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Mapping teacher collaboration for school success

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ABSTRACT

Collaborative support between teachers is crucial to school success. Communication, openness, and participation are key for creating a climate of trust. Professional relationships based on trust contribute to the development of a common vision for the school. However, building a collaborative atmosphere is challenging. A systematic review was performed to identify strategies for promoting staff collaboration with a view towards school improvement. Based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines for systematic reviews, we selected 18 articles focused on different approaches to building collaborative environments in schools. The main finding was that the most widely used collaborative modalities were related to instructional processes and improving student academic performance. Factors that hinder the establishment of a collaborative school culture were related to teacher reluctance to sharing and exchange of practices, lack of engagement, and teacher training. Educational leaders were also seen to play a key role in the development of cooperative environments and effective leadership delegation.

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KEYWORDS

Social environment; social capital; teacher collaboration; networks; educational improvement

Introduction

Teachers need to develop collaboration skills in order to take on the changes presented by current society (Vangrieken et al., 2015). Social interdependence theory states that collaboration occurs when the aims of different individuals are positively interdependent (Carpenter, 2018). According to this theory, cooperation arises from interaction between group members, with this promoting and supporting their individual aims (Seidmann, 2015). Researchers often claim that cooperation and collaboration between teachers is necessary to align their epistemological and empirical knowledge with the perspectives and abilities of teaching staff. To this end, multiple studies have been developed on teacher collaboration, cooperative work, and professional learning communities. However, it is necessary to identify their associated limits in order to understand the scope of teacher collaboration for school improvement. Collaboration is defined as a set of relationships in which the bonds of trust are established between different agents,

with direct effects on their individual performance and the school's professional culture (Forte & Flores, 2012). This form of interaction is related to job satisfaction since it combats feelings of loneliness and provides spaces for dialogue and reflection. This results in more effective instruction and problem solving (Moolenaar et al., 2012). Cooperation, on the other hand, refers to the willingness of individuals to work with others towards common goals, with positive impacts on the professional performance of teachers (Drossel et al., 2019). Despite the etymological differences between these constructs, they tend to be unified in the field of research. Thus, despite recognition of these differences, both are included in the present work in order to offer a more integrated and complete view of the way in which teachers work and interact with each other (Reeves et al., 2017).

A systematic review conducted by Ronfeldt and colleagues (2015) found that collaboration can arise in different ways, according to the characteristics inherent to teachers and schools. For example, leading collaboration modalities focus on instructional issues in order to achieve better student performance (Goddard et al., 2007). However, a deeper and more complex level of collaboration known as communities of practice is encouraged by international research agencies. This includes establishing climates that breed respect and trust, and introducing shared systems of values and standards. This culminates in exchange processes taking place amongst teachers, enabling them to achieve academic goals which are shared by all school staff (Stoll et al., 2006).

In addition, most international educational policies and international organizations, such as the Organisation for Economic Co-operation and Development (OECD, 2014), advocate the inclusion of factors related to teacher professional capital (Brown et al., 2016; Hargreaves & Fullan, 2012), especially in relation to pedagogical leadership (Crow et al., 2017). More specifically, numerous studies have urged for distributed leadership as a teacher empowerment strategy through which teachers can participate in pedagogical decision making (Hallinger & Liu, 2016). This approach strengthens social and professional relationships, resulting in the development of teaching and learning practices that fit the social context of the school (Louis et al., 2010).

Although cooperation could extend beyond school walls thereby creating professional learning communities (Darling-Hammond, 2006) or cross-school networks (Azorín & Muijs, 2017), research studies show that cooperation is not enough to build a professional learning community. This type of learning communities requires that both school staff and the community adopt a new educational culture based on a novel approach to education. This facilitates professional development through the sharing of attitudes and values. The construction of a professional learning community involves infusing learning practices, where teachers and students are in a continuous process of personal and professional transformation, with a strong social component (Hopkins & Spillane, 2014; Vescio et al., 2008). The literature has extensively examined the numerous challenges to transforming educational centers into professional learning communities (Stoll et al., 2006). Most studies agree that setting shared goals, constructing a collective identity, and establishing a climate of trust and team spirit help to overcome difficulties and facilitate the transition to a professional learning community (Avalos, 2011). Collaborative school communities participate in the design and development of teaching, learning, and evaluation processes (Yin & Buck, 2019).

In relation to cross-school networks, some research studies state that “the community must play the leading role in educational transformation” (Azorín, 2017, p. 32). “The expression ‘cross-school support’ is gaining popularity in English jargon. In this context, cross-school learning communities consolidate and build cooperative bonds” (p. 33). This environment fosters professional development as it gives teachers the opportunity to share ideas and learn from each other.

In addition, collaboration, regardless of the shape this takes, is generally associated with other relevant factors such as professional development, educational leadership, and school improvement (Piyaman et al., 2017).

The present review summarizes relevant literature on teacher collaboration and determines the impact of collaboration on teacher professional development and school improvement. We hypothesized that the promotion of cooperative relationships and collegiality in schools would be a driver of school improvement.

We posed the following research questions:

- What are the most common modalities of collaboration in schools?
- Is collaborative organizational culture the responsibility of individual schools or does responsibility extend beyond school walls?
- What is the role of school leaders when it comes to building a collaborative climate?

An expert panel in professional teacher development and leadership at Spanish public universities was employed to respond to these questions. This panel provided accurate, objective, and technical data based on their experience of the technical aspects of education and training approaches targeting school improvement. The panel discussed the strengths and limitations of the initial research questions. Based on the conclusions reached, a final list of definitive research questions was produced. In this sense, the concept of teacher collaboration used was understood as a group of teachers working together to achieve common objectives which are related to teaching and learning improvements. This ongoing interaction between teachers is based on the exchange of practices, shared decision making through dialogue, and confidence building between partners. Its purpose is to promote greater professionalization amongst teachers and, as a result, better student performance.

Method

A systematic literature review was performed according to standard methods (Fink, 2005) to systematically identify, evaluate, and interpret studies published in the field of teacher collaboration and school performance. The purpose of this study was to provide an insight into the state of affairs in this field of research. This systematic review of international research studies was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines described by Liberati et al. (2009).

Objectives of the present review were as follows:

- Determine the factors that contribute to establishing a collaborative climate within and between schools.

- Analyze the collaborative strategies and approaches adopted by schools.
- Examine the relationship between teacher collaboration, educational leaders, and school improvement.

Databases and search terms

For this purpose, we searched Web of Science (hereafter, WoS) and Scopus for studies published between January 2009 and February 2019. We decided to use these databases due to their impact and prestige, in addition to the fact that they collate the most important papers in the field of education. We used the following ERIC search terms when conducting these processes: “social environment”, “social integration”, “social capital”, “teacher collaboration”, “teamwork”, and “educational improvement”.

Study selection and data extraction

In order to identify relevant and recent papers, only studies published between 2009 and 2019 were included. As a result, 418 articles were identified (198 in WoS and 220 in Scopus). The study population was calculated as shown in Figure 1.

Study selection and data interpretation were performed independently by three of the authors of the present paper via an ad hoc data-extraction form. Interrater reliability was 80% in relation to study selection and coding of outcome measures. The remaining 20% of papers were discussed until agreement was reached.

Inclusion criteria

Inclusion and exclusion criteria pertained to the following aspects: “field of research”, “language”, “publication type”, and “type of evidence”. We decided to restrict the field of research to only include specific investigations into educational environments and

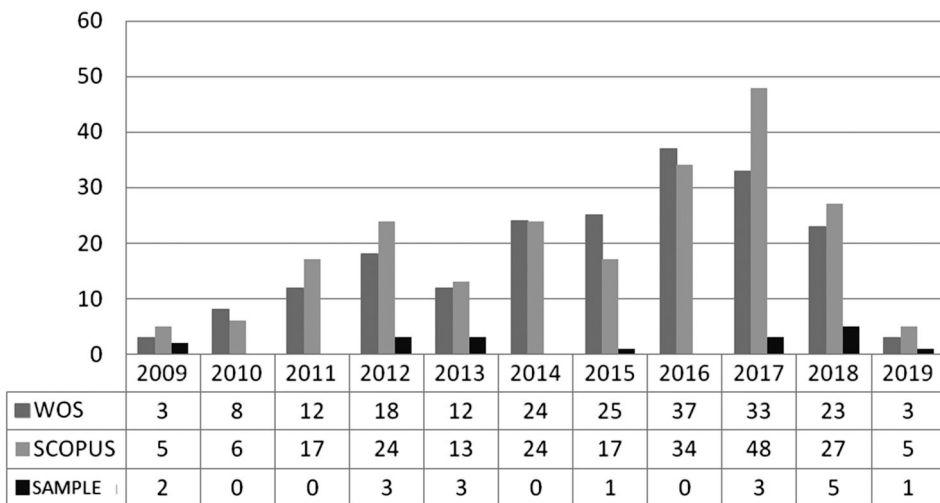


Figure 1. Distribution of publications between 2009 and 2019.

teacher collaboration. We only searched for papers published in the field of “social sciences”. In order to restrict the number of results, we limited the search to include only publications written in English or Spanish via the language filter. We decided to include English articles because English is the internationally accepted language for scientific writing and most of manuscripts are written in this language. The inclusion of Spanish articles was motivated by the fact that Spanish is the second most spoken language worldwide. The number of results was further limited in relation to research field, with only articles published in the field of education and educational research or education being included. This criterion was included to exclude studies connected to other fields of research which were not relevant to education. Other inclusion and exclusion criteria were applied during full-text reading of selected papers. Studies were only selected if they provided empirical evidence and employed a sample made up of teachers. In consideration of review objectives focusing on the collaborative capacity of teachers, it was deemed useful to include studies in which teachers were the main participants. PhD dissertations, books, and other types of communications (e.g., conference outputs) were excluded. We decided to only include scientific articles because they pertain to the most widely used format for reporting relevant findings and follow a pattern that tends to explain all conducted research in detail. Although reviews and meta-analyses were initially excluded, they were ultimately included due to their high quality and added value.

Procedure for searching, identifying, and selecting articles

A preliminary reading of titles and abstracts was performed. Next, the articles’ methods, results, and conclusions were scrutinized based on the relevance of considered dimensions to the following categories: teacher collaboration, professional teacher development, school improvement, and challenging contexts. Finally, the full text was read, paying attention to findings, methodological quality, and research scope. The aim of this was to base our study on high-quality scientific evidence.

Population and sample

A sample of 418 articles were extracted from WoS (198) and Scopus (220) following the method described above. The final sample was reduced to 18 scientific papers following application of inclusion criteria. The entire process is shown in [Figure 2](#).

Results

The studies included in the present sample were based on quantitative assessment strategies. However, some studies used qualitative methods and employed a mixed design. Study type was considered for data analysis. Studies were categorized into four groups, namely, theoretical, quantitative, qualitative, and “mixed” (for articles that used qualitative and quantitative methods). Categorization was based on the following definitions:

- (1) Quantitative studies: These studies are based on quantitative techniques and tools. Statistical data analysis was performed to explain, describe, and even predict events.

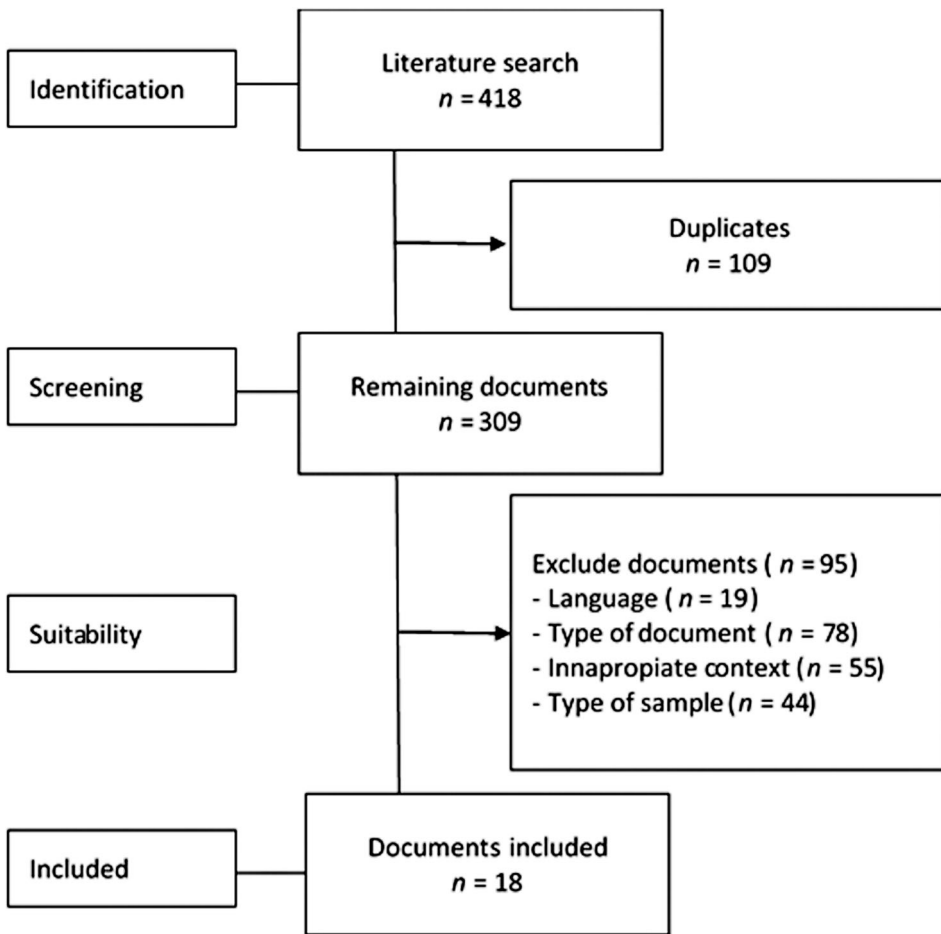


Figure 2. Study selection process.

- (2) Qualitative studies: These studies are based on qualitative techniques and tools. These studies are aimed at getting an insight into the phenomenon through analysis of the meanings attributed to it.
- (3) Mixed studies: These studies are based on quantitative and qualitative techniques and tools.
- (4) Theoretical studies: Statistical data analysis was not carried out, nor were qualitative analysis methods used. These studies present evidence-based theory that is supported by other studies. Sample composition was also considered with most studies focusing on primary and secondary school teachers and staff. Some studies on college/university lecturers and students were also included.

A comparative analysis of the findings and results of each study was performed and is summarized in [Table 1](#). Data pertaining to the following aspects were collected: (1) author/s, (2) year of publication, (3) study type; (4) population, (5) sample, and (6) data collection tools and methods.

Table 1. Analysis of selected studies.

Author (s)	Year	Study	Population	Sample	Instrument
Baker-Doyle	2015	R	–	–	–
Benoliel & Schechter	2018	R	–	–	–
Duffy & Gallagher	2017	Qual	Schools	8	EO, I, FG
Forte & Flores	2012	H	Teachers	101	Q, I, N
Hands	2010	Qual	Headteachers, teachers, & community partners	25	CS; O; I; DA
Hernández de la Torre & Navarro-Montaño	2018	H	Schools	9	I, FG, Q
Hoque et al.	2011	Quan	Headteachers and teachers	127 694	Q
Korkmaz & Singh	2012	Qual	University students	11	O, I, SN
Krichesky & Murillo	2018	Qual	High schools	2	CS
Ku et al.	2013	Quan	University students	197	Q
Liu	2018	Qual	Administrators and teachers	13	DA; I
López-Yáñez & Sánchez-Moreno	2013	Qual	Primary, secondary, and special schools	10	EM
Pérez-Mateo et al.	2014	Quan	University students	1,887	Q
Radić-Šestić et al.	2013	Quan	Primary and special teachers	223	Q
Spillane et al.	2018	H	Elementary schools	14	Q; I
Trillo Alonso et al.	2017	H	Teachers	1,413	Q, I, DA
Visone	2018	Qual	Schools	24	QM
Woodland & Mazur	2019	H	Teachers	1,106	Q, NA

Note: R = review; Qual = qualitative; EO = ethnographic observation; I = interview; FG = focus group; H = hybrid; Q = questionnaire; N = narratives; CS = case studies; O = observation; DA = document analysis; Quan = quantitative; SN = social network; EM = ethnographic methodology; QM = qualitative method; NA = Network analysis.

In order to obtain a more detailed overview of the evidence provided in studies on teacher collaboration, we analyzed the most relevant themes and research hotspots. A graph was produced using VOSviewer software. Data were extracted using the “Key-Words Plus (KW+)” function which is based on the automatic extraction of relevant keywords from identified papers. Analysis of the selected 18 papers yielded 23KW+ with a frequency of ≥ 3 .

First, we developed a density map (Figure 3) in which color and size indicate the level of relevance of KW+. The following two clusters were identified:

- The central area of the map corresponds to the most important and relevant KW+.
- Peripheral areas correspond to a KW+ with less co-occurrence.

Following 23KW+ analysis, three clusters were obtained based on their level of homogeneity. A bibliometric map was designed. The bibliometric map shows the weight and frequency of each keyword according to the size of the node representing it and its links to other nodes (represented by a straight line). The bibliometric map also shows that networking and participation are the two most important factors with regard to teacher collaboration. Further, teachers appear to play a more prominent role than schools. This indicates that the emergence of a collaborative culture does not necessarily depend on the school but, rather, depends on the teacher’s organization and their capacity for collaboration to achieve shared aims and goals.

As illustrated in Figure 4, research hotspots identified in the field of teacher collaboration are represented by three clusters:

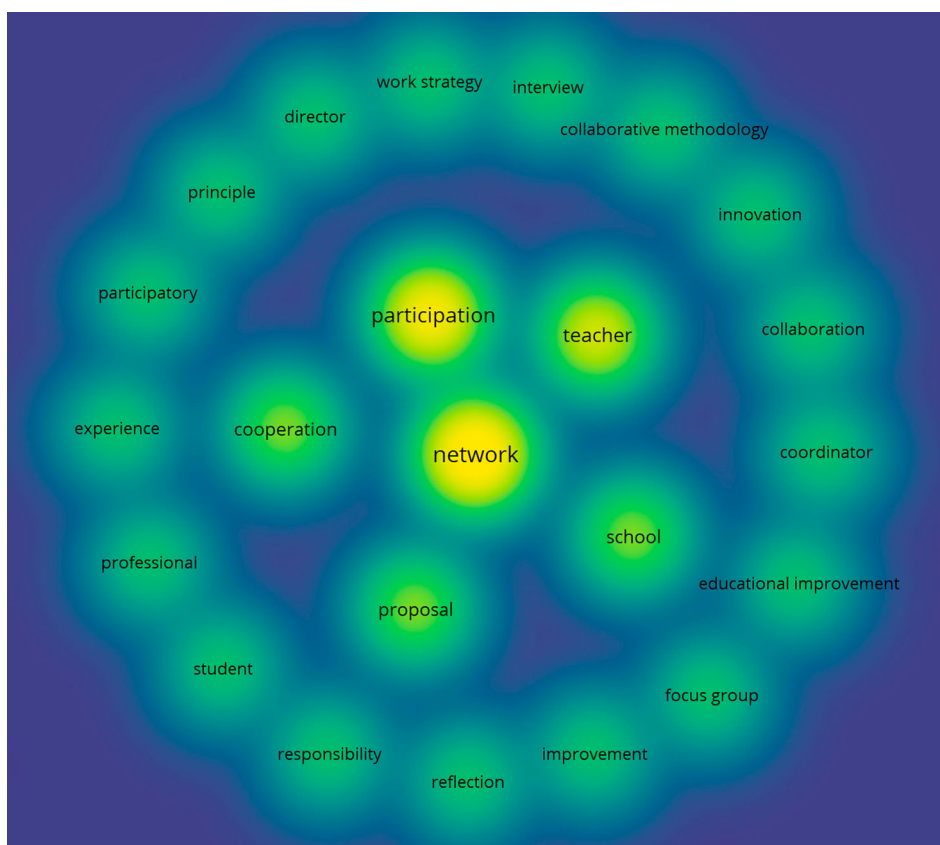


Figure 3. Bibliometric map.

- Cluster 1 (in blue): This line of research focuses on teacher collaboration and cooperation, and the role of school leaders in building a favorable climate. The most relevant keywords were *network* (150), *cooperation* (66), *proposal* (66).
- Cluster 2 (in green): This line of research focuses on the role of students and their participation in the transition towards collaborative teaching. The most relevant keywords were *participation* (124), *school* (66), *experience* (34).
- Cluster 3 (in red): This line of research focuses on the relevance of teaching practices to achieving better learning results. The most relevant keywords were *teacher* (96), *collaborative methodology* (34), *work strategy* (34).

Both the bibliometric map and research hotspots identified three key aspects with regards to the development of collaborative teaching processes within and between schools. The construction of spaces that promote the development of networks extends beyond the school in which teachers carry out their professional work. Such networks serve to ensure teacher collaboration and the exchange of good practices and feedback in order to achieve better student performance. Such spaces also encourage shared reflection between the professionals who operate within them. In this way, common

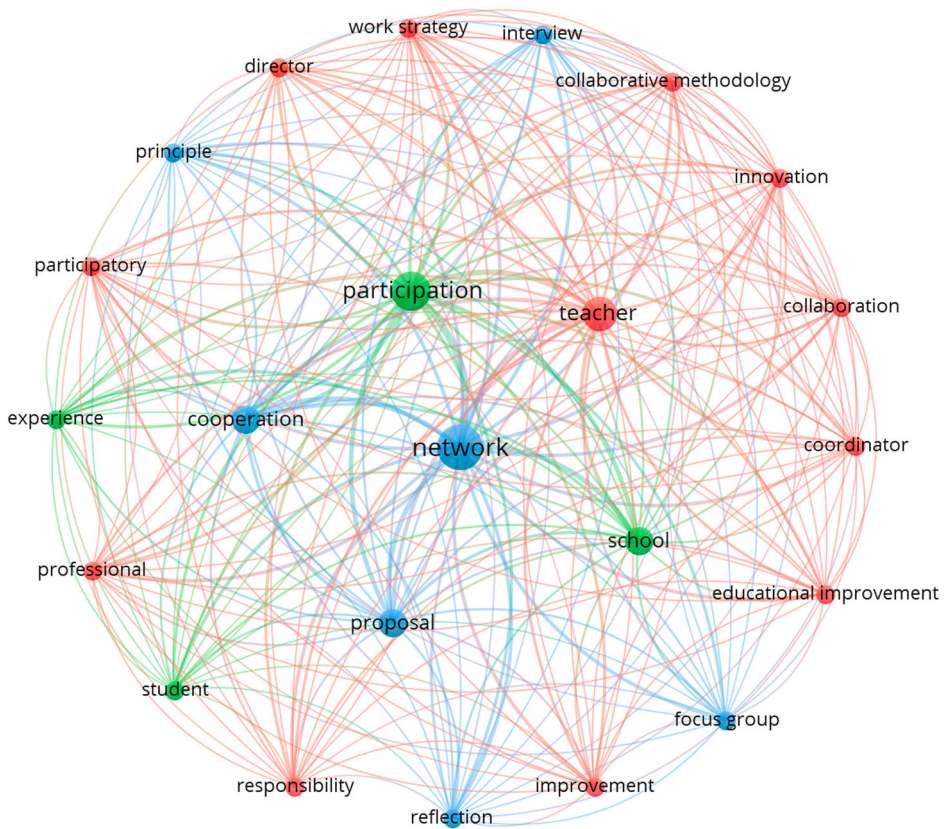


Figure 4. Labeled bibliometric map.

objectives are set and met through the promotion of dialogue between teachers and other educational agents.

Following this, engagement was positioned as a decisive factor in achieving school improvement through collaboration. The involvement of educational agents permits spaces for exchange and mutual enrichment to emerge, which is necessary for establishing strong collaborative relationships. Finally, teachers were identified as key players in collaboration. Although teachers have an important role in establishing a collaborative climate, teacher willingness and commitment are required to make educational processes possible. Further, it is important to orientate teachers' professional learning towards innovation and select appropriate collaborative methodologies in order to improve students' academic achievement.

Discussion

A total of 18 studies were identified in the present systematic review. These studies were based on a variety of methods. Although teacher collaboration and related terms, such as teacher cooperation, are approached from different perspectives, some similarities were identified.

Implications

Numerous studies emphasize the major role that headteachers play in building collaborative climates (Benoliel & Schechter, 2018; Duffy & Gallagher, 2017; Hands, 2010; Hernández de la Torre & Navarro-Montaño, 2018; Hoque et al., 2011; López-Yáñez & Sánchez-Moreno, 2013). Benoliel and Schechter (2018) applied methodic doubt processes in order to consolidate the collective identity of school teachers. Negative and positive factors were identified following implementation of this strategy. The most important finding was that school headteachers play a major role in constructing and articulating conditions which promote knowledge sharing and collaboration. The promotion of collaborative activities contributes to school transformation and reorganization. These findings are supported by evidence published in high-impact international journals such as that reported by Hallinger and Liu (2016), Darling-Hammond (2012), Leithwood et al. (2009), and Wahlstrom and Louis (2008).

With regard to the relationship between headteachers and teacher collaboration, leadership emerges as a crucial factor of school improvement. This is consistent with evidence outlined by international guidelines (OECD, 2014) and studies (Crow et al., 2017; Louis et al., 2010). López-Yáñez and Sánchez-Moreno (2013) and Visone (2018) provide consistent evidence supporting the role of leadership. These authors agree that the horizontal distribution of responsibilities and distributed leadership favor teacher commitment and cooperation. This strategy helps teachers improve teaching and learning outcomes (Vangrieken et al., 2015).

Hernández de la Torre and Navarro-Montaño (2018) and Liu (2018) advocate the development of cross-school networks which facilitate and promote the organizational changes required in schools. Opening schools to the community and building bonds with other schools do not only improve teaching and learning practices but also strengthen teacher commitment and foster intra- and interschool collaboration. These networks provide methodological strategies and spaces for knowledge transfer, in this way guaranteeing shared professional learning (Hopkins & Spillane, 2014).

Another relevant aspect to the construction of collaborative climates relates to initial teacher training and education (Cardoso et al., 2014). Three of the 18 included studies emphasized the importance of university training for acquiring the skills needed to be able to build a supportive climate (Korkmaz & Singh, 2012; Ku et al., 2013; Pérez-Mateo et al., 2014). Korkmaz and Singh (2012) analyzed levels of collaboration between university students. These authors specified three experimental groups with different roles and distributions. They then analyzed the level of coordination between group members and the creativity and efficacy of their projects. Analyzed factors pertained to trust, frequency of communication, leadership, and previous experience of working together. The results obtained showed that group members who had previously worked together exhibited more effective communication. Nonetheless, the appointment of a group leader had a positive impact on communication even in cases where group members had never worked together before. This is consistent with the findings reported by Ku et al. (2013) in their study with postgraduate students. These authors used questionnaires to obtain quantitative data. Students were found to be willing to cooperate and collaborate with their classmates. Factors shown to have a positive impact on building a collaborative climate included communication frequency, collegiality, trust, and the sharing of values

and motivations. The creation of a collaborative environment requires the acquisition of other desirable abilities. This is supported by Pérez-Mateo et al. (2014), who found a close relationship between teamwork and digital competence. In their study, students were distributed between groups made up of four individuals. Each group had to meet a set learning goal through teamwork and the integration of different tools, for instance, wiki, which was used at all stages of the project. The project was divided into four stages pertaining to initiation, structuring, development, and project end (Pérez-Mateo et al., 2014). Students reported being satisfied with their collaborative experiences. They recognized that teamwork had improved their learning experience and facilitated skill acquisition.

Spillane et al. (2018) performed a study in the field of mathematics. Here, they examined the relationship between epistemological ideology and instructional teacher practices (collaborative) in this field. The study showed that sustained interaction and collaboration with colleagues influenced teachers' epistemological values as these tended to align between collaborative partners. This finding supports the theory that the construction of collaborative climates supports the design and promotion of consistent pedagogical practices. This will make a difference to student learning (Ronfeldt et al., 2015).

Despite this, some teachers are reluctant to collaborate with their colleagues. Forte and Flores (2012) examined teachers' perspectives and experiences in relation to professional development through collaboration in schools in Portugal. They found that collaboration only occurred in relation to extracurricular projects, with horizontal and vertical pedagogical coordination taking a backseat. This is consistent with other studies which have revealed that most teachers do not feel comfortable sharing their teaching practices (Goddard et al., 2007). Indeed, some may even perceive others' opinions of their practices as a threat (Harris, 2014). Forte and Flores (2012) extol shared professional learning in schools as "a key strategy for promoting professional development and challenging a professional culture marked by isolation" (p. 901). Another relevant finding was the contradiction between teachers' positive perceptions of teamwork and their failure to put it into practice. In other words, teachers hold positive opinions about collaboration and its positive effects, but they fail to actually cooperate with other teachers unless they are forced to do so. According to Forte and Flores, factors associated with professional deployment include quality of the learning activities offered at the school, the performance of training activities beyond the school walls, and leadership support. These factors have also been identified by other authors (Cardoso et al., 2014; Hallinger & Liu, 2016; Hargreaves & Fullan, 2012).

Other aspects to be considered when assessing teacher collaboration at school pertain to interdisciplinarity and cooperation within teachers who specialize in different areas. Radić-Šestić et al. (2013) examined the relationships between general and special education teachers when urged to collaborate at schools in Serbia. The Serbian educational system is currently undergoing a process of transition from general education to an inclusive educational system. Primary school teachers in this context showed identity problems and demonstrated a need to improve their relationships and cooperation with special education teachers. A school team is defined by Radić-Šestić et al. as "a group of people with complementary skills who are equally loyal and committed to the common objective and meaning of work, as well as to the approach of problem solving while there is a strong sense of mutual responsibility" (p. 2). When assessing

teacher professional capital (Fullan, 2010), factors beyond those pertaining to the roles of and interactions between team members should be considered. These factors include “personal traits, cognitive abilities, values and motivation, environmental factors, work experience and previously learned social roles” (Radić-Šestić et al., 2013, p. 2).

Similarly, Trillo Alonso et al. (2017) and Hoque et al. (2011) addressed teacher cooperation as a catalyst of professional development whose influence extends to teacher learning structures, processes, and strategies. In the field of life-long teacher education, social changes and claims fuel the translation of theory into practice and foster professional relationships based on trust and respect (García-Martínez, Ubago-Jiménez, et al., 2020). Challenges to best collaborative practice include school organization, availability of spaces for collaborative work, lack of a collaborative culture and resources, and, above all, time.

In consideration of its strong social component, Woodland and Mazur (2019) assessed teacher collaboration from the perspective of social relations. These authors examined the “formal” and “informal” teacher support networks created by educational administrations. This strategy provides an overview of educational relationships and micro-policies in schools. The study revealed that teachers prefer to work with colleagues who belong to their informal networks ahead of those from their formal networks. This is a matter of congeniality, trust, and convergent teaching ideologies (DeAngelis, 2013). This preference can be compensated by actions directed by school headteachers (Ross et al., 2016). School headteachers have the power to build an organizational structure that promotes collaboration and strengthens teacher relationships (Harris & Jones, 2017). Thus, “teachers want to collaborate, and their school leaders can help create formal organizational conditions for them to do so” (Woodland & Mazur, 2019, p. 62).

Baker-Doyle (2015) emphasized the impact of organizational structures on teacher relationships. This author observed that teachers are transitioning from an individualistic conception of teaching towards a collaborative model. Baker-Doyle reviewed two studies that analyzed the way in which teacher collaboration promotes the establishment of social networks. According to Baker-Doyle (2015), it is important to analyze teacher relationships in school. These are defined “as a web of relationships through which information, resources, and support are exchanged. However, the type of information or support that is exchanged also defines networks” (p. 369). Further, when emphasizing the dynamic nature of peer relationships, Baker-Doyle stated that “networks are dynamic; they grow and change as individuals, create, develop, or end relationships” (p. 369). The review conducted by Baker-Doyle identified different types of social networks, alongside their benefits and limitations. In this sense, social networks influence teachers’ behaviors and attitudes towards decision making (García-Martínez, Tadeu, et al., 2020). Teachers’ attitudes and behaviors also determine their teaching practices (Hopkins & Spillane, 2014) and willingness to share good practices, and seek support and resources from their peers (Leithwood et al., 2009).

With regard to the relationships formed between university professors and teachers, included studies observed that teachers see lecturers as “outsiders”. Despite this, teachers improve their self-efficacy and competence when they cooperate with lecturers. Nonetheless, not all collaborative practices result in instructional and innovative improvements. In this regard, Krichesky and Murillo (2018) conducted a qualitative study in two secondary schools. They found that “teacher collaboration manifests in the form of coordination,

shared professional development, and decision-making activities” (p. 135). Thus, coordination is positioned as the weakest approach to collaboration. This may be explained by a lack of ideological affinity, poor interdependent relationships, and failure to promote teacher collaboration as a factor of school improvement. The purpose of collaboration will, to some extent, determine the educational direction of the school. Thus, “collaboration can be conceived as a work policy or as a strategy of change” (Krichesky & Murillo, 2018, p. 146).

Hands (2010) focused on change and school improvement. This study was developed on the concept of professional learning communities. Duffy and Gallagher (2017) performed a case study of the “Shared Education” initiative and state that social cohesion and shared professional learning contribute to the professional and pedagogical development of educational stakeholders (Hallinger & Liu, 2016). Duffy and Gallagher advocate creating professional learning communities based on sustained collaboration between school leaders, teachers, and students. When schools encourage their pupils to participate in learning processes, school performance improves (Louis et al., 2010; Wahlstrom & Louis, 2008). Establishment of solid networks between schools in the same districts also led to general satisfaction amongst school leaders and teachers. Most school members perceived collaboration as an opportunity to share knowledge that promoted mutual personal and professional development. Duffy and Gallagher (2017) described the resultant infrastructure in the following words: “leader involvement and endorsement; shared learning between students is regular and sustained; teachers are planning together, co-teaching, creating new resources, and developing new practices; and the experience of shared learning and collaboration between staff appears to be normalizing” (pp. 129–130).

Hernández de la Torre and Navarro-Montaña (2018) also analyzed the benefits of collaboration via the building of networks in new inner-city schools. A study was conducted to examine the ability of teachers to cooperate and design consistent, coherent, and educational projects which facilitated the transition from primary to secondary school. The study was based on opinions of primary and secondary school stakeholders. They found that these projects strengthened organizational relationships within and between schools, and enabled the development of consistent practices. In accordance with other similar studies, the collaborative network reinforced teacher commitment (Darling-Hammond, 2012; Hargreaves & Fullan, 2012; Harris, 2014).

All included research studies verified the prevailing link between teacher collaboration and school improvement. It is worth noting that this link is presented as one of the emerging trends in collaborative professionalism (Hargreaves & O’Connor, 2018). Collaborative professionalism acknowledges the impact of teaching practices on student learning. It shifts the focus away from the promotion of pedagogical renewal and exchange processes in favor of establishing a culture of collaboration and shared enrichment. Various studies included in the present systematic review and other studies beyond the scope of the review (Lofthouse & Thomas, 2017; Lu & Hallinger, 2018; Montiel-Overall, 2005) have shown that collaborative approaches take different forms depending on the prevailing context. Despite this, these contexts share the same common aim of school improvement.

Recommendations

Much of the included research addressed the importance of creating opportunities for collaboration, highlighting the key role of leaders in building spaces and processes through which teachers can collaborate. Commitment, trust, and climate were also observed to play an important role in achieving this. It serves to highlight that the willingness of teachers to collaborate with others is another necessary aspect for effective collaboration (Drossel et al., 2019). In this regard, the creation of professional practice communities stands out as an effective way of achieving collaborative goals. The key to these communities is in empowering teachers to assume more responsibility and distribute leadership across the organization, with the aim of promoting the engagement of all relevant actors in school projects. Fostering dialogue between all educational agents and promoting shared decision making with regard to the school can help overcome teacher individualism. Despite the fact that it has been observed that collaborative experiences tend to focus on purely instructional issues, it is necessary to try to increase awareness of the fact that the exchange of practices and collaboration does not only have an impact on teaching and learning processes. In fact, this exchange also impacts teacher professionalism, increases job satisfaction, and improves physical and emotional well-being. Similarly, it is necessary to promote a broader vision of collaboration instead of limiting this exclusively to teachers within the school. Opportunities to see how work is carried out in other contexts and to learn the keys to success that justify good student outcomes and enhance school culture benefit all educational stakeholders by increasing motivation and desire to transform schools.

Conclusions

Teacher collaboration can be promoted within and between schools, as evidenced in this literature review. Most studies demonstrate that teacher collaboration is key to school improvement, having positive effects on social and professional capital. Collaborative support does not only offer teachers the opportunity to take on new responsibilities at their school but, also, facilitates teaching professionalization.

Most studies associate teacher collaboration with pedagogical leadership. They also show the importance of leadership to establishing appropriate climates for professional exchange and learning. More specifically, distributed leadership promotes teacher commitment to school goals and acceptance of responsibilities.

Social networks are consistently mentioned in the majority of research reviewed in this study. Social relationships help establish climates of trust and collegiality, improve teacher commitment to the organization, support role distribution, and align educational ideologies and practices. This results in consistent educational practices and school improvement.

Nevertheless, collaboration does not always result in school improvement. For collaboration to be effective, it is necessary for teachers to share pedagogical values and ideologies. From this, they can build solid interdependent relationships which drive organizational change towards more collaborative structures and result in school improvement.

Finally, teachers generally have positive perceptions of collaboration and are aware of the positive effects that this has on professional practice. Nonetheless, teachers are reluctant to collaborate and share their professional practices in order to facilitate shared professional development. This is a promising avenue for future research.

Further mixed-design studies should also be conducted with teachers to investigate whether there is a true culture of collaboration and collegiality in schools and identify prevalent approaches to collaboration. In order to better understand the current state of affairs, qualitative studies are needed to examine the factors that promote or impede teacher collaboration. In consideration of the outcomes of the studies included in the present review, measures should be implemented to decentralize organizational dynamics and structures as a means of promoting teacher collaboration.

Once the factors that limit the development of collaborative cultures are detected, longitudinal interventional studies should be conducted to overcome teacher reluctance to collaboration.

Initial and lifelong teacher education should be improved to enable teachers to acquire the required skills for building positive professional relationships and climates of collaboration and collegiality, whilst also equipping them to engage in professional learning communities. Teacher training and education programs should be aimed at strengthening social, emotional, and leadership skills. These improvements will create conditions for shared professional development.

Strengths and limitations of the present systematic review

The present study identified the most relevant factors to the development of collaborative climates in schools. We established the positive impact of settings characterized by trust and collegiality on collaboration within teachers. Distributed educational leadership was also found to be key to collaboration.

A limitation of the present study is that we collected data from 18 reviews published in the last 10 years using a specific set of keywords. A factor-focused scale was employed which may not provide enough data on all of the factors identified in the literature to have an influence on teacher collaboration.

Further research

Teacher collaboration has been identified as an important factor for improving instructional processes and teacher professionalization. However, there is still a long way to go before we can comprehensively understand this construct. Future research should examine approaches to tackle factors that limit collaboration. Future studies should also examine the role of educational technology or teacher training in relation to psychosocial issues, uncovering paths that enable and reinforce teacher collaboration.

Disclosure statement

No potential conflict of interest was reported by the authors.

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