provides expertise, the

social multiplies and legitimizes practices, and the decision-maker institutionalizes the agreements. If one is missing, change stalls.

#### Operational implications:

- Basic: strengthen decision-making capital (cycle leadership, protected time with autonomy, micro-budgets and transparent decision-making criteria).
- Medium: Raise social capital (interdepartmental co-planning, peer observation, shared learning goals).
- Both: clear pedagogical governance, collaboration indicators, and quarterly monitoring of the radar to verify convergence towards a more balanced and expanded triangle.

**Figure 3. Simulated network graph representing collaborations between teachers. Each node is a teacher and each link symbolizes co-planning or peer support. In original Spanish language.**



The graph shows a network with seven teachers where different levels of connection are observed. The arrangement shows that D2 and D3 occupy central positions by concentrating multiple links. Both teachers function as bridge nodes, articulating pairs that would otherwise be disconnected. This centrality gives influence to disseminate practices, but it also implies that the network depends excessively on their participation: if they withdraw or isolate themselves, the network loses cohesion.

On the other hand, teachers such as d6 and d7 appear on the margins with fewer links, which indicates risk of periphery. These positions tend to limit access to shared information and innovation dynamics, reinforcing internal inequalities in the learning community.

The network shows a medium density: not all nodes are connected to each other, but there is a sufficient mesh for the flow of ideas. However, the lack of direct links between certain pairs (e.g. D1 with D6/D7) reveals partial fragmentation. To strengthen

school culture, it would be necessary to promote interactions between subgroups, preventing innovation from concentrating in small clusters.

It implies that the learning community still functions more as an informal network than as an institutionalized structure. The challenge is to consolidate mechanisms that formalise collaborations (regular co-planning, interdisciplinary teams, observation protocols), so that the network becomes denser, more balanced and sustainable over time.

In practical terms, this sociogram can be repeated periodically to measure evolution: the goal would be to see more distributed connections, less centralization in a few nodes and greater inclusion of those who are currently on the periphery.

The analysis of social networks applied to the teacher sociogram allows us to understand in a quantitative and qualitative way the dynamics of collaboration among teachers. The density of the network, understood as the proportion of existing links compared to possible ones, shows a medium level: not all teachers are connected to each other, which reflects that interactions are concentrated in certain pairs while in others there are still gaps in collaboration. This finding indicates that the learning community is in the process of consolidation and that, over time, it should tend to a greater density as a sign of institutional cohesion.

The degree of centrality reveals that some actors, such as d2 and d3, possess more direct connections and thus function as informal leaders of the network. However, this concentration of linkages creates the risk of over-reliance on few teachers, which weakens the network's resilience to changes in participation. In addition to the above, intermediation or betweenness shows that D3 fulfills the role of structural bridge between different subgroups, acting as a knowledge broker. This reinforces their strategic importance, but at the same time shows the need to diversify these roles to avoid bottlenecks in the circulation of information.

Centrality closeness indicates that teachers located in the center of the network have easier access to all the actors, which allows them to disseminate innovations quickly. In contrast, peripheral nodes, such as D6 and D7, are less close and, therefore, have fewer opportunities to integrate into collective improvement processes. Finally, the analysis of the subgroups shows that, although the network is held together as a single component, denser clusters are distinguished, such as the one formed by D1, D2 and D3, compared to another made up of D5, D6 and D7, which suggests that collaboration is not yet

homogeneous throughout the institution.

Together, these indicators show that the learning community currently functions as an informal network with concentrated leadership and partial links, but with the potential to be strengthened through strategies that promote greater equity in participation, broader co-planning mechanisms, and the institutionalization of spaces for pedagogical exchange. In this way, the ARS not only describes the network, but also turns teacher collaboration into a measurable phenomenon that can be improved in terms of the transformation of school culture.

**Table 1: Social Network Analysis (SRA) Indicators for the Teacher Sociogram.**

Teacher	Grade	Centrality (Degree)	Intermediation	Proximity
D1	2	0.333	0	0.545
D2	3	0.5	0.122	0.6
D3	4	0.667	0.422	0.75
D4	2	0.333	0.056	0.545
D5	3	0.5	0.256	0.667
D6	2	0.333	0.056	0.5
D7	2	0.333	0.089	0.545

The overall density of the network is 0.429, which confirms that only 42.9% of possible connections are used. It is possible to identify how the structure of the learning community is quantified.

The table of indicators of social network analysis reinforces the discussion by showing that the teaching network has an overall density of 0.429, which indicates that less than half of the possible connections are active. This value confirms the existence of a partial collaboration network, with clear opportunities for expansion. The degree and centrality reveal that teachers such as D2 and D3 have a greater number of links, occupying central positions that make them key actors for the dissemination of pedagogical practices and for the articulation between subgroups. The intermediation shows that D3 is a structural bridge within the network, playing a strategic role in the circulation of information and knowledge, although with the risk of overloading it as the only articulator. The proximity shows that these same central nodes have faster access to the rest of the network, while peripheral teachers such as D6 and D7 have low levels of connectivity, which limits their participation in collective dynamics and pedagogical innovation processes. These quantitative results complement the qualitative analysis, showing that the learning community is sustained by focused leadership and incomplete links, which raises the need to strengthen equity in participation and the institutionalization of collaborative spaces that expand and densify the network.

## 5. CONCLUSIONS

Once all the processes concerning this article have been addressed, the following conclusions are presented. In the literature, the concept of teacher professionalization, school culture and learning community are well supported; the added value of this research lies in analyzing the implications of professionalization on school culture, since it constitutes the point of union between the individual trajectory of teachers and the collective processes of institutional transformation (Hargreaves & Fullan, 2012; Elías, 2015; Beltrán, Martínez & Torrado, 2015).

The concept of teaching trajectory and teaching framework is also highlighted, understood as constituent elements of professionalization, since they provide not only disciplinary and pedagogical knowledge, but also the experiential baggage that permeates classroom practices and institutional dynamics (Cano & Henao, 2022; Romera & García, 2018). In this sense, the trajectory cannot be separated from the school culture, since it is there where it makes sense and translates into innovation, collaboration and pedagogical leadership.

Similarly, the concept of professional capital is addressed, understanding teaching as a profession that integrates human, social, and decision-making capital (Hargreaves & Fullan, 2012). The analysis showed that the balanced activation of these three components is the condition for professionalization

to transcend the individual level and become a driver of organizational change.

The results also indicate that the impact of professionalization on school culture depends on the existence of strong learning communities, in which collaborative practices such as co-planning, peer tutoring, and joint evaluation of evidence are institutionalized (Sánchez & Suárez, 2019; Rockwell, 2018). Where these practices are formalized, the school culture is oriented towards continuous improvement; where not, fragmented dynamics prevail.

The analysis of social networks confirmed that the learning community in the institution studied has medium density and concentrated centrality, which suggests a network still dependent on key nodes, with a risk of fragmentation. It is necessary to strengthen equity in participation, diversify intermediary roles, and expand links between teachers to ensure sustainability over time (Flick, 2015; Creswell & Poth, 2018).

It is concluded that teacher professionalization transforms school culture only when it becomes a socially organized practice, anchored in clear institutional structures: protected times, collaboration protocols, distributed leadership, and pedagogical feedback mechanisms. Under these conditions, the learning community ceases to be an ideal and becomes the usual way of doing school (Hargreaves, 2003; UNESCO, 2022).

**Clarifications and acknowledgments:** 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.

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