Dimensions of teacher collaborative learning in Professional Learning Communities in Chile

Dimensiones del aprendizaje colaborativo docente en Comunidades Profesionales de Aprendizaje en Chile

Dimensões da aprendizagem colaborativa de professores em comunidades de aprendizagem profissional no Chile

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Abstract

Teacher collaboration in recent decades has become increasingly important as a strategy for school improvement and innovation (Hargreaves & O'Connor, 2020). A Professional Learning Community (PLC) emphasizes the development of collaborative cultures that encourage learning in both teachers and students (Bolam et al., 2007; Hord et al., 2010; Hord & Hirsh, 2008). This study analyzes the opinions of teachers, headteachers and educational assistants on the dimensions of collaboration involved in a PLC. The research method corresponds to a concurrent mixed study (Creswell, 2009) with a multiple case study strategy (Stake, 1998) in five educational centers in Chile. A questionnaire was applied to 161 informants, together with the development of 10 discussion groups. The main findings establish that the perceptions regarding relationships among peers when sharing their practices are positive; however, there is a lack of support, observation and feedback spaces among peers that would strengthen collective learning. There is a need to move forward in a specialized in-depth study of the teaching practice, based on the documentation of research in educational subjects, together with enhancing the strengths found in educational centers with positive social relations for learning.

Keywords: teacher collaboration, collegiality, situated learning, organizational learning, communities of practice, cooperative learning, professional development.

Resumen

La colaboración docente en las últimas décadas ha adquirido cada vez más importancia como estrategia para la mejora e innovación escolar (Hargreaves & O'Connor, 2020). Una Comunidad Profesional de Aprendizaje (CPA) pone énfasis en el desarrollo de culturas colaborativas que incentivan el aprendizaje, tanto en los docentes como en los estudiantes (Bolam et al., 2007; Hord et al., 2010; Hord & Hirsh, 2008). El presente estudio analiza las apreciaciones de docentes, directivos y asistentes de la educación sobre las dimensiones de colaboración que contempla una CPA. El método de investigación corresponde a un estudio mixto concurrente (Creswell, 2009) con estrategia de estudio de casos múltiples (Stake, 1998) en cinco centros educativos de Chile. Se aplicó un cuestionario a 161 informantes, junto al desarrollo de 10 grupos de discusión. Los principales hallazgos establecen que son positivas las percepciones con respecto a las relaciones entre pares al compartir sus prácticas, sin embargo, se carece de espacios de acompañamiento, observación y retroalimentación entre pares que permitan profundizar en el aprendizaje colectivo. Se observa la necesidad de avanzar en espacios de profundización especializada en la práctica docente, teniendo como base la documentación de investigaciones en materias educativas, junto con potenciar las fortalezas halladas en los centros educativos con relaciones sociales positivas para el aprendizaje.

Palabras clave: colaboración docente, colegialidad, aprendizaje situado, aprendizaje organizativo, comunidades de práctica, aprendizaje cooperativo, desarrollo profesional.

Resumo

A colaboração dos professores nas últimas décadas tornou-se cada vez mais importante como estratégia para a melhoria e inovação escolares (Hargreaves & O'Connor, 2020). Uma Comunidade de Aprendizagem Profissional enfatiza o desenvolvimento de culturas colaborativas que encorajam a aprendizagem tanto em professores como em estudantes (Bolam et al., 2007; Hord et al., 2010; Hord & Hirsh, 2008). Este estudo analisa as percepções dos professores, gestores e assistentes educativos sobre as dimensões de colaboração de um CPA. O método de investigação corresponde a um estudo simultâneo misto (Creswell, 2009) com uma estratégia de estudo de casos múltiplos (Stake, 1998) em cinco escolas no Chile. Foi aplicado um questionário a 161 informadores, juntamente com o desenvolvimento de 10 grupos focais. As principais conclusões estabelecem que as percepções relativas às relações entre pares quando partilham as suas práticas são positivas; no entanto, há uma falta de espaços para o acompanhamento, observação e feedback dos pares que permitam aprofundar a aprendizagem coletiva. Observa-se a necessidade de avançar em espaços de aprofundamento especializado da prática pedagógica com base na documentação da investigação em disciplinas educativas, juntamente com o reforço dos pontos fortes encontrados nas escolas com relações sociais positivas para a aprendizagem.

Palavras-chave: colaboração dos professores, colegialidade, aprendizagem situada, aprendizagem organizacional, comunidades de prática, aprendizagem cooperativa, desenvolvimento profissional.

Introduction

There are several studies that conclude that Professional Learning Communities (PLC) are an effective way of organizing an educational center because they promote professional development and student learning (Aparicio & Sepúlveda, 2018; Bolam *et al.*, 2005; Hord & Hirsh, 2008). A PLC is made up of different dimensions related to distributed leadership, shared values, conditions for learning, collective learning and the deprivatization of the teaching practice (DuFour *et al.*, 2021; Hord *et al.*, 2010; Krichesky & Murillo, 2011). These last two ideas are related to practices that enable teacher learning in a collective, contextualized way and which, in turn, allow for professional development, both for teachers and teams as a whole, focused on student learning.

In the Chilean educational context, in recent years emphasis has been placed on the implementation of practices that promote teacher professional development and peer collaboration through different regulations. On the one hand, the Framework for Good School Headship and Leadership (Ministry of Education, 2015) contains in its dimension *Developing Abilities*, a specific practice that promotes the development of PLC, among others that are aimed at strengthening peer collaboration. Later, Law 20903 introduces the concept of teachers who reflect, research and innovate on their practices in a collaborative way; it specifically addresses the development of pedagogical innovation and peer collaboration. Likewise, it refers to the idea of a contextualized teacher professional development, which gathers the knowledge of each community.

This conception implies a change of perspective of the practice of the profession, from the individualism that has historically marked teaching (Bozu & Imbernón, 2009; Hargreaves & Fullan, 2018) to collaborative work. This transition is considered as a disruptive (and necessary) practice in the current educational context (Marcelo & Vaillant, 2018), which requires a social fabric, a personal and collective commitment to learning for the community as a whole, through specific strategies that favor "the transition from a vertical structure that promotes individualism to horizontality and professional collaborative work" (Gairín & Rodríguez-Gómez, 2020, p. 142).

In Chile, there are some initiatives that have made progress towards creating collective learning spaces in university education (Marcelo & Vaillant, 2018), in the *Microcentro* rural education networks (Ministry of Education, 2018), *Red Maestros de Maestros [Teachers of Teachers Network]* (Ministry of Education, no date) and in the area of early childhood education (Guerra *et al.*, 2020). However, the systematization and research of these experiences is rather recent (Aparicio & Sepúlveda, 2018; Guerra *et al.*, 2020) and, in most cases, they are not linked to educational centers formed as PLC, but to experiences outside schools, of a territorial nature or forming part of teacher training and/or recognition processes.

In this scenario, it is worth wondering how collaborative teaching work has developed within educational centers, considering the rapid changes that have stressed the work of schools in the context of the COVID-19 pandemic, which in the case of Chile implied the transfer of a large part of the face-to-face educational tasks to the remote way during the year 2020, affecting the learning

of more than 3.5 million children and adolescents (Eyzaguirre *et al*., 2020). This study deals precisely with the perception of teachers, educational assistants and headteachers regarding the collaborative practices developed in five Chilean establishments, for the purpose of analyzing the levels of depth, both in the dimension of collaborative learning and in the personal practice shared within a PLC.

Theoretical basis

Professional Learning Communities

There is an extensive literature in different contexts on PLC and their contribution to the development of teachers and students: United States (DuFour *et al*., 2021; Hord, 1997; Hord & Hirsh, 2008; Louis & Kruse, 1995a), England (Bolam *et al*., al., 2005; 2007), China (Qian & Walker, 2020), Singapore (Cheah *et al*., 2019), Spain (Escudero, 2011; Krichesky & Murillo, 2011), Turkey (Bellibas *et al*., 2017). However, in Latin America it is a phenomenon that has only recently appeared in educational discourses.

A PLC as an organizational strategy for educational centers requires a school as a learning space for the community as a whole, where teachers share educational practices, resolve issues specific to their profession through dialogues (Hord *et al*., 2010; Stoll *et al*., 2004) with an emphasis on teacher professional development, collaborative work and knowledge generation (Galaz, 2018).

For a PLC to be implemented, the coordination of the following dimensions is required (Hord, 1997; Hord *et al*., 2010): a) shared values; b) distributed and supportive leadership; c) structural conditions; d) relational conditions; e) collective learning and its application to practice; f) shared personal practice, which other authors have nurtured by focusing on reflective professional inquiry, the formation of networks and the inclusion of other actors apart from teachers (Bolam *et al*., 2005).

Hargreaves and O'Connor (2020) organize the understanding and development of PLC in three generations: the first, focused on a group of professionals who learn through reflective dialogue about practice (Louis & Kruse, 1995a) and feedback with focus on student learning (Hord, 1997); the second, which is mainly focused on the deprivatization of the learning practice, objectives and results (DuFour, 2004; Stoll *et al*., 2006); and the third, focused on collaborative research, which emphasizes the importance of methodological devices for teacher learning, delving into a broader integration of learning results.

A key aspect of the PLC is that they involve research processes, the development of collaborative cultures within the centers, and actors that revitalize these practices (Vaillant, 2017).

Peer collaboration and learning

A PLC includes processes of collective inquiry and teacher experimentation for the purpose of improving student learning results (Peña, 2019). This requires setting up collaborative practices and teacher learning within educational communities through mechanisms such as research-action and professional reflection in a culture of sustained collaboration. However, a *culture of collaboration* implies the generation of voluntary and active actions, based on positive relationships among peers that, in turn, allow for the exchange of practices, sharing professional learning (Armengol, 2001). In this sense, it is essential to establish a collaboration that responds to the joint solution of problems (Díaz-Vicario & Gairín, 2018), which generates more solid and sustained relational ties, together with the creation of situated knowledge (Krichesky & Murillo, 2018).

A culture of collaboration should be open to dialogue and to disagreement, in a workspace of consistent social relationships, an issue that requires time for the generation of a change in interpersonal relationships (Hargreaves & Fullan, 2018). Likewise, it requires climates of trust and the strengthening of relationships within educational centers (Gómez-Jarabo & Cabañero, 2021), together with motivation and the distribution of leadership (San Fabián, 2006).

Along the same lines, Hargreaves and O'Connor (2020) delve into the concept of *collaborative professionalism* referring to how to practice a profession in a more collaborative way, with a commitment to improving and sharing knowledge, which requires "rigorous planning, a deep, sometimes demanding, dialogue," (p. 5), along with instances of feedback and collaborative inquiry strategies.

Learning and school improvement will not occur only through the coordination of spaces for teacher collaboration: they require adequate tools for professional reflection (Gairín & Rodríguez-Gómez, 2020). Teachers learn in experiential processes of collective inquiry (Kolb, 1984; Marcelo & Vaillant, 2018), an issue that implies cycles of deconstruction and reconstruction of practices (Restrepo, 2004) through planning, observation and reflection on the teacher practice (Anderson & Herr, 2007). These teacher learning experiences, which are based on real contexts, imply a beneficial exercise, however, they present a difficulty: fear of peer judgment, an issue that limits their willingness to collaborate (Perrenoud, 2007).

Collaboration arises at times when teachers are faced with complex situations, feeling the "need to support each other and seek common strategies" (Aparicio & Sepúlveda, 2019, p. 4), but it is not enough just to make this need explicit; headship teams should safeguard formal spaces, designed for collective reflection on teaching practice (Gairín & Rodríguez, 2020; Aparicio & Sepúlveda, 2019) as established in a PLC.

Finally, team collaboration must be understood and agreed upon in order to prevent ruptures between teams, which in the end may lead to imposed collaboration (Questa-Torterolo *et al*., 2018).

Dimensions of collaborative learning in PLC

Within the dimensions that comprise the PLC, already mentioned above, there are two that, in particular, deal more specifically with the practices associated with peer collaboration and learning, both with the aim of improving the students´ learning results:

- **Shared personal practice**. This idea arises from the concept of deprivatization of the practice, in which the teaching work becomes public and collective (Bryk *et al*., 1999), while promoting the opportunity to share the classroom space. In this way, the process of collaboration and collective learning expands beyond the experience of sharing the account of the practices or strategies used by each teacher, since it implies that teachers invite others to observe their classes and reflect about the elements observed, seeking possibilities for improvement (Hord *et al*., 2010); processes that require an established culture of trust and collaboration (Hord & Hirsh, 2008).
- **Collective learning and its application to practice**. For Hord *et al*. (2010) the learning and reflections developed in PLC have a clear objective, which is the improvement of teaching, therefore, a central element is its application to the classroom. This implies analyzing theories and research in the specific fields of education to define which aspects can be applied or not in the context in which they are developed. Hipp & Huffman (2010) also mention the search for solutions to specific pedagogical problems. This dimension involves the need to establish a reflective dialogue (Louis & Kruse, 1995b), based on the learning needs of students and teachers.

Design and methodology

The study was developed with a mixed approach and a concurrent nested strategy, since the data of the qualitative and quantitative component were collected simultaneously (Creswell, 2009), a process that enhances the research and its findings (Creswell & Plano, 2007), reducing the potential limitations of the two approaches (Hernández *et al*., 2014).

As methodology, a study of multiple cases of instrumental nature was implemented (Stake, 1998) which allows establishing relations between cases.

Likewise, five Chilean educational centers with different dependencies (Local Public Education Service, Municipal, and Subsidized Private Schools) participated in this research. The centers have different educational levels and student enrollment, as shown in Table 1.

Table 1
Characteristics of the study cases

	Dependency	Levels	Number of students enrolled
Case 1	Municipal	Early Childhood Education Basic Education	406
Case 2	Local Public Education Service	Early Childhood Education Basic Education	565
Case 3	Subsidized Private	Early Childhood Education Basic Education	514
Case 4	Local Public Education Service	Early Childhood Education Basic Education	327
Case 5	Local Public Education Service	Middle Education Humanistic-Scientific Technical-Professional Commercial Industrial	387

The cases selected correspond to a sample of typical cases (Patton, 2002) that have developed collaborative work among peers, in educational centers that lead in the form of PLC, namely:

- **Case 1** develops work instances by disciplinary department and PLC at territorial level;
- **Cases 2, 3 and 5** implement practices composed of interprofessional classroom teams, as well as teaching instances of work by cycle and interdisciplinary projects;
- **Case 4** develops PLC by discipline at each school level, together with a general technical council.

In this study, the Professional Learning Communities Assessment-Revised (PLCA-R) questionnaire was applied in its Spanish version (Olivier *et al.*, 2010), also considering the translation and adaptation to the Spanish context of Bolívar (2017). The instrument was made based on six dimensions with 52 statements (see Annex 1) on a Likert scale, featuring four levels: i) Totally disagree; ii) Disagree, iii) Agree; iv) Totally agree.

Prior to its application, a validation by judges was developed based on the item clarity criteria proposed by Escobar & Cuervo (2008). In this case, there were four judges with extensive experience in education, research and continuing education. The final adjustment of the instrument was developed based on three criteria: i) agreement of the four judges; ii) that it does not alter the content of the indicator; iii) in the items where there were objections on the content, it was decided to maintain the original conceptualization of the instrument made in English.

From the validation, 44 items of the 52 originals of the PLCA-R Spanish version, were adjusted (Olivier *et al.*, 2010). For this article, the findings of two of the

five dimensions that comprise the general instrument are considered: Shared personal practice (seven items) and Collaborative learning among teachers and its application to practice (ten items); in total, 17 items.

In order to delve into the perceptions of teachers and headteachers, discussion groups were also developed, where information about the construction of meanings was gathered in a dynamic way from the participants (Barbour, 2013). For its implementation, heterogeneous groups were selected (Bisquerra, 2016), with common roles (Bloor *et al*., 2001).

In this research, ten discussion groups were applied: five of them composed of headship teams (headteacher, head of the Technical-Pedagogical Unit, general inspector and coexistence officer); in addition to other five composed of teachers and educational assistants selected with criteria of gender, teaching cycle and discipline diversity, with a total of eight participants per group.

Data analysis

The data analysis of both components was developed simultaneously, in line with the concurrent mixed methodology. The results of the questionnaire were analyzed through descriptive statistics with SPSS for each dimension, obtaining the measures of central tendency (Murillo & Martínez-Garrido, 2012). Meanwhile, of the discussion groups, a content analysis by previously established dimensions was developed, based on a previous coding framework (Barbour, 2013). Finally, an emerging dimension was incorporated in relation to the context of the COVID-19 pandemic, as shown in Table 2.

Table 2
Analysis dimensions

Dimensions	Description
1. Shared personal practice	Formal instances of the educational center, where teachers and other professionals share pedagogical practices through peer feedback, as well as joint pedagogical work.
2. Collective learning and its application to practice	Instances of learning and professional-teacher development through collaboration among professionals and based on teaching and student learning processes.
3. COVID-19 context	Social and political elements that put a strain on the educational context and affect the work of the educational community.

Results

The consistency and reliability of PLCA-R, in its validation to the Chilean context, was guaranteed by an analysis of the *Cronbach´s Alpha* coefficient, which corresponds to the measurement of the correlations between the variables involved, which is translated into the calculation resulting from the variance of each item and the overall variance that includes all items.

The following Table 3 shows the *Cronbach's Alpha* reference, considering the instrument in its original version, in Spanish, and its validation in the Chilean context.

Table 3
Comparison of results relativity in PLCA-R dimensions

Dimension	Cronbach's Alpha		
	Validation Chilean context	Original version	Spanish version
Shared personal practice	0.908	0,81	0,926
Collective learning and its application to practice	0.937	0,91	0,932

Note. Prepared by the author based on Domingo-Segovia et at., 2020.

The study sample includes 161 informants from the five educational centers that comprise this research. 80.7% carry out teaching functions, while 11.8% are educational assistants, and 7.5% perform managerial roles. More than 75% (76.4%) identify with the female gender, while 21.2% do so with the male gender; 1.9% indicate the "non-binary" option and 0.6% prefer not to answer.

In relation to the dependency of educational centers: 55.9% correspond to Local Public Education Services, while 26.1% to establishments with subsidized private support and 18% to municipal affiliation.

Finally, in relation to the age range: 42.9% are between 30 and 39 years old; 21.1% are over 50 years old; 20.5% are between 40 and 48 years old; and only 15.5% state that they are under 30 years old.

The findings are shown below, organized into the three dimensions that make up the study: Shared personal practice, Collective learning and its application to practice, and the COVID-19 context.

The **shared personal practice dimension** concentrates the items associated with the development of instances of peer observation and feedback, together with the collaborative analysis of student learning evidence. The minimum mean is 2.78, while the maximum is 3.31 (with a scale of 1 to 4).

The most reduced item corresponds to item N° 1 of the questionnaire, related to the opportunities to observe the practices of other teachers, with 32.3%: Disagree (28%) or Totally Disagree (4.3%); followed by item N° 2, referring to feedback spaces among peers with a mean of 2.81, where 3.1% corresponds to Totally disagree and 30.4% to Disagree, both adding up to 33,5%. In the same thematic line, item N° 5 "there are opportunities to exercise guidance and mentoring with your colleagues" (mean of 2.85) obtained 33.5% divided as follows: Totally disagree (6.2%) and Disagree (27.3%).

Among the most agreed items we find "The teaching team informally shares ideas and suggestions to improve student learning" (mean of 3.3), with 90.1%: Agree (47.8%) and Totally agree (42.2%); followed by item N° 6, related to the opportunities to apply practices and share their learning results with a mean of 3.01 and 80.7% of perceptions distributed between Agree (57.1%) and Totally agree (23.6%).

Table 4

Frequencies and measures of central tendency. Shared personal practical dimension

ITEMS	1	2	3	4	Mean	SD
1. The teaching team has opportunities to observe and encourage their colleagues analyzing classroom practices.	4.3%	28.0%	52.8%	14.9%	2.78	0.74746
2. The teaching team provides feedback to other colleagues on their teaching practices.	3.1%	30.4%	48.4%	18.0%	2.81	0.75998
3. The teaching team informally shares ideas and suggestions to improve student learning.	0.6%	9.3%	47.8%	42.2%	3.31	0.66542
4. The teaching team collaboratively reviews student work to improve and share their teaching practices.	3.1%	16.8%	49.1%	31.1%	3.08	0.77440
5. In the educational institution there are opportunities to provide colleagues with guidance and mentoring.	6.2%	27.3%	41.6%	24.8%	2.85	0.86755
6. In the educational institution there are opportunities, at the individual and group level, to apply teaching practices and to share the results.	2.5%	16.8%	57.1%	23.6%	3.01	0.71127
7. The teaching team usually shares student work to guide the overall improvement of the school.	3.1%	26.1%	47.8%	23.0%	2.90	0.78103
Media (Md) of the dimension					**2.96**	

Note. Prepared by the author based on PLCA-R (Olivier *et al.*, 2010), which considers the adaptation to the Spanish context of Bolívar (2017).

As can be seen in Table 4, items N° 1, N° 2 and N° 5 are those with the lowest means, therefore, less level of agreement, focused on peer observation, feedback and mentoring. While items N° 3, N° 4 and N° 6 stand out, which account for relationships among teachers to share results and their teaching practices.

In the teacher discussion groups, they recognize that there are instances where practices are shared, however, they are at the level of narratives or stories about experiences developed that have "worked well", rather than direct observation

among teachers. In this sense, some critical aspects are emphasized, such as the depth required by the instances to share experiences, the levels of pedagogical reflection and of adaptation of the practices that are presented, together with the evidence-based evaluation of their results:

> I feel that each teacher has sometimes made his/her practices known, but we may not have as much time to comment on them... "What has been successful, what works well for him/her", but the fact that it may work well for me doesn't mean that it will also work well for other teachers... Each one has his/her own way of conducting classes then. (Teacher, case 1)

At this point, there is the need not only for time, but also to move forward in terms of a methodological depth that allows teachers to be challenged in a systematic and continuous way, to reflect on their own practice.

> I feel that we should intensify this type of practices (of sharing experiences) because it was exactly the same during the second year, so I think that, although the practice was good, we should have different challenges each year. (Teacher, case 2)

In particular, regarding the experiences presented or shared in the teacher collaboration spaces, it is pointed out that they are (in most cases) data that the headship teams identify in the processes of teacher support in the classroom and not always an initiative from teachers:

> "Teachers show certain practices that, in addition, have been seen by the management team in the classroom support process" (Teacher, case 4).

On the other hand, it is clear that there is genuine interest in gathering information on the informal instances of pedagogical dialogues in which close teachers exchange experiences; they look for solutions to common problems in a space of trust among peers, as expressed by a teacher: "I feel that the exchange of experiences yields much better results when it is done informally" (Teacher, case 5).

In the **collective learning and its application to practice** dimension, the practices related to work spaces and collaborative learning are described, based on the learning needs of students; as well as peer relationships for pedagogical analysis and reflection. It emphasizes with a mean of 3.43 that "there are good relationships within the teaching team that reflect commitment to improvement" (item N° 9), with 96.9% distributed between Agree (49.1%) and Totally agree (47.8%); followed by item N° 15, related to teachers´ commitment to the application of strategies that improve learning (3.41 of mean), with 95.7% distributed between Agree (47.9%) and Totally agree (47.8%).

This dimension shows a mean of 3.31, it being higher than the Shared personal practice. However, there are four indicators that add up to more than 10% between the Disagree and Totally disagree perceptions (items N° 8, N° 11, N° 16 and N° 17). With a mean of 3.16, the most reduced item is the analysis of student work developed jointly by teachers (item 17), which, by adding the Totally disagree (1.19%) and Disagree (14.9%) responses, reaches a total of 16.8%. In this same line, item N° 16 related to the joint analysis of information to evaluate practices reaches 12.4% distributed between the Disagree (11.2%) and Totally disagree (1.2%) perceptions.

Table 5

Frequencies and measures of central tendency. Collective learning and its application to practice dimension

ITEMS	1	2	3	4	Mean	SD
8. The teaching team works together to acquire knowledge, abilities and strategies that improve its professional performance.	1.2%	9.9%	49.7%	39.1%	3.26	0.68700
9. There are good professional relationships within the teaching team that reflect a commitment to school improvement.	1.2%	1.9%	49.1%	47.8%	3.43	0.59982
10. The teaching team works and plans together the search for alternative solutions to better respond to the needs of the students.	1.9%	4.3%	48.4%	45.3%	3.37	0.65973
11. The staff of the educational center finds opportunities to learn from others through open dialogue.	2.5%	8.1%	55.3%	34.2%	3.21	0.69291
12. The teaching team holds respectful dialogues with each other, in which the different points of view are taken into consideration.	2.5%	4.3%	45.3%	47.8%	3.38	0.68977
13. Teacher professional development focuses on teaching and learning.	0.6%	5.6%	47.2%	46.6%	3.39	0.62529
14. The teaching team learns and regularly applies new knowledge to solve educational problems.	1.9%	7.5%	50.3%	40.4%	3.29	0.68593
15. The teaching team is committed to the application of strategies and programs that improve learning.	1.9%	2.5%	47.8%	47.8%	3.41	0.63796
16. The teaching team collaboratively analyzes different sources of information (evaluations, practical work, folders) in order to evaluate the effectiveness of teaching practices.	1.2%	1.2%	48.4%	39.1%	3.25	0.70071
17. The teaching team jointly analyzes the work of the students to improve teaching and learning.	1.9%	1.9%	47.8%	35.4%	3.16	0.74361
Media (Md) dimension					**3.31**	

Note. Prepared by the author based on PLCA-R (Olivier *et al*., 2010), which considers the adaptation to the Spanish context of Bolívar (2017).

As can be seen in Table 5, the items with the highest means (Nº 9, Nº 12, Nº 13 and Nº 15) are related to the commitment of teachers to student learning and the peer relationships. While with the lowest means we find items Nº 11, Nº 16 and Nº 17, focused on joint learning through collaborative work.

In relation to the discussion groups of teachers and headteachers, there are some elements that initiate learning processes and collaborative work, related (in line with the previous dimension) to accounts of practices and to sharing experiences, but it has not been possible to establish instances of evidence review and pedagogical decision-making that, effectively, have an impact on student learning outcomes. In this sense, it is pointed out that this process is incipient to share and dialogue:

> I think that it is also being a super-transformative space because, for example, evaluation instruments are being exchanged today... There is talk about how it should... I would say that this is a bit more rustic because it is in the stage of building awareness. (Headteacher, case 1)

Moreover, in the cases studied, information was gathered on the importance of incorporating to the teaching reflection spaces professionals from the Educational Integration Program (EIP) as specialists who support pedagogical decisions and guide the work, both for students with difficulties and for the group as a whole, a contribution that is appreciated by teachers and headteachers:

> Remember that we also have teachers who are specialists, let's say, in certain areas of learning disorders and they frequently accompany us like the other specialist, let's say, in the classroom, and conversations are always generated in situ, on specific learning topics in the classroom and that has helped us. (Headteacher, case 3)

In line with the quantitative instrument, a positive relationship among teachers is observed, which makes it possible to share experiences to improve student learning, with open willingness to learn and improve their practices among peers.

> We are always willing to advise; those with more experience... We are always open to transmit our experiences and, obviously, there are things that used to work with the students, and things that no longer work with them, right?, because they have evolved, so it's like constant feedback. (Teacher, case 5)

On the other hand, the spaces for sharing practices and collaborative work do not reach a depth level that allows for the analysis with evidence (in line with the quantitative instrument) on the learning results on interdisciplinary projects that promote teacher collaboration, which were left as activities (preparation of videos, exhibitions or others) without the pedagogical reflection on their scope or contributions to the development of students.

> We have had some nice results of the projects, but is learning present in the execution?... But in the transition, in the progress of this project, have the children learned? Could they intertwine the subjects or did they end up working separately and something nice just came out? (Teacher, case 2)

The **COVID-19 Context** dimension arises from the dialogues hold in the discussion groups implemented in this study. The findings indicated as a central point the need for peer collaboration in the context of COVID-19, considering formal and informal instances.

In the first instance, information was gathered on the challenge of facing an unknown educational scenario, remotely, which put in tension the teaching, disciplinary and pedagogical capacities, as well as the headship teams. In this scenario, the immediate response was support and collaboration within the communities.

> This whole system of teaching classes in this way came down on us, for which I believe that no one was prepared, but certainly there were teachers within the community who had more tools than others, they were better trained, and in that point, we found ourselves in need to support each other. (Headteacher, case 3)

Likewise, information was collected on the fluidity of informal dialogues developed in the COVID-19 context, which fostered peer support, focused on the use of technological tools for teaching (Meet, Zoom, forms and applications) that became essential instruments for the development of distance pedagogical practice, communication with families and the link with the institution.

> Now, faced with this issue of remote, virtual classes, there is a lot of exchange between people in an informal way... Exchange and collaboration, for example "show me how... how can I —let's say— have a meeting by Meet". (Headteacher, case 5)

Discussion of results

Most of the studies of the PLC correspond to educational contexts with robust systems based on the implementation of public policies that promote said organization (Morales Inga & Morales-Tristán, 2020). For this reason, the results appearing in this article contribute to the construction of knowledge in Latin America, where there are different social and cultural characteristics.

The findings presented show an initial development of learning practices and collaborative teaching work on the dimensions of PLC, which require further reflection and analysis, together with the generation of changes in the ways of thinking and doing of their members (Gairín, 2000), all this if we really expected them to be effective practices.

The **Shared personal practice** dimension clearly shows the reduced possibilities that teachers have to share their practice through mechanisms of peer observation, mentoring and feedback (with more than 33% distributed between Totally disagree and Disagree). It is expected for these spaces to be voluntary and inspired by the search for joint solutions to improve teaching practices (Hord *et al*., 2010), in a mixture of autonomous informal learning (that motivates action), supported by spaces and conditions from the headship of the educational centers (Gairín & Rodríguez, 2020; Aparicio & Sepúlveda, 2019). In this sense, the narratives indicate that there is a prolific base for their development, since teachers, headteachers and educational assistants analyzed informal practices to share ideas and experiences, for the purpose of improving students´ learning, these instances being essential for teacher professional development and collaborative cultures (Nias, 1989; Vaillant, 2017).

This level of development of the Shared personal practice which turned into a presentation of stories or experiences without reflection, a vestige of a culture of isolation, precisely, distances teachers from valuable feedback that helps them make wiser and more effective judgments (Hargreaves & Fullan, 2018), reducing their development to institutional evaluation reports, if any.

On the other hand, in the dimension **Collective learning and its application to practice**, the aspects that stand out, due to the high level of agreement, are the

good relationships existing within the teams for shared work and the willingness to learn *with* others and *from* others, a central element of a PLC (Hord, 1997; Hord *et al*., 2010) for building climates of trust among peers. However, the lack of depth of such spaces is reiterated, since the work with evidence of learning results or other sources of information is not transversal in the cases studied. In this dimension, it is also necessary to debate on theories produced by research in specific areas (Hord *et al*., 2010) and to consult with experts to deploy situated knowledge based on data, for continuous improvement.

In the context of Latin America, Vaillant (2017) analyzes the responses of headteachers in the 2015 PISA test, to questions about the periodicity of actions that are carried out in the educational centers. The author problematizes two areas related to this study:

a. the use of evidence and research to improve learning, where the majority of respondents "do it at a few times a year", suggesting a low professional reflection based on studies and evidence;

b. Teacher Professional Development, a point at which she raises questions regarding the development of specific workshops for teachers, where Chile reaches 57% of positive answers, below the OECD average (67.8%); results that account for the distance that exists between teacher reflection (which may exist in schools) and recent research in educational matters, which allow problematizing and expanding the field of understanding and teaching action.

In the **context of COVID-19**, which implied the implementation of distance education in Chilean educational centers, the development of formal and informal institutional spaces was promoted to deal with complex educational situations, creating a social fabric that limited, at least momentarily, the *individualistic culture*, where teacher interaction is fragmented; work is done individually and teacher dialogues do not respond to student learning (Armengol, 2001), an issue that highlights teachers´ need to solve multidimensional professional problems. In this sense, collaboration will only take place voluntarily, in parity and with common objectives (Questa-Torterolo *et al*., 2018).

Finally, it is necessary to move forward and intensify collaborative cultures with a *directed collegiality*, where emphasis is placed on the methodologies and conditions for the generation of trust within communities (Hargreaves & Fullan, 2018). Likewise, it is necessary to promote cultural strategies that allow linking expectations and learning, rather than management strategies for group meetings (Gairín & Rodríguez-Gómez, 2020).

Conclusions

This research reports a strong level of agreement in the cases studied in the positive perception of relationships among peers and with students, which enable collaborative work, an appreciation that increased in the context of COVID-19, where schools had to transition to the development of an online education, resulting in the need for technological and pedagogical updating, a process that

was developed through formal and informal instances of collaboration or support among teachers, educational assistants and headteachers.

On the other hand, the indicators in relation to the instances to share classroom spaces among peers (Hord *et al*., 2010; Hord & Hirsch, 2008) indicate that they are not a common practice in the educational centers studied, opening a big challenge, in which the steps taken on this path are deepened and intensified: the need to collaborate and good relationships among peers.

Another aspect to study is the need to bring teacher reflections and learning closer, around research in the educational field, through documented spaces, both from their own experience and from advances in the disciplines related to the problems that teaching deals with.

Law 20,903 (2016) includes a series of conditions that could, eventually, collaborate in the organization of resources and senses in this regard, but it is not enough to organize meetings and spaces if there is no culture of collaboration and genuine trust (Hargreaves & Fullan, 2018) that nurtures teacher learning, a challenge that goes beyond the individual motivations of teachers to learn.

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Annexes

Annex 1

PLCA-R Dimensions and items

Dimensions	Items
Shared and support leadership	11
Shared vision and values	9
Shared personal practice	7
Collective learning and its application to practice	10
Support conditions. Relations	5
Support conditions. Structure	10
Total	52