Exploring the Professional Learning Community in a Special Education School Serving Pupils with Autism

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Abstract:
Researchers, policy-makers, and practitioners have underscored the need for schools to become professional learning communities (PLC) as leverage for school change in dynamic environments. Professional learning community is defined by the networks of learning processes among its community members, where teachers continuously deliberate with one another on how to solve problems that relate to teaching and learning. The purpose of the current study was to explore the facilitators and impediments of PLC in a special education school for pupils with autism spectrum disorder (ASD). Semi-structured interviews (84) and observations (18) were conducted over a period of two years. Data collection and analysis occurred simultaneously as an ongoing process throughout both years of inquiry. Generating themes was an inductive process, grounded in the various perspectives articulated by participants. Participants indicated that organizational resources (allocating time and place for collaborative learning), a learning culture, and an administrative support were major factors that inhibited PLC. There is a need to broaden the research on PLC to various self-contained special education schools, as well as inclusive schools.

Keywords*: professional learning community; special education.*

Introduction

In an attempt to address the call for greater interactive professionalism as a humanistic, ethical goal of contemporary schools operating in dynamic, high-accountability educational environments, the notion of the professional learning community (PLC) has come to the forefront of school change discourse (Roy & Hord, 2006). In contrast with the often prevailing pedagogical isolation experienced by autonomous teachers, particularly in secondary schools where roles and responsibilities are highly distributed, the PLC is defined

by networks or webs of learning processes that transpire among its members (Andrews & Crowther, 2006; Mitchell & Sackney, 2006; Roy & Hord, 2006; Stoll, et al., 2006).

It has been argued that learning communities have powerful potential to develop teachers' professional growth, which consequently can lead to measurable improvements in student achievement (Andrews & Lewis, 2002; Mitchell & Sackney, 2006; Stoll, et al., 2006). Organic, open organisational structuressuch as the PLC, in contrast to mechanistic ones, permit substantial formal and informal communication, interaction, and participation in. decision making structure may be relatively more complex to create, once in place they offer greater adaptability and flexibility than mechanistic structures, especially in rapidly changing, unpredictable environments (Lunenburg, 2012).

Toward this goal, some researchers and school leaders have attempted to transform the traditional mechanistic framework of schools into a more collaborative PLC framework focusing on mutual knowledge exchange, where teachers learn together and coordinate their efforts in order to improve their students' learning (McLaughlin & Talbert, 2001). Unfortunately, the majority of teachers today continue to learn primarily from their own individual and isolated experiences rather than from – and with – their peers. Thus, teachers

tend to remain socially, emotionally, cognitively, and physically isolated in contemporary schools (Roy & Hord, 2006; Schechter, 2012). This clearly highlights the continued importance of further empirical scrutiny to determine how schools can move away from isolated types of teacher learning and thinking toward more collective ones.

In particular, learning communities regarding teaching/learning issues is a core organizational feature in special education schoolwork (Borko, 2004; Sachs, Levin, & Weiszkopf, 1992). In the field of special education, each school employs a diverse staff encompassing administrators, homeroom special education teachers, teaching aides, vocational teachers (e.g., carpentry), physical education teachers, arts and crafts teachers (e.g., music and drama therapists), dieticians, educational and clinical psychologists, educational counselors, social workers, nurses, physiotherapists, occupational therapists, speech therapists, and support staff (e.g., secretarial, custodial). Such a multidisciplinary faculty must work collaboratively and maintain continuous dialogue to assure optimal functioning for the child with disabilities over the course of the entire school day and progress over the long term. This need for cooperation requires an organizational structure that establishes learning networks for joint thinking and learning to enhance students' welfare (Tsai, 2001). Whereas a growing number of studies have been conducted focusing on how to promote learning communities among teachers in general public schools, interestingly, the notion of learning communities has not yet undergone deliberate empirical research within special education schools (Odom, Brantlinger, Gersten, & Horner, 2005).

The current study attempted to address this paucity of research literature by empirically investigating PLC within a special education school that serves a student population with autism spectrum disorder (ASD). Considering the complexity of this neurobiological disorder’s symptomology, with its social, communicational, and behavioral problems, multidisciplinary collaboration is vital to the special education staff members who serve the

ASD population, calling for systematic investigation of PLC within such settings. Specifically, the purpose of this study was to explore the *facilitators* and the *impediments* of PLC in a special education school for pupils with ASD.

Conceptual Framework

Professional Learning Community

Collaborative learning is imperative for survival and competitiveness in dynamic, complex, and uncertain environments. In today's information-rich society, no person can possess the wealth of skills and knowledge available. Put simply, the full range of existing information that is required to achieve even reasonably effective learning for all potential students is almost impossible for one individual to master (Gallucci, Van-Lare, Yoon, & Boatright, 2010). From a socio-cultural perspective, the individual learning context cannot be separated from the group learning context because learning does not occur in isolation. Hence, it is appropriate to study individual learning within the context of a group, as well as to study group-level learning (Horn, 2007; Stein & Coburn, 2008). Learning, then, is socially constructed, dependent upon interactions, and socially mediated (Moll, 2001; Vygotsky, 1986).

Historically, the system of public education was constructed on the basis of what Richard Elmore called *"the ethic of atomized teaching:*" autonomous teachers who close the doors of their classrooms and teach what they wish and as they wish (Whitehurst, 2002). In other words, the teaching profession is a highly isolated profession in which teachers are expected to handle their own students and make any necessary adjustments to ensure that students in the classroom progress academically and socially (Dukes & Lamar-Dukes, 2007).

In response to this autonomous culture, for the last two decades, scholars have used the PLC term to describe desirable attributes of educational organizations that focus on teacher learning and school improvement (Fullan, 2001; McLaughlin & Talbert, 2001; Shulman &

Shulman, 2004). The notion of PLCs has been popularized as a viable response to external and internal pressure on teachers to improve student achievements (e.g., DuFour, Eaker, & DuFour, 2005; Van-Lare & Brazer, 2013) to the extent that PLCs lie at the center of contemporary school reform movements. Thus, the idea of teachers working collaboratively in teams has evolved from school-wide teams preoccupied with general operations to grade-level and subject-centered teams whose mission is to improve student achievement. In this manner, the notion of PLC has come to the forefront of school change discourse (Roy & Hord, 2006; Timperly et al., 2007).

Put differently, as traditional mechanistic models of school organization contrast with the advocated value of social exchange, researchers have argued for the reorganization of schools into professional webs of interactions (Louis, 2006), thereby reculturing schools into PLCs (DuFour et al., 2005). Similarly, Louis (2006) argued that schools' capacity for innovation and reform depends on their ability to collectively process, understand, and apply knowledge concerning teaching and learning. Therefore, to revise their existing knowledge and to keep pace with environmental changes, schools must establish structures, processes, and practices that facilitate the continuous collaborative learning of all their members (Silins & Mulford, 2002). Such collaborative learning, in turn, is expected to enhance professional development by helping break down teacher isolation barriers, altering teaching practices, and contributing to student learning (Hipp, et al., 2003; Mitchell & Sackney, 2006; Stoll, et al., 2006).

DuFour, et al. (2005) and Roy and Hord (2006) identified the following four core characteristics of a PLC. (1) Collective learning consists of reflective dialogue focusing on instruction and student learning, where teachers reflect on instructional practices and examine tacit assumptions about teaching and learning. (2) In deprivatization of practice, teachers provide feedback through networks of professional interactions and share knowledge beyond

their own classrooms, for example becoming mentors. (3) Peer collaboration is where teachers collaborate on school projects that focus on professional reform and improvement initiatives. Collaborative teams engage in action research and collective inquiry into the important questions of teaching and learning; thus, continuous improvement cycles are built into the routine practices of the school. (4) Shared leadership and facilitative-supportive actions are enacted on the part of the principal and the administration team. While all four of these core characteristics are interrelated and should be aligned to produce the capacity for a PLC, no single method can be applied to all schools wishing to create such a community (DuFour, DuFour, Eaker, & May, 2010).

It has been argued that learning communities have the potential to considerably develop teachers' professional growth, which consequently can lead to positive measurable improvements in students' achievements (Andrews & Lewis, 2002; Mitchell & Sackney, 2006; Stoll et al., 2006; Vesico, Ross, & Adams, 2008). In light of this potential contribution of a PLC, efforts have been made to change the mechanistic framework of schools into more collaborative PLC frameworks, where teachers learn together and coordinate their efforts toward improved student learning (Blank, 2013; McLaughlin & Talbert, 2001). Nevertheless, uncertainty remains among school leaders and researchers about the development and sustainability of PLC within school contexts (Craig, 2012; Friend & Cook, 2007; Louis, 2006; Wood, 2007). Thus, it is of the utmost importance to expand on empirical examination of this call for schools to move away from isolated learning towards a more collective type of thinking regarding teaching and learning issues.

Conditions Fostering and Inhibiting PLC

A variety of structures necessary to support learning communities has been identified by researchers (Curry, 2008; Wiggins & McTighe, 2006). Structures and resources facilitate the development and sustainability of the collective learning process where key descriptors like

time, scheduling, space, staffing, funding, and equipment/technology are seen as essential. Physical conditions may include time to collaborate, physical proximity of staff, size, roles and responsibilities, and communication. They may also include availability of resources, schedules and structures that reduce isolation, policies that foster collaboration and enhance effective communication, and intentional arrangements for collaborative decision-making.

Another key structure in learning-centered schools is the opportunity for professional exchange of ideas on the teaching and learning process (Clark, Moore, & Carlson, 2008; Dimmock, 2000). This process can be enhanced by physical proximity of classrooms to facilitate both formal and informal professional conversations. Organization of classrooms within a building by grade level or content areas can do much to facilitate interactions among teachers (Hord & Hirsh, 2008). In addition, comfortable work spaces can enhance the creativity process as well as provide necessary resources for collaboration and planning (Novak & Murray, 2009; Stoll, et al., 2006).

A particularly essential structure for PLC improvement is time for teachers to collaborate; likewise, time is one of the key challenges for schools when implementing the PLC process. Research suggests that it is far preferable to structure time allocations within the regular workday to allow staff to collaborate regularly (Rigelman & Rubin, 2012; Stoll et al., 2006). Put differently, time is perhaps the most salient issue in the context of productive collegial interactions (Collinson & Cook, 2007; Scribner, Hager, & Warne, 2002), but due to teachers' heavy workloads, these interactions generally turn into mere updating mechanisms. This occurs especially in the contemporary education system’s age of accountability, where administrators face an often chaotic and turbulent environment both inside and outside schools, including external pressures for change and reform to meet high-stakes standards for teacher efficacy and student achievement or else receive sanctions (e.g., funding reductions, negative publicity), and while also facing internal disagreement within the school as to how

best to advance these objectives in order to receive accolades or even compensation (Davies, Ellison, & Bowring-Carr, 2005). In such a milieu, administrators tend to colonize the blocks of time that were allocated for collaborative learning and use them to advance their administrative agenda, instead of focusing on instructional practices (Giles & Hargreaves, 2006).

While time and space are readily acknowledged essential structures, it is also necessary to support the PLC process by providing adequate materials and human resources. In particular, structures that facilitate review and analysis of data are an integral aspect of the process. Ease of access to data reduces teachers' time in searching for data and increases their time in reviewing and analyzing data. A district's capacity to collect data and array it in an understandable format is an important consideration. When needed skills are not available within a school, external expertise can be requested from central office staff, teacher leaders in other districts or schools, community members, and educational consultants (Hord & Sommers, 2008; Stoll & Louis, 2007).

Hord and Sommers (2008) also stressed that communication structures are vital to a well-functioning collective learning. Effective communication helps to share decisions about curriculum, instruction, and overall teaching and learning (Little, 2003; McLaughlin & Talbert, 2006). In this line, ineffective communication can perpetuate practitioners' skepticism toward any kind of communal learning. The social arrangements wherein teachers share and create knowledge are fraught with competition for professional legitimacy and political power, often inhibiting authentic interactions. Because legitimacy is conferred by its stakeholders, rather than given automatically to individuals or a group, learning in the communal arena can induce fear and vulnerability in light of possible change in members' perceived professional legitimacy (Roy & Hord, 2006; Schechter, 2012).

To conclude, the special education context dealing with the ASD population is characterized by an inherently collaborative structure by virtue of the necessity for substantial cooperation between different professionals. Precisely for this reason, special education schools serving pupils with autism, with their unique characteristics and particularly pronounced needs for collaborative learning as a means of assisting in the advancement of each individual student, may shed light regarding the factors/determinants that may either facilitate or inhibit a productive learning community.

Methodology

Patton (2002) asserted that the case-study approach becomes particularly useful when attempting to understand a particular problem or unique situation in greater depth. Moreover, a case-study strategy serves as fertile ground for theoretical development, thus generating new thinking and ideas (Hodkinson & Hodkinson, 2001). Hence, in the current research endeavor, the case-study method was selected to explore the *facilitators* and the *impediments* of PLC in a special education school for pupils with ASD.

Sampling

The Friendship School (pseudonym) is a public secondary school in central Israel with 87 pupils of ages 12-21 years and almost 110 staff members. Children study according to their abilities and not their age. The school day starts at 7:30am and ends at 16:45pm daily, including summer vacation. The school employs a staff that includes homeroom special education teachers, paraprofessional teaching aides, paramedical professionals, administrators, support staff, and more.

The school is divided into 10 classes spanning three levels of ASD functioning: low, intermediate, and high. Three classes serve low-functioning pupils with ASD, with two homeroom teachers and two teaching aides per class, one teacher-aide team in the morning and one teacher-aide team in the afternoon. Similarly, three classes serve pupils functioning at

the intermediate level, with two teacher-aide teams per class. Finally, four classes serve high-functioning pupils with ASD, with two teacher-aide teams per class. All the teachers who work with students at the same functioning level share information and work together. Each level has its own physical learning environment; however, they all function in the same school complex. This unique multi-level school setting, with its three different levels of functioning that are considered as one school, provides an opportunity to explore practitioners' perceptions concerning their school's collective learning processes and structures as a function of joint and separate learning forums and as a function of pupils' disability severity.

The two learning forums that the current study investigated in depth were: (a) the educational class meetings that took place twice a month and (b) the pedagogical meetings that were held three times a year (every three months). These two learning groups were sampled because of their unique atmosphere of collective learning and their contribution to the collaboration between staff members.

Educational class meetings were held every 2-3 weeks for the four primary educational team members in each of the 10 classrooms, comprising the two homeroom teachers and the two teaching aides working in each class (the morning and the afternoon teams). Because the staff members only worked for part of each day, urgent daily information was passed from one staff member to the other through phone calls, the class's staff notebook, and updates throughout the day. The educational class meetings for all four primary team members in each class were essential to share more detailed information about the pupils and about any pedagogical or administrative changes. At these class meetings, every 2-3 weeks, all four class staff members met, learned together, and discussed different issues.

Pedagogical meetings were held three times annually, every three months, to provide an opportunity for each class's primary educational staff (the two homeroom teachers and two teaching aides) to meet with the other staff members including subject-matter teachers,

paramedical professionals, and so forth in order to gather and report general information concerning each student in the class. About one hour was dedicated to discussing each class. One last pedagogical meeting was held at the end of the school year with all of the school staff members. In this "*general assembly*," the goal was to see the pupil or the whole class from different perspectives, focusing on various aspects of the whole curriculum, such as how they perform in sports, art, and music.

Data Collection

Data were gathered from interviews and observations to ensure the trustworthiness and soundness of the study (Guba & Lincoln, 1989). In order to maintain an ethical approach in this special education school serving students with ASD, approval was first obtained for human subject research from the Office of the Chief Scientist at the Israeli Ministry of Education. Next, the school principal was approached and agreed to fully participate. Each teacher participated voluntarily and received full retreat options. Participants were ensured that all information would remain anonymous.

Interviews

A wide range of educators and treatment professionals was interviewed (conducted individually) to elicit data from all the participants about their involvement in the process of PLC. In the final sample, semi-structured interviews were held over the two years of data collection, tapping 42 interviewees (33 females and 11 males) in the Friendship School, who were each interviewed twice (once in each of the two academic years), yielding a total of 84 interviews. These interviewees participated in both targeted learning forums, the educational class meetings and the pedagogical meetings. That is, interviewees included the crucial stakeholders in the special education setting, the homeroom class teachers and teaching aides forming each class's primary team, who must continuously communicate with the other staff members working daily with their class and who also occasionally meet in a collective forum

together with the larger staff (e.g., paramedical professionals like occupational or speech therapists) with whom they need to collaborate in order to achieve the best results for their students. Moreover, the administration members who participated in the interviews comprised the principal as well as the vice principal. Thus, the sampling consisted of 20 homeroom special education teachers, 12 paraprofessional teaching aides, 8 vocational teachers, and 2 administrators (the principal and vice principal).

The semi-structured interview style was deemed best suited to the needs of this study because, as Merriam (2009, p. 90) pointed out, "*this format allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic*." Indeed, this format left leeway to be flexible when the respondents carried the discussion to unanticipated areas. It also allowed the different staff members to answer in their own words, according to their own values and life philosophies, unhampered by rigid restrictions of a formal survey/questionnaire yet within the boundaries of the current research parameters. Finally, this format provided new areas to explore with later interviewees.

Based on Kvale and Brinkmann's (2009) types of interview questions, the current semi-structured interview questions on PLC included: introductory questions (e.g., What is the atmosphere in school?), follow-up questions (e.g., Do the group members accept other points of view?), probing questions (e.g., Can you give me an example of such a meeting?), specifying questions (e.g., What is the principal's role? What are other factors that inhibit or facilitate productive learning?), direct questions (e.g., Do you feel participants were open to discuss professional issues in the learning group?). Each interview lasted between 60-90 minutes. Interviews were transcribed as soon as possible after the actual interview took place.

Observations

Observations of PLC forums took place over a period of two years; 18 scheduled observations were conducted altogether. It was important to observe these activities and

meetings in order to confirm or question what had been heard at the interviews and also to expose other aspects of PLC that may not have been raised in the one-on-one interview setting. The researchers focused on the educational class meeting and pedagogical meeting forums where teachers and other staff members (administrators, teaching aides, etc.) met to discuss and make decisions about teaching and learning to be implemented in class. During these meetings, teachers reported the progress and/or difficulties they encountered. They discussed each child, made decisions, and followed up on implementation of previous decisions. At the end of each meeting, participants shared their thoughts about the benefits and impediments of their collaborative learning. At the Friendship School, the 45-minute educational class meetings (low, intermediate, and high functioning levels) were each observed twice, yielding 6 observations each year and 12 in total. Regarding the pedagogical meeting forum, 6 observations were conducted at the more general meetings that were held three times a year.

Data Analysis and Trustworthiness

Data collection and analysis occurred simultaneously as an ongoing process throughout both years of inquiry (Charmaz, 2006; Denzin & Linclon, 1998). Specifically, the analysis was performed in two phases: 1. *vertical analysis*, where participants' voices were analyzed separately; and 2. *comparative horizontal analysis*, used to find common themes, contrast patterns, and shed light on the differences among various voices (Miles & Huberman, 1994). The horizontal process involved identifying recurring patterns, ideas, and perspectives in the data (Rossman & Rallis, 1998). In this way, generating themes was an inductive process, grounded in the various perspectives articulated by participants. Special attention was given to data that challenged the developed conceptualization, thus crystallizing the analytical themes.

At different intervals along the data collection process, the researchers re-read all interview transcripts and observation field notes collected up till that point, in an attempt to obtain a broad picture of the data and to extract major themes. At the end of the data collection period, with those themes in mind, the researchers then revisited the 300 pages of interviews, extracting some 50 pages of quotes most relevant to the themes at hand. Next, a pattern clarification process was undertaken to identify repetitions of the themes within the data gathered from the interviews and observations. In order to ensure the internal validity of the data analysis, theme generation was conducted independently by the two researchers (Cohen, et al., 2000). Analytical themes generated by each researcher were compared. Whenever there was a difference in categorization, it was discussed in order to reach agreement.

The utilization of two methods for gathering data in this study – by means of interviews and observations – provided triangulation for this qualitative research (Guba & Lincoln, 1989). Furthermore, member checking (Baxter & Jack, 2008) with all interview participants (n = 42) was conducted in order to reevaluate the data. In other words, the tentative findings were given back to interviewees to ask for their feedback and evaluation of the collected data. Finally, Merriam (2009) described the importance of an audit trail, a transparent description of the empirical steps taken from the inception of a research project, through its development, and up until reporting of the findings. Thus, the researchers maintained a detailed log of: how the data were gathered in the data collection stage; how categories were derived in the data analysis stage; and how decisions were made at all stages.

Results

Barriers to PLC in the Friendship (Secondary) School

When the interviewees were asked about what should be done differently, they said that although professional learning is constantly ongoing, the process requires additional

allocations of time, locations, and tools for collaboration. For example, one of the veteran homeroom teachers in school said: "*One of the problems is time, and part of it is that you have to work on it [collaboration]. It doesn't come naturally. I try to do my best to bring people together, but this is not an ideal situation.*" Similarly, a teacher of a class with an intermediate level of functioning described: "*If I turn to somebody for help, everybody is ready to help, but there is not an organized place to do it and no directions for how to turn for help." In addition, another teacher from an intermediate-level class mentioned a lack of focus: Sometimes the discussion becomes very noisy and moves to personal issues, rather than openly discussing professional issues."*

Although the principal described her vision for the school's future as one that "*develops skills of self-learning connected to the whole organization… at a very high level,*" she admitted that at the present time the school had not yet reached this holistic level of applying knowledge and skills learned via the PLC forums: *"I don't know if we are there yet. It means being involved in whatever you have learned. Perhaps in the structural organization we haven't used all the opportunities.*" The principal cited limited personal resources as a barrier to fully implementing collaborative learning in the organization: "*This is the most difficult part on the job. There is discussion but there is a lack of psychological/emotional resources to share the things you learned."*

Perhaps related to the limited mental resources among staff members in order to apply what one learned in the collective learning forums, a veteran teaching aide who had eventually gone back to school and become a licensed teacher of a high-functioning class pointed out the heavy everyday burden lying on the staff members' shoulders, which led participants to merely seek to survive the school day:

One of the biggest problems in our school is that it doesn't have a goal. The main goal is survival: of the teachers, of the pupils. Anything beyond survival is considered a bonus.

There is no vision for the long run and no cognitive pluralism. It is hard to say what you think in our staff discussions.

This sense of being criticized and alone during staff discussions was echoed by a teaching aide who worked with low-functioning students: "*The atmosphere is of anarchy and, as such, some are winning and some are losing*." Thus, these staff members pinpointed the principal's lack of clear vision and shortcomings in her leadership skills as a barrier to PLC. A teacher from the high-functioning level related specifically to the organization structure as a barrier to collaborative learning: "*One of the biggest disadvantages is that there is no hierarchy, there is not an ordered process of learning and decision making…. It seems that there is more of a trial and error work style."*

In one of the observations conducted on the second pedagogical meeting with a class of lower-functioning students, one of the physical education teachers said: *"Maybe the goals are unsuitable, there are too many issues to deal with… incorrect division of resources, or only intuitive work without any rational planning."* Thus, it appears that barriers were perceived by stakeholders working with pupils across all three levels of functioning, and different staff members pointed out the same problem of insufficient hierarchy in the school to scaffold the channels of communication and decision making.

A number of key staff members identified criticism of other professional sectors or of the collective learning process itself as barriers to PLC in the Friendship School. For example, a novice homeroom teacher expressed a wish for increased collaborative learning but cited mutual attitudes between members of different professional sectors as a possible barrier:

I would like to see more collaboration between the homeroom teachers and the subject-matter teachers. This issue has been mounting for many years. Each sector feels that the other one doesn't do enough or doesn't value the subject matter of the others.

The vice principal, who started as a teacher 15 years earlier, emphasized some individuals' negative, depreciating attitudes toward PLC and novice staff members' anxiety about the process of sharing in collective groups:

Some people view the collaboration as a burden or a waste of energy….and for new teachers it is even more difficult. They don't know what to share with others, what will be considered a good question, and what will influence their acceptance in the school.

A veteran teaching aide who had worked in all levels of functioning broadened this issue, stating that "*lack of communication in the first place, hostility among members, and lack of motivation for learning*" can be detrimental to professional learning among staff members. A teaching aide in a low-functioning class elaborated on these prevalent attitudes and her chagrin when encountering them:

Many subject-matter teachers don't accept others' opinions. I don't understand that because we work together, I am there in order to help. And on the other hand, sometimes they give me the feeling of *"Don't interfere, sit aside"* and that *"The teacher knows best."* Among the teaching aides, there is a feeling of low motivation, which wasn't there in the past, a feeling that you are not really appreciated. They [the administrators] say thank you but they don't really mean it, so you learn that you shouldn't volunteer to say what you think aloud.

From this teaching aide's point of view, learning groups were not a forum where she felt that teaching aides' abilities and contributions were taken into consideration by the administration team. In addition, the principal added: "*What delays learning is lack of openness, lack of the ability to learn from colleagues, lack of flexibility, irrelevant contents, and objections to others' viewpoints."* The pedagogical coordinator added several other *"obstacles to the learning process… lack of flexibility, lack of willingness to accept others' points of view, and the continuity of the process."*

A chief barrier to genuine learning and benefit from collaborative learning, which was highlighted by many staff members, was a judgmental climate in the group. One of the homeroom class teachers who worked with intermediate-level students described "*a climate that doesn't allow you the possibility of expressing yourself, that doesn't encourage exposure that hides class work.*" She linked such a climate, where it felt unsafe to share and expose problems, to the "*lack of professional learning as a goal of the school's vision."* Her colleague from the same class said:

Some teachers think that exposure [in the group] will affect their relationships with their colleagues. Other people won't take part in the learning process because they aren't willing to be criticized, or they feel threatened, a feeling that exposure will damage their future.

This teacher went on to suggest that staff members must find a common language in order to express their innovative ideas but at the same time to be ready to be criticized and not to be afraid of it. In trying to consider the negative consequences of such reticence and possible factors leading to anxieties about exposure, a teacher with 7 years of experience suggested that pressure to share is unhelpful:

If people are not ready to share, it delays the process. By sharing, we learn one from the other, it's not just a one-way process, its' a mutual process of learning…. Pressure also delays learning processes; you can't force a person to share.

Another impediment to sharing was voiced by one of the novice teachers, who had just entered the school: "*The more you are professionally lonely, the less you enter organizational learning processes."* This novice teacher explained the problematic situation of teachers' isolation at the beginning of their career and identified collaborative group participation as an important step that he himself should take in order to feel he was an integral part of school life.

A homeroom teacher of a high-functioning class aptly summed up a number of the barriers highlighted by the data analysis, including the difficulty in sharing in a group with a judgmental or critical climate, and the problems arising when no clear goal guides discussion:

If someone has a very different approach, he/she won't find his/her place in the school's community. He/she can say things, we are a democracy, but I doubt the implication of these ideas…. If there isn't good communication or a clear goal, no openness, you can't express your thoughts.

Facilitators of PLC in the Friendship (Secondary) School

As seen in the previous section, although the PLC process faces many obstacles in its implementation, which are not easy to overcome, the aim of the school members is to find a way to make the best of their collaborative learning in order to use it effectively for the benefit of both staff members and pupils. To develop and maintain the professional learning, there is a continuous need to promote, guide, and follow the whole process from the beginning and throughout its trajectory of growth. In this regard, the vice principal identified some important facilitators of PLC in the Friendship School:

I have the feeling that the learning groups develop through an ongoing process. We are always checking our tools and approaches, which are continuously changing and updating. I think this is encouraging and keeps up high motivation at work. When school enables learning, different staff members feel important and they can build relations. Sometimes it's Sisyphic work, especially with autism. For example, the teachers' room is supposed to be a place for just relaxation, but even there you can get some sense of the organizational learning processes that are going on and you can feel the positive atmosphere and learn about the different links between staff members.

The vice principal continued and pointed out that as soon as staff members face a problem, they need to find a solution, which is one of the best catalysts for seeking

collaborative learning opportunities and for becoming innovative. She also cited the importance of ongoing opportunities, whether formal or informal, for staff members to consult with one another and strengthen their collaborative ties.

The principal expressed a similar point of view concerning the important facilitative role of problems in the learning process:

Where we see a difficulty, that is where there will be the most effective learning. When everything is calm and "regular," the staff won't be open to change. Only where there is a conflict, a problem, something that should be changed, can we discuss things, look for alternatives, and learn more effectively. In my opinion, objections are what promotes learning the most.

As mentioned above regarding a positive atmosphere, the art subject-matter teacher accentuated the significance of positive feedback as playing a facilitative role:

It's important that you work with staff who you enjoy being with, who discuss everything openly, and that the work is equally divided. You get positive feedback from the staff and the children, which is very essential with our population especially.

Rather than focusing on the interpersonal dimension, one of the teaching aides, with 3 years of experience working with low-functioning students, highlighted the intrapersonal dimension, describing the characteristics of staff members like motivation and flexibility as crucial facilitators of PLC:

The most important thing is workers' will and their readiness to learn, to develop and to see situations differently, in other directions. All of these influence their being part of a learning group, their motivation to learn new things, to change their way of working, and eventually – their outcome at work.

Nevertheless, a novice teacher from an intermediate-level class addressed both interpersonal and the intra-personal catalysts:

First of all, we should have a common goal. We need a good atmosphere for learning, not only one of fun. If we share and we learn from our successes, there will be greater motivation to meet again and do something together.

Similarly, the inclusion coordinator described links between the readiness to share and communicate and more meaningful learning:

It depends on the group's willingness to share a conflict. In order to overcome it, there is a need for fluent communication. The higher the group's ability and openness to sharing conflicts, the more meaningful the learning process is. If the group or sector has a problem broaching difficulties, then the learning remains more superficial.

Approaching the issue of conflict and communication in the group from a different perspective, a novice teacher of a high-functioning class claimed: "*Only opposition promotes learning…. By strengthening communication, we can see the importance of dialogue and of fluent communication. That's the way you can overcome difficulties."*

A teacher with 10 years of experience from the low level of functioning also referred to the role of the type of group:

The levels of openness depend on the personal attitude. Some will feel free to reveal their thoughts and difficulties in the pedagogical meetings, where they feel among their peers, while others will feel free to discuss these problems in larger groups/forums.

Mutual support from staff members holding different positions, who can see the pupils' and the system's needs from diverging viewpoints and help with problem solving, is another PLC facilitator, which was described as promoting learning in the class environment in particular and in the school in general. For example, the yoga teacher related: "*The subject-matter teacher gives his/her opinion or point of view, which strengthens the homeroom teachers who work with the pupils, and this collaboration adds a lot to the learning."* In addition, a teacher who serves in the school administrative team emphasized the value of

group participants' confidence that their problems would indeed find solutions via the group work:

At the school level we talk about the fact that we need to bring things to an end. If problems arise, we solve them, we don't leave anything unsolved. This atmosphere in the school promotes learning. If there's a good and open environment, people will talk and share their problems. I can really see this in the pedagogical meetings. If people know that they get the correct feedback or solution to their problems, they will talk about their issues. It requires a high level of professionalism.

The principal clarified this expectation of receiving assistance in problem solving, along with some constructive criticism:

I think that when staff members receive external guidance it gives them objective feedback, from which they may learn about their stage of learning. Sometimes this feedback has to be sharper, without trying to avoid criticism, and then it can lead to a better dialogue.

Furthermore, the school counselor expressed the opinion that "*objective feedback is critical in organizational learning." She claimed that "there has to be a stage of raising problems, openness, taking responsibility, and sharing your point of view."*

The pedagogical coordinator summarized several important PLC facilitators, including the need for a clear goal, the members' intrapersonal characteristics like motivation, the organizational resources allotted to these collective activities, and the entire culture of the PLC framework:

The goal of the learning group promotes the process. The relation, the commitment of the members, division of the resources and roles, the movement between the talking about the process, and doing it in practice, enhances the motivation and the feeling of belonging. Good professionalism and culture of feedback to an individual or to an entire group, encourages a lot.

Discussion

This study was the first attempt to address the gap in the literature on the topic of PLC in special education. The following discussion focuses on three conclusions, which may contribute to the field of PLC in special education. The current findings support the existence of and the capacity for systematic professional learning through institutionalized structures and procedures in the Friendship special education school. These included monthly faculty meetings, sectorial meetings according to professional areas, meetings of those working in a joint space, and many more. Such structures and procedures sustain the PLC in schools and may contribute to students' performance (Lomas, Hofman, & Bosker, 2011; Mitchell & Sackney, 2006; Stoll et al., 2006). The professional learning forums enable Friendship to determine where and when to conduct their collective learning, dialogue, and action. Valuable information can be captured, shared, interpreted, and retrieved in school's PLCs.

The Friendship secondary school has developed its own professional learning structures aimed at promoting rich and varied interactions among staff members. In this secondary school, diverse learning groups focus on professional learning and development, such as the pedagogical meetings, which enable all members of the school's educational-paramedical staff to learn from one another and discuss important issues for the benefit of the pupils. As argued by Ferguson (1996), professional development should be ongoing and dynamic in order to allow educators to diversify their skills and thus build up the synergy needed for effective collaboration (see also Bryk, 2015).

Furthermore, another important factor in promoting PLC consists of facilitating interactions among staff members (Edwards, 2012). Allocating the suitable time and space for creating PLCs and conducting discussions at all levels (i.e., class level, sectorial level, school level) is essential for the development of the learning process and, in particular, is a crucial

facilitator of openness and disclosure within the meetings. Therefore, in its structure, the school schedule should embed time for learning forums and places where staff members can conduct them and advocate their cooperation. Such cooperation allows teachers and other members in the learning groups to communicate openly and find solutions to issues raised in the meeting. Thus, these temporal and physical structures and opportunities, when built into the everyday schedule and into the physical plant of the school, were pinpointed by the study participants as leading to a sense of ownership and accountability regarding the collective learning process (e.g., Lee, Zhang, & Yin, 2011).

However, the same factors may have a negative effect on the learning process when not used appropriately. If time and space are not allocated before the beginning of the process, they may be seen as obstacles to the PLC (Stoll & Louis, 2007). Teachers in special education schools are under tremendous pressure in their daily work. Hence, adding another task during the school day (e.g., learning meetings during or at the end of the school day), for which no specific time and place were allocated in advance, may impose a burden on the staff and thus become counterproductive (Schechter & Feldman, 2013). By integrating the professional learning process within the context of existing structures, special education schools can avoid creating extra work (Burnette, 2002) and thus promote the PLC at different levels.

As evidenced by the current study, the principal's role is highly significant for the learning process. Thus, the principal and his/her administrative team are key elements in the process of professional learning. They allocate time and space for the collaborative dialogue that enables the PLC to operate and to develop the professional learning process. One of the most important roles of school principals in special education is planning the professional learning process from a holistic perspective (Darling-Hammond et al., 2009). This means that planning should encompass all learning groups, from the smallest (i.e., class meetings, sectorial meetings, administrative meetings) to the largest learning group (i.e., pedagogical

meetings). The principal in this study strongly influenced the learning process. Although she does not actively participate in all learning groups, she is informed by senior position holders about the planning, development, and outcomes of the various groups, and if necessary she becomes an active participant (Hipp, et al., 2008). Thus, the principal strives to allocate time and space for various types of collaboration and dialogue among teachers, paramedical professionals, teaching aides, and so forth but does not appear as prominently in all the diverse forums.

Moreover, the Friendship principal takes into consideration the horizontal and vertical teaming as regards the learning process. Horizontal teaming refers to meetings between staff members of the same position (e.g., sectorial meetings, homeroom teachers' meetings), where the participants learn about issues that are relevant to them. In most cases, the principal is present at these meetings and intervenes whenever she deems it appropriate. In class meetings, however, the principal is not present but the decisions are reported to her. Each micro-school team (e.g., all first grade staff, all staff working with high-functioning children) has lunch, recess, etc. together, which allows for vertical teaming and collaboration between teachers of different levels. The principal's role in such matters is to allow time and space for staff members to develop collaboration among them.

Implications

This study addressed the conceptual framework of PLC as learning structures and procedures at the organizational level. The current study stemmed from the disparity between, on the one hand, the fact that the notion of PLC has been raised to the forefront of school change discourse, but, on the other hand, the only limited available reports about its conceptualization and evaluation in the realm of special education. This study is of particular importance because it comprises a first attempt to focus not only on the exploration of PLCs in the special education realm but also on a specific disability (ASD). Considering the vital

role of interpersonal interaction in the PLC framework, such explicit study of ASD setting aimed to clarify how PLC processes and structures may differ because the underlying relationships in a special education school differ from those in a regular school. Put differently, in light of the special education system's unique goals, structure, and pedagogy, which require ongoing cooperation between different professionals (e.g., psychologists, teachers, teaching aides, paramedical professionals, administrators), PLC can capture the dynamic learning processes among and within faculty (Wiseman, Arroyo, & Richter, 2012).

School administrators should strive to allocate time and space for staff members within different sectors to share thoughts, deliberate, collaborate, and learn together. Furthermore, enabling teachers to collectively discuss ways to improve teaching and learning requires a shift in the principal's role. In light of the deep-rooted fragmentation in schools' structure, principals need to orchestrate the time and space for PLCs, and to create as well as sustain networks of professional learning forums for all staff members. As argued by O'Brien et al. (2006), principals are key players in both introducing learning forums into the school structure and promoting a learning culture necessary for productive collaborative learning. In other words, principals need to invest in the professional learning process of their teachers and to establish structural learning communities based on a more conducive learning culture.

In light of the dynamic environment in special education, the PLC perspective may be of major importance for assessing, developing, and sustaining collaborative learning in special education schools. The special education structure is built in such a way (morning team and afternoon team, each of which comprises two teachers and two teaching aides) that continuous collaboration and communication between the various team members is essential and inevitable. In this regard, all staff members of the school can work together in planning, developing and implementing a professional learning program (O'Brian, et al., 2006).

Generalizing from the case study examined in the current research is quite problematic, and the findings of this research warrant further systematic investigation. It is important to apply the PLC framework to inquiry into specific disabilities and at different school levels (elementary, secondary). Do different target populations in special education require a different structure of PLC? Is the process deductive (led by the school principal and the administrative team) or is it inductive (suggested by the staff members)? What are the organizational structures that promote collaborative learning (e.g., educational class meetings)? What is the necessary learning culture to promote productive learning? Do school practices and changes occur because of participation in these learning structures and processes? Hence, future research should scrutinize the effects of extensive collaborative learning on various outcomes, for example on teachers' level of commitment to school and their perceived collective efficacy, which were already linked with student achievements in regular education schools (Schechter, 2008). Does collaborative learning mean to be a form of deep reflective professional growth (double-loop learning) or are these learning processes simply in place to transmit low-level understandings (single-loop learning) of how we do things around here? What is the role of learning communities during change periods in special education schools (e.g., staff turnover, increase/decrease in the number of students/teachers)? Similarly, it would be interesting to study under what conditions special education schools would increase or decrease their extent of collaborative learning. For example, does perceived environmental uncertainty impact the extent of collaborative learning processes in special education schools?

Besides the need to investigate PLCs further in various self-contained special education schools, there have been attempts at examining this process in inclusive schools. Such schools integrate disabled children within regular classes in various permutations. In these schools, there is much interaction between special education teachers and regular homeroom teachers.

It is, therefore, important to continue investigating the PLCs in inclusive schools too, as implementing this process may help develop new relationships among staff members.

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