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Practices of Professional Learning Communities

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Building professional learning communities (PLC) has become a widely recognized strategy for school development and for student achievement. Four Finnish comprehensive schools were identified as being ready to be PLCs in a previous quantitative study, and the purpose of this study was to investigate practices of PLCs in these schools. In this paper, we used data from qualitative multiple-case study, which investigated practices of leadership, culture, teacher collaboration, professional learning, and development. The results showed that the principals had played the main role in the progression of schools as PLCs. Principals were described as visionary leaders who had started positive progression, shared the leadership, and created commitment to common goals. The results indicated also that a change of leaders can have a positive effect. Decision-making processes were participative, inclusive, democratic, and collaborative, aiming for a satisfactory level of consensus. Relationships among staff were reported as being based on mutual trust and openness, and members were encouraged to express their opinions. Common responsibility of students, peer support, encouragement, and co-teaching were practiced. Co-teaching practices were identified as an effective form of collaborative work-embedded professional learning which is related to the core principles of professional learning communities. Structural conditions were reported as barriers to schools' development as PLCs.

Keywords: professional learning community, distributed leadership, shared leadership, professional learning and development, school culture and climate, instructional leadership, co-teaching

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INTRODUCTION

The construct of 'professional learning communities' (later PLCs) has become a prevailing framework for teachers' professional learning and development (Watson, 2014; Turner et al., 2018). Evidence suggests that teachers' work within successful PLCs improves instruction which may lead to improved student achievement (Lomos et al., 2011; Jones et al., 2013) and contribute to the effectiveness of schools (Louis et al., 2010; Hofman et al., 2015).

Studies confirm that schools as PLCs can be internationally and nationally compared, but contextual and local factors, like cultural factors, educational factors, regulations, and other differences between and within countries and areas, must be acknowledged (Lomos, 2017). Previous studies focusing on PLC practices and teacher collaboration, such as the trends in international mathematics and science study (Isac et al., 2015) and the progress in international reading literacy study (Isac et al., 2015), the teaching and learning international survey (OECD, 2009, 2014; Vieluf, 2012), and the Lomos (2017) study, have indicated that the

presence of PLC practices was perceived more highly by teachers in Eastern European countries compared to Western and Central European countries. According to the perceived presence of professional community practices within schools, Finland was situated in the middle among the 22 countries (Lomos, 2017). The report by Isac et al. (2015) indicated challenges in Finnish teachers' collaborative practices and in learning environments.

Previous Finnish educational studies related to PLCs have mostly been concerned with separate dimensions like leadership (Raasumaa, 2010; Risku and Kanervio, 2011; Tian et al., 2016; Lahtero et al., 2019), culture (Niemi et al., 2014), teacher learning (Ilomäki et al., 2017), teachers' relationships and working environment (Pyhältö et al., 2011), occupational well-being (Laine et al., 2018), and co-teaching practices (Ahtiainen et al., 2011). The aim of this multiple-case study of four Finnish schools, based on the results received in an earlier quantitative study (Antinluoma et al., 2018), is to fill the gap and examine the capacities of PLCs. These schools were selected because results from the earlier study indicated that they were ready to operate as PLCs. Because of the moderately perceived presence of professional community practices in Finnish schools, it is necessary to deepen the understanding of PLCs in the Finnish context. Our aim is to provide holistic insights on Finnish schools' practices as PLCs and address the need for combined research on capacities expressed by Sleegers et al. (2013).

Co-teaching offers an option to teachers' work-embedded learning and to mutual support (Malinen and Palmu, 2017), and it improves instructional skills and supports teachers' well-being (Scruggs et al., 2007). These effects relate to the aims of PLCs. Because of these positive effects, growing interest, and implementation of co-teaching practices at the Finnish national and school level (Malinen and Palmu, 2017), we were also interested to examine how co-teaching appears in PLCs.

THEORETICAL BACKGROUND

The Development of the Characteristics of PLC

Organizational learning has been an object of research since the 1960s. The concept of the professional learning community has emerged from theories of organizational learning (Argyris and Schön, 1978; Bolam et al., 2005), organizations as learning systems (Garratt, 1987), learning organizations (Senge, 1990), and learning companies (Pedler et al., 1991). Researchers have emphasized different elements of a learning organization, e.g., structures (Garratt, 1987; Pedler et al., 1991) or the behavior of members (Senge, 1990). Defining, developing, and operationalizing the concept of PLC has proven difficult because of its multidimensional and multilevel nature: theories have regarded different elements as critical or supportive and lack evidence of element interrelatedness (Toole and Louis, 2002; Lomos et al., 2011; Sleegers et al., 2013). Studies have applied different terminologies to conceptualize PLC, e.g., by using varying terms like dimensions, features, attributes, elements, characteristics, or capacities. Additionally, the concept of PLC relates to some interchangeably used and multifaceted concepts. The concept has been criticized because it covers school operations too widely, and Dufour has warned that "the term has been used so ubiquitously that it is in danger of losing all meaning" (DuFour, 2004, p. 6). In the Finnish educational discourse and practice, the concept work community (Ministry of Education, 2001) is used besides the concept "learning community" (Webb et al., 2009).

In educational settings, Rosenholtz (1989) linked schools' core social organizational dimensions, like rewards, task autonomy, learning opportunities, and efficacy, with teachers' commitment. She found that workplace factors, like support for professional learning and for classroom practices by teachers' networks and collaboration, strengthened teachers' commitment and teacher efficacy for meeting students' needs. McLaughlin and Talbert (1993) agreed with Rosenholtz's findings and stated that shared expertise about teaching could be reached if teachers had opportunities for collaborative inquiry about learning. DuFour and Eaker (1998) distinguished between organization and community: "organization" relates to efficiency and structure, and "community" relates to individuals linked by a common interest. They defined PLC as "an environment that fosters mutual cooperation, emotional support, and personal growth as they work together to achieve what they cannot accomplish alone" (p. 12). Leithwood and Louis (1998) raised to discussion different levels of learning in schools: individual learning in teams and groups and organizational learning (e.g., new policies or procedures). They stated that organizational learning requires individual learning, and organizational learning is more than the sum of all individual learning. Staff members learn, and their capacities develop through collaborative practices, sharing expertise and knowledge, developing new approaches, and investigating other practices. The underlying assumption is that higher individual and organizational learning improves the functioning of the organization. PLC can also be defined by the meaning of three integrated words: professionals refer to those individuals who are responsible for providing instruction and are committed to students' and own learning, learning refers to the activities of these professionals and to activities which enhance their knowledge and skills, and community refers to the collaborative activities of a group of professionals who learn together and develop shared meaning and purpose (Hord, 2009). The core idea of PLC recognizes the importance of teachers' collaboration outside their classrooms for school improvement, teachers' professional development, and student learning (Louis and Kruse, 1995; Sleegers et al., 2013). Additionally, there is consensus that PLCs improve instruction by offering teachers and other staff members opportunities to reflect on and refine their instructional practices (Harris and Jones, 2010; Weissenrieder et al., 2015). In **Table 1**, we outline the characteristics which researchers have used as key variables to define the concept. However, the characteristics are assumed to be interrelated, as noted by several researchers (Newmann and Wehlage, 1995; Mitchell and Sackney, 2000; Sleegers et al., 2013).

In addition to these core characteristics, researchers have identified organizational and supportive conditions for PLCs,

TABLE 1 | Characteristics of professional learning communities.

Characteristics/dimensions/ features[a]	Research
Shared norms, vision, values, and beliefs	Little and McLaughlin (1993), Kruse et al. (1994); Newmann and Wehlage (1995), DuFour and Eaker (1998); Hord (2004), Bolam et al. (2005), Stoll et al. (2006); Sleegers et al. (2013)
Shared and participative leadership	Kruse et al. (1994); Newmann and Wehlage (1995), Hord (2004); Sleegers et al. (2013)
Focus on student learning	Kruse et al. (1994); Newmann and Wehlage (1995), Mitchell and Sackney (2000)
Group learning, individual learning; professional growth	Little and McLaughlin (1993), Bolam et al. (2005), Sleegers et al. (2013)
Continuous improvement, result orientation	DuFour and Eaker (1998)
Collaborative cultures, collaboration	Little and McLaughlin (1993), Kruse et al. (1994); Newmann and Wehlage (1995), Bolam et al. (2005), Stoll et al. (2006)
Culture of trust, respect, and supportive relationships	Stoll et al. (2006); Sleegers et al. (2013)
Collegial relations, inclusive membership	Little and McLaughlin (1993), Stoll et al. (2006)
Mutual support and mutual obligation	Little and McLaughlin (1993)
Reflective practice, reflective dialog, collective inquiry, reflective professional inquiry, derivatized practice	Little and McLaughlin (1993), Kruse et al. (1994); Newmann and Wehlage (1995), DuFour and Eaker (1998), Bolam et al. (2005), Stoll et al. (2006)
Derivatized practice, shared practice	Kruse et al. (1994); Newmann and Wehlage (1995), Hord (2004); Sleegers et al. (2013)
Action orientation and experimenting	DuFour and Eaker (1998)

[a] *The terms used of the elements varied.*

e.g., structural and human conditions (Kruse et al., 1994; Newmann and Wehlage, 1995). Some have included these conditions in core characteristics: supportive conditions (Hord, 2004) or structures for professional learning (Mitchell and Sackney, 2000; Sleegers et al., 2013).

Sleegers et al. (2013) confirmed in their study undertaken in 76 primary schools that the interconnected capacities and dimensions can be distinguished empirically. They concluded that PLCs can be described by a model that includes multiple dimensions at multiple levels of capacity. In this study, we have labeled characteristics according to earlier studies, specially according to Sleegers et al. (2013). Interpersonal capacities are labeled as shared values and vision, teachers' professional learning and development (collective learning), and teachers' collaborative practices (shared practices). Organizational capacities are labeled as structural conditions, school culture and climate (relationships and climate), and shared and supportive leadership (participative leadership). Personal capacities, which refer to individual learning, are considered within teachers' professional learning.

The following section is concerned with the capacities used for this study.

The Description of the Capacities

The key organizational statements of a school, i.e., *mission, vision, values*, and *goals*, describe where the school is heading. The mission statement identifies the school's purpose (Lunenburg, 2010), the vision statement expresses the preferred future of the school (Gurley et al., 2015), values are articulations of the shared beliefs of an organization (Gurley et al., 2015), and goals and the level of performance are the results that a school tries to achieve (Gurley et al., 2015). Clarity about the key organizational statements can make a positive difference (Pekarsky, 2007), and leaders have an important role in the collaborative process to establish these statements (Lunenburg, 2010).

Concepts of *shared leadership* and *distributed leadership* are often used interchangeably. The distributed leadership approach addresses leadership with teams, groups, and organizational characteristics, while shared leadership emphasizes voluntary cooperation and interaction based on the competencies of all stakeholders and a sense of responsibility (Goksoy, 2016). In this study, shared leadership covers both approaches. Several studies have indicated that distributed leadership, organizational development, and student learning outcomes have positive mutual relationships (Leithwood and Mascall, 2008; Heck and Hallinger, 2009; Leithwood et al., 2019). Studies also indicate that distributed leadership has positive effects on teachers' professional development (Kennedy et al., 2011), student engagement, realization of changes, and commitment to shared goals (Leithwood and Jantzi, 2000). Instructional leadership has been recognized as a core element of school leadership (Hallinger and Wang, 2015; Lahtero and Kuusilehto-Awale, 2015), and it is likely to be more effective when it is distributed instructional leadership and it is embedded in schools as teacher leadership (Bush and Glover, 2014; Turner et al., 2018). Distributed instructional leadership may include different professionals working in school communities (Dinham, 2016). Teacher leaders can be described as teachers who have both teaching and leadership responsibilities, and thus this definition differentiates teacher leadership from other forms of leadership in schools and excludes administrators and full-time disciplinary specialists, coaches, coordinators, or curriculum specialists (Wenner and Campbell, 2016). In their literature review, Wenner and Campbell (2016) found that teacher leadership is focused on roles beyond the classroom, such as supporting the professional learning of peers, influencing decision making, and focusing on student learning. Researchers connect teacher leadership with leading PLCs (Leclerc et al., 2012; Wenner and Campbell, 2016, p. 146). To be successful, distributed leadership must be fully supported by formal leaders (Al-Ani et al., 2011; Harris, 2011) because they define the autonomy and authority of informal leaders, secure resources for professional development, model the vision and focus, and create trust environments (Harris, 2011). The success of the distributed leadership depends on the growth state of the organization, readiness to change, culture and developmental needs, the pattern of distribution, and its purpose (Harris, 2008). Lahtero et al. (2019) warn that distributed

leadership as a dynamic interaction may lose its potential if it is limited to narrowly delegated leadership tasks among selected individuals. In sustainable PLCs, members discuss evidence and data that informs how to improve instruction (Hargreaves, 2007); thus, the leadership in PLCs can also be characterized as being informed by evidence.

Studies have argued that a positive *school climate* and *school culture* may improve student achievement (Wang and Degol, 2016) and a school's development as a PLC (Toole and Louis, 2002). Reciprocally, establishing a PLC can have a beneficial impact on the operational culture (Turner et al., 2018). The concepts of culture and climate are often used interchangeably and are multifaceted concepts, but they express two separate concepts (Gruenert, 2008). Culture is viewed as comprising the values and norms (Hoy, 1990; Bush, 2015), rules, belief patterns, teaching and learning approaches, behaviors, and relationships among or across the individuals and time in a school (Çakiroğlu et al., 2012). School climate covers individual experiences and feelings that students, teachers, and staff have about the school, and climate can be categorized as the attitude (Gruenert, 2008) or mood of the school and culture as the personality or values of the school (Kane et al., 2016). Kane et al. (2016) suggest that climate refers to how people feel in the school, and culture refers to how people act in the school. It is much easier to change an organization's attitude (climate) than it is to change its personality (culture), which determines if improvement is possible, and the right climate is the first step to improvement (Gruenert, 2008). Changing the prevailing culture may be the most challenging task for an instructional leader (Barth, 2002), and thus the successful development and maintenance of organizational culture requires strong leadership which directs school culture (Bush, 2015).

In this study, we concentrated on time and the physical layout of school buildings as *structural conditions*. Earlier findings indicate that the daily schedule (Leclerc et al., 2012) and the layout of school buildings (Antinluoma et al., 2018) limit common teaching assignments and teacher's collaboration. System elements, like limited contractual collaboration time, may make it challenging to find time for discussions about learning, instruction, and collaborative evaluation practices (Antinluoma et al., 2018).

The concepts of *professional development (PD)* and *professional learning* are often used interchangeably (Fullan and Hargreaves, 2016), and these concepts have considerable mutual interaction and overlap. Lieberman et al. (2016) suggest that these concepts have evolved while looking for new solutions: staff development changed into professional development, which, in turn, changed into professional learning, but in practice, all three concepts are used. Fullan and Hargreaves (2016) distinguished between concepts as follows: professional learning focuses on learning something new that is potentially of value, and PD may or may not involve learning something new. They elaborated further that development requires learning and that learning should lead to development. Additionally, they argue that combining and integrating professional learning and development to *professional learning and development* (PLD) is at the core of an effective teaching profession (Fullan and Hargreaves, 2016). PLCs emphasize teachers' job-embedded learning and development, which refers to teacher learning in the school context and teachers' collaboration within the school and focuses on problems of practice and utilizes real student work and curriculum examples (OECD, 2015, 2019). Ilomäki et al. (2017) relate teacher learning in the workplace to both individual and collaborative practices and emphasize both forms of learning as core processes required in teachers' professional development and the development of schools. Furthermore, Ilomäki et al. (2017) state that teacher learning can be seen as changes in teachers' conceptions and pedagogical practices. Lieberman et al. (2016) stress the importance of collaborative professional learning as a key component in raising teacher quality and securing student learning. This interplay of individuals, communities of teachers, and specific contexts gives rise to communities and will lead to change in teaching behavior: learning becomes an ongoing and collective, rather than individual, responsibility (Opfer and Pedder, 2011).

At the heart of successful PLCs is its members' *collaboration* (Lunenburg, 2010), which is more than just collegial relationships (Turner et al., 2018). Evidence suggests that teachers' collaborative practices, like reflective professional dialog, have a positive influence on the collective learning of new practices (Weissenrieder et al., 2015), teachers' professionalization (McLaughlin and Talbert, 2006), teachers' participation in professional development (Skerrett, 2010), and school reform and change (Sleegers et al., 2014). Practical examples of teacher collaboration are teachers' communities of practice, team teaching, and co-teaching. Wenger (2011) suggested that teachers' communities of practice improve learning and teaching in PLCs only if teachers collaborate, address hard questions about practices, and seek to change their practices. Team teaching and co-teaching practices represent forms of collaboration, which are often related, e.g., to inclusion. Similar practices can also take place between mainstream teachers. Co-teaching practices are instructional situations through which two or more teachers work with the same students and within the same premises (Ahtiainen et al., 2011). Promotion of team teaching and co-teaching encourages and facilitates collaborative practices (Mulholland and O'Connor, 2016). However, there are several barriers to the collaboration, like time constraints, *ad hoc* planning, and limited PLD opportunities (Mulholland and O'Connor, 2016). School leaders play a key role in securing resources, structural conditions, support, and encouragement for collaboration.

THE AIM OF THIS STUDY

The research questions about practices follow the research-based capacities and dimensions of a school as a PLC. This research seeks to address the following main question: How are the PLC-related practices implemented in participating schools?

The detailed research questions clarifying the main question are the following:

(1) How are shared values and vision built?
(2) How is shared and supportive leadership practiced?

(3) Which prevailing cultural and climatic characteristics can be identified?
(4) How can structures enable the development of PLC?
(5) How are professional learning and development practices organized?
(6) How do teachers collaborate?

MATERIALS AND METHODS

In this multiple-case study of four schools, each school forms a case. The multiple-case study approach was chosen because of the explanatory research questions; it investigates the cases in depth and relies on multiple sources of evidence, and the method supports the need to understand complex phenomena and aims to reach a holistic perspective (Yin, 2014). This study is an independent study but is based on an earlier qualitative study (Antinluoma et al., 2018) and aims to complete and deepen the understanding of participant schools as PLCs. Thus, this study combines and relies on two studies and two sources of evidence: first, to selection of schools with the evidence from earlier quantitative study and, second, to the evidence from interviews from this multiple-case study. Interviews are an important source of case study evidence, and key informants can provide important insight to human affairs or actions (Yin, 2014). The data consist of 12 thematic interviews with key informants from these schools. The cross-case analysis is used in multiple-case studies to describe topics (Yin, 2014). The cases were selected according to evidence from our quantitative study with 13 schools and about 212 participants. The evidence was collected with a PLC readiness survey, which consisted of 62 questions on a Likert scale. The analysis indicated a high level of internal consistency in the measures, and the four measures (leadership, culture, capacity building, and professional development) were found to be highly reliable (Antinluoma et al., 2018).

Context

The Finnish 10 years of compulsory education consists of 1 year of pre-primary and 9 years of basic education, which includes primary (grades 1–6) and lower secondary levels (grades 7–9). In 2018, there were 1,676 basic education schools, of which 100 schools had more than 700 students (The Finnish National Board of Education, 2020). The average school had 236 students (The Finnish National Board of Education, 2020). The number of large comprehensive schools has increased since 2010. According to one scenario, the number of schools would decrease to half of its current number in 2040, which means an increase in school size (The Finnish National Board of Education, 2020).

Educational priorities, minimum time allocation, national core curricula, and size of state subsidies are centrally controlled. The education providers (municipalities) decide locally about educational priorities, funding, local curricula, allocation of subsidies, class size, recruitment, teacher evaluation, and quality. The few private schools administered by non-government organizations (NGOs) do not differ from publicly maintained schools and are also publicly funded, and they follow the same national core curricula.

According to the national core curricula, schools are obliged to operate as learning communities to assure shared leadership (The Finnish National Board of Education, 2016). Additionally, the core curriculum emphasizes teachers' collaboration in planning and practice (The Finnish National Board of Education, 2016). Finnish basic education schools have one formal leader who is responsible for operations and an assistant or vice-principal. The principal's main duty should be to enhance the learning of everyone in the organization and to accomplish the basic purpose and objective of school; thus, principals should emphasize instructional leadership (The Finnish National Board of Education, 2013). Principals have teaching responsibilities, the extent of which depends on school size. Principals' and teachers' working conditions are defined in a national collective agreement for education. The agreement defines teachers' teaching duties (weekly lessons). Additionally, it defines a 3-day obligation for in-service training and 120 h of collaboration for comprehensive schoolteachers. Collaboration time can be used for collaborative planning of instruction, for home–school cooperation, and for participation in school development. In the recent years, there has been an increasing interest in co-teaching at the administration, school, and teacher levels. However, there are no up-to-date national data about co-teaching, and there is no single model of co-teaching which apply to all contexts: schools and teachers must create their own model (Malinen and Palmu, 2017). Since 2017, the Ministry of Education and Culture has annually accepted extra funding to enhance educational equality, e.g., for hiring co-teachers for basic education (The Finnish Ministry of Education and Culture, 2020). Because of this and the reported positive effects of co-teaching, it has become increasingly common in basic education.

Participating Schools

The participating schools A–D were the following: one municipal primary school with classes 1–6, one municipal primary school with classes 1–5, one municipal primary school with classes 1 and 2, and one private comprehensive school with classes 1–9 (primary school section with classes 1–6 and secondary section with classes 7–9) (see **Table 2**). School choice was based on the results of an earlier quantitative study of 13 schools (Antinluoma et al., 2018), which indicated that these four schools were ready to operate as PLCs. These schools had cultures of collegiality, collaboration, trust, and commitment. Additionally, teachers had the capacity to engage in professional collaboration, additional support and assessment were key components of instructional practices and contributed to student learning, the staff's leadership capacity enhanced the teachers' and students' learning, and shared leadership strengthened the leadership capacity.

Background information about the participating schools is presented in **Table 2**.

Sampling Procedures

Expert sampling, as a sub-type of purposive sampling, was used to choose 12 individuals (four principals and eight teachers) to be interviewed from these schools. This sampling provided a better way of constructing the views of individuals who are experts in

TABLE 2 | Background information of the schools.

	School A	School B	School C	School D
Established (year)	1959	2009	2005	1986
School type	Primary school, classes 1–5	Comprehensive school, classes 1–9	Primary school, classes 1–2	Primary school, classes 1–6
Geographical area	Northern Finland	Northern Finland	Southern Finland	Southern Finland
	Rural	City center	Suburban	Suburban
Education provider	Municipality	Private organization, NGO[a]	Municipality	Municipality
Number of students	507	150	160	250
Number of classes	28	11	10	14
Class size (maximum)	22	15	28	23
Number of teachers	30	16 (35[b])	13 (30[b])	21

[a]*Non-government organization.*
[b]*Including part-time teachers.*

the area (Etikan and Bala, 2017). In addition to the principals' participation, the principals suggested a varying number of key informants from their school to participate. Principals used the following criteria in suggesting key informants: permanent position and the role as assistant principal, or current or former member in school's leadership group, or a long working history in the respective school. In the earlier quantitative study, the average response rate was 72% and thus representative. In this study, interviewing key informants was found to be an appropriate method to investigate practices which are based on the capacities and dimensions of PLCs because we had a preliminary understanding of these schools as PLCs based on the previous study (Antinluoma et al., 2018). The limited number of participants did not bias the study because we applied a cross-case analysis method, which concentrates more on topics than on cases (Yin, 2014).

Municipalities granted the permission to undertake the research, principals decided about their schools' participation, and participation was voluntary for the participants. Informed consent as voluntary agreements about the participation was signed prior to the interviews.

Participants

All the participants had a permanent position in the school. The background information of participants is presented in **Table 3**.

TABLE 3 | Background information of the participants.

School/participant	Age	Experience in education (years)	Current employment (years)	Experience in leadership (years)
School A				
Principal	54	29	29	21
Assistant principal[a], teacher	45	21	4	1
Teacher	44	15	13	0
Teacher	48	20	20	2
School B				
Principal	54	25	9	9
Teacher (chair of NGO[b])	56	8	8	8
Teacher	44	10	6	2
School C				
Principal	63	39	13	13
Assistant principal[a], teacher	48	24	11	3
Teacher	59	25	13	0
School D				
Principal	53	20	1	3
Teacher	28	3	3	1

[a]*Assistant principals work as teachers but have fewer weekly lessons to compensate for leadership duties, according to the school's size.*
[b]*The chair of the NGO, administrating the private school, also serves as a teacher and supports the principal in daily leadership practices.*

Interviews

Interview questions (**Supplementary Appendix 1**) were designed according to the capacities related to PLC presented in the theoretical background section. Some of the questions were only for principals or only for teachers, but most of the questions were common. The interview questions were commented on by two principals and an educational consultant and revised according to the comments. The questions were mostly formed as "how" questions because "why" questions might create defensiveness on the participants' part (Becker, 1998). Pilot interviews were conducted with two principals, one assistant principal, and one teacher. The questions were further revised, and the final questions were decided. All in all, 12 interviews were conducted, and they lasted between 40 and 70 min. The interviews were scheduled with the participants, held in a peaceful place in the participants' schools, and recorded. The recordings were transcribed to conduct a thematic analysis. Schools and individuals were anonymized for the interviews and for the data analysis.

Data Analysis

The transcribed documents were analyzed with Atlas.ti 8 software. Thematic analysis, applying an abductive approach, was used in the analysis of qualitative data (Braun and Clarke, 2006). The categorization was created through theory-informed and data-grounded analysis of the data (Timmermans and Tavory, 2012). The structure of the six main categories and subcategories was based on the background theories and further developed during several iterations between the authors (**Supplementary Appendix 2**). The subcategories were based both on the background theories (e.g., shared values and vision, shared

and supportive leadership) and on the abductive coding of the interviews (e.g., recalling, building of values, collaborative decision making, and the staff's changes to influence). Codes are labeled with units of meaning, like words, phrases, sentences, or whole paragraphs, which describe and summarize the information (Basit, 2003). In this study, several quotations on the same content by one participant were coded as one code because of the importance of recognizing respondents from different schools. The coding was exclusive so that one code consisted of one issue. The frequencies of categories are presented in **Supplementary Appendix 3**.

The main categories and subcategories were the following:

(1) *Shared values and vision*: recalling, awareness, building of values.
(2) *Shared and supportive leadership:* organization, visionary leadership, leadership groups and their duties, assistant principals, rotation of duties and posts, teacher leadership, collaborative decision making and staff's changes to influence, evidence-informed leadership, well-being, principals' instructional leadership, principals' self-reflections, principals'–teachers' evaluations, principals as mediators of the information, shared leadership, use of time.
(3) *Culture and climate*: general climate and attitude, facing changes, experiments and approach to mistakes, recognition of achievements, school–home collaboration.
(4) *Structures*: buildings, time, schools' networks.
(5) *Professional learning and development*: assessment and development of competencies, in-service training, significance of work-embedded learning, sharing of expertise within the school, sharing of expertise between schools, teachers' and principals' networks.
(6) *Teachers' collaborative practices*: peer support and encouragement, co-teaching, mentoring and tutoring practices.

The final framework of categories and subcategories as well as examples are attached (Attachment 2).

The following procedures were conducted to validate the study: The validation of the categories was based on the background theories and on several iterations by the researchers. To ensure coding reliability, intercoder reliability (ICR) (Whitley and Kite, 2013, p. 406) was calculated. A colleague with expertise in the topic used the category and coding schema to analyze the coding of one interview (134 of all 1,052 codes, 13%) to test the ICR. As a result, 19 quotations were discussed and seven were changed: four quotations were moved within the same code group, quotations concerning general culture and climate were combined into one, and two quotations were divided into two. A coefficient of 0.89 was found, which is at the acceptable level of reliability when using the percent agreement. This study can be conducted similarly and arrived at the same findings and conclusions; thus, the reliability be tested by later investigators: doing the same case by following the procedures and documentation in this article, but not replicating the results (Yin, 2014).

RESULTS

Building of Shared Vision and Values

The participating schools had visions and long-term and annual objectives. The building of schools' key organizational statements had been a collaborative process involving various stakeholders in all schools. The processes differed in how widely stakeholders were given opportunities to influence. The long-term objectives in all schools were connected to the implementation of the new curriculum and had also a different emphasis according to the schools' context: well-being of students (school A), construction of buildings (schools B and D), and preserving the school (school C). The participants (schools A, B, and C) could recall and express their visions clearly. School A aimed to provide education which emphasizes students' well-being by networking with diverse stakeholders and by strong student participation: "getting students' involved into school's affairs and decision making has been crucial for development" (principal and teacher, school A). School B aimed to provide an alternative 1–9 classes education according to a certain world view: "we emphasize students' physical and mental safety and try to offer an alternative small school with a certain world view, like village school within a city" (principal and teachers, school B). School C aimed to provide a safe and encouraging start for learning in a school for small children (one to two classes): "our vision is that all adults bring up children and teachers have the responsibility over instruction. We try to offer experiences which strengthen small children as learners (school with classes 1 and 2), support them to look curiously to the future, and to be able to influence their own learning and secure this way a good start for studying" (principal and teachers, school C). School D aimed to provide good basic education and preserve small school "spirit" in a growing suburban school (principal and teacher, school D).

The annual objectives were reported to be connected to improving learning and instruction and to the implementation of the new curriculum. Principals (schools A, B, and C) reported setting their objectives in alignment with the goals set by the education provider (municipality). Only one participant (teacher, school B) mentioned learning results in connection with key organizational statements.

The clarity of the values was found to be more imprecise than the vision statements. The answers indicated that seven of the participants could not recall exactly what their schools' values were, and only two participants (teacher of school B and principal of school C) referred to the values presented in the national core curriculum. The principal and teachers from school B were aware of their values: "we have permission to operate according to values related to certain world view and we have talked a lot about our values and how we apply these values in practice."

Practicing Shared and Supportive Leadership

All schools based their leadership on shared instructional leadership. The role and tasks of assistant or vice-principals depended on school context and size, e.g., hiring of substitute teachers, organizing school assistants' work, preparing staff

meetings. Some teachers acted as teacher leaders by being responsible for certain issues, like technology, music, or students' representative committee. Teachers' positions, duties, and responsibilities were rotated every 2 years. Each school had a leadership team, and other teams and working groups were organized by content areas or grade levels or both. The teams were built on a voluntary basis, the structures were flexible, and schools evaluated the need for teams and working groups every year. The team leaders represented teams in the leadership group. Shared instructional leadership practices also covered teacher leadership, which was not connected to the position but to voluntary participation, cooperation, and interaction outside the classrooms. Shared leadership practices were undertaken, usually during the contractual and fixed collaboration time (explained in context). Shared leadership was reported to increase staff expertise, commitment, motivation, influence, welfare, sense of belonging, engagement, collaboration, and taking on responsibilities. One teacher (school A) noted that "no single person possesses all competencies, thoughts and wisdom, but together with the experts around you are stronger. When you have the chance to influence on where the school is heading, it motivates you to be a member of the community and professionally commit to this school and its development", and another teacher agreed by stating "when you have a sense of belonging, you'll invest more" (teacher, school C).

Contractual collaborative time had been allocated to the collaboration and decision-making processes. All the participants described their decision-making processes as participative and collaborative. Decisions were made thorough inclusive and democratic processes in staff and team meetings aiming to satisfactory levels of consensus. The responses indicated a between-schools' variation in principals' use of power in decision-making.

Teachers and principals from schools A and B recognized that their schools had had clear phases of fast development and phases of stalling, while school C (teacher and principal) had developed at a steadier pace, and school D (teacher) had phases of stalling and steady development. The participants' answers revealed some reasons for this pace variation: (1) changes in leadership, staff, or organization (schools A and D), (2) curriculum reform (school B), or (3) conscious choice to slow down (schools A, B, and C). The first one refers to the significance of the principal and the structural conditions and the last to the well-being of staff. Three schools (A, B, and C) had consciously slowed down after noticing that the pace had been too fast and that they were endangering the staff's well-being. In the following, we describe the principal's role.

Common to three schools (A, B, and C) was a visionary leadership which had led to pioneering work in well-being in the school and municipality (A), in establishing a school (B), and in establishing one- to two-class school and in applying co-teaching practices (C). New principals were appointed to schools' A and D prior to this study. The change of principals (schools A and D) had led to a remarkable strengthening of building the key statements. "After the new principal was appointed, the organization was re-structured, we started to develop our organizational culture so that the staff and students participated in decision making and positive development followed. He presented the well-being concept and had the overall vision of the school's future, which we refined together" (teacher, school A). A teacher from school D stated that "the principal's influence on building the school's vision is significant; thus, because of the former principal's low interest in building the vision, we did not really have a vision and were drifting, but after the change of principal, the situation changed."

All principals considered their teaching background to be an advantage in the principal's profession. Principals (C and D) valued teaching responsibilities because they could learn to know the students and could observe teachers' instruction. The responses indicated that principals had instructional expertise, but the challenge was to organize time for instructional leadership: "there is always too little time for instructional leadership" (principal, school C) and "the principal has too many duties, and thus he does not have time for instructional leadership and discussions" (teacher, school A). It was reported that principals led instruction by giving suggestions and ideas, support, and advice. The principals tried to be open, easily approachable, determined, and supportive leaders, whom the staff could rely on when facing challenging issues or parents. "They grounded their leadership on trust, open communication, equality, and staff well-being." Teachers reported that the principals were easy to approach, encouraging, and helpful—their backups and leaders who would listen. The answers indicated that the principals and teachers had mutual trust and good relations in all participating schools. However, there were also critics, as a teacher (school B) reported: "the principal does not notice my input on school level development and give feedback."

Schools were subjected to evidence-informed leadership: the government, municipalities, and schools collected data about student learning, the well-being of all, schools' performance, and leadership, and the data collected were used for development purposes. Teachers (schools A, B, and C) reported that the principals played a key role as mediators and data filterers. Principals considered what information to pass on, its urgency, and what actions must be taken. All schools participated in regular sample-based national evaluations and municipal assessments. Otherwise, the schools decided autonomously about the evaluation of the schools' operations. The evidence was used to choose annual objectives to direct the PLD and to improve instruction and learning.

Prevailing Culture and Climate

The participants' descriptions of their schools' *culture and climate* had common underlying characteristics. They experienced having well-functioning professional relations, but they remarked realistically about challenging periods and that the number of those will increase. They described their schools' relationships as open, supportive, positive, flexible, inclusive, professional, committed, and tolerant toward divergences of personalities and methods. Two schools (C and D) used interaction agreements to guide staff relations and professional behavior. These agreements were created to lay out a framework for positive relationships and behavior schools would like to see in the staff. Schools

recognized achievements by giving positive feedback, organizing celebrations, returning thanks, awarding, offering coffee, and giving a small present. However, as one teacher (school B) mentioned: "Too rarely do we praise others, and especially among the staff."

The responses indicated that mistakes were accepted, discussed, and corrected in all schools. Teachers were generally open to constructive criticism in facing changes: "criticism is good because it brings options, but sometimes critical persons try to pull the rug from under you" (teacher, school A). A teacher (school D) reported that "the challenge is those who do not express their criticism, do not follow instructions, and debate about changes."

All schools had student committees, which enhanced student participation, and students' participation was regarded as crucial for the development of the operational culture. Three schools (A, B, and C) reported having close collaboration with parents.

Enabling Structures

The participants mentioned three structural challenges. First, premises should support collaboration and co-teaching. Teachers (schools A, B, and D) reported that their schools' premises made it difficult to implement the new curriculum and co-teaching practices, and students must study in cramped conditions. The problem was that these schools had been designed traditionally; they had long corridors and lacked diverse and convertible spaces. Second, there should be enough contractual and fixed time for teacher collaboration and also for instructional leadership: "we have so many duties and not time for all; therefore, I cannot do everything properly or something at all" (principal, school A), "there is always lack of time and feeling of haste; thus, I avoid to express my ideas because I sense that colleagues are afraid of possible additional work" (teacher, school B), and "we are given many tasks added to our basic work that it is difficult to find time for collaboration (teacher, school C). Third, networking should support PLD. Networking between schools was based mainly on principals' or on few teacher leaders' individual relationships and activity, but regular teachers' participation in networking was modest. Schools had diverse official networks with district schools (A, C, and D), child protection services (A), youth services (A), private schools (B), and universities (B and C). It was reported that collaboration in the small comprehensive school, having lower secondary level (classes 7–9), is more challenging because of its subject-based structure and the lack of subject or grade-level peer teachers (principal and teachers, school B).

Professional Learning and Development

Principals' and teachers' PLD needs were discussed and planned, based on self-reflection, in yearly development discussions. Development needs were also recognized through diverse surveys for staff and parents or were raised by implementation of reforms. Reported PLD activities were annual 3 days of obligatory in-service training, voluntary in-service training, sharing expertise within the school, sharing expertise between schools, work-embedded learning, and networking. Teachers' comments indicated that they favored training close to the practice and their individual needs: "I prefer training from which I gain directly and can apply what I have learned in my classroom" (teacher, school A) and "I like to participate in a training where I can complete my skills" (school D).

Principals played a key role in organizing training and securing competencies of the staff on individual and school level, informing about outside training options and encouraging teachers to participate.

The participants were satisfied with the offerings of in-service training and access to it. Leadership training was organized for principals and assistant principals, but less for team leaders or leadership group members. Eight participants (from all schools) emphasized the significance of work-embedded learning with experienced colleagues and grade-level and co-teaching peers. Teachers reported learning instructional expertise daily and continuously from one another, directly through co-teaching practices, mentor relations, guidance, joint reflection, involving together into curriculum development, and observing others. A teacher (school A) mentioned the importance of transferring tacit knowledge: "my best year in working life has been when I worked with an experienced colleague and I could receive tacit knowledge while working together."

According to teachers (schools A and D), sharing between schools was rare and occasionally compared to schools B and C. Teachers did not have wide external professional networks, except those teachers who were teacher leaders and involved in development activities. Principals cooperated and discussed with colleagues mainly at meetings and during training.

Teachers' Collaborative Practices

In all schools, teachers reported taking common responsibility for all students. In all schools, teachers supported and encouraged each other, and collaboration with class-level colleagues or with the grade-level team was mentioned (teachers, schools A, C, and D) as being the most common and important form of collaboration. Co-teaching practices were implemented and organized in diverse ways, on a voluntary basis, depending on resources. All schools strived to implement and develop these practices. Co-teaching models and the implementation level varied between and within schools: it was implemented by pairing class teachers (grade-level peers; school A and D), pairing teachers from different grades (school B), class teacher and special education teacher (school B), class teacher and subject teacher (school B), and class teacher and resource teacher (school C). The form and timely length of co-teaching varied from occasional project-based working to more intensive and regular.

Co-teaching practices were reported to strengthen instruction, learning, and support: "when teachers plan together, it generates instructional discussion, which improves instruction" (principal, school C), "we can support students' learning more individually" (teacher, school A), and "we can share the burden, offer more versatile instruction, complement each other's strengths, and learn work-embedded when we observe each other" (teacher, school D). Co-teaching practices encouraged teachers to experiment and reflect: "traditional isolated models of teaching

do not require much professional interaction and dialog, but collaboration is needed if you want to try something new" (teacher, school A). Additionally, teachers could use their strengths more efficiently, share the burden, consider various ways to support students, and improve instruction.

Teachers reported that, to succeed in co-teaching, the following enabling conditions must be met: "teachers have to agree on the course of action and instruction, share responsibility, accept that it takes time to make it work, especially in the beginning " (teacher, school A), "teachers have to be open minded and ready to give and receive constructive criticism" (teacher, school B), "you need supporting premises and fixed time for planning" (teacher, school C), and "you need motivation" (teacher, school D). It was also reported that "it enhances co-teaching, if the principal considers who matches for collaboration and does not force co-teaching if chemistries do not match" (teacher, school C). The responses also indicated challenges in co-teaching practices: "if the teacher is not open to receiving different points of view, it will be hard" (teacher, school A) and "it will be challenging if teachers have different instructional approaches" (teacher, school D). In schools C and D, teachers reported having organized mentoring and tutoring practices.

Summary

In the following, we summarize shortly practices common to all schools, and then we summarize the results case by case. Common to all schools were implementation of the new curriculum and improving learning as objectives, no references to high learning results as objectives, shared instructional leadership, teacher leadership, leadership teams, and team structures, collaborative decision making, values and visions created in collaborative processes, the contractual and fixed collaboration time, mistakes approved and discussed, professional working relationships, commitment peer support and encouragement, common responsibility, co-teaching practices, traditional in-service training, work-embedded learning, and time as barrier.

School A had been stalling for some years before this study. After the change of principal started a phase of fast development, e.g., the vision concentrating on students' well-being was established, and direction for the school was processed. Their well-being concept emphasized networking with diverse stakeholders and strong student participation. This phase had been inspiring but hard, and they had consciously slowed down the development pace. Premises were reported to be in order but inadequate for the implementation of the curriculum and co-teaching. Sharing of expertise between teachers from different schools was occasional.

School B, as a private school driven by NGO, had to write its own curriculum and get it accepted by the National Board of Education to receive consent for providing alternative basic education based on certain world view. Because of this, they had to discuss in depth their values and vision, and thus this school differed from all others in clarity of values and vision. The development process had been hard, and they had consciously slowed down the development pace. This school operated in inadequate premises, and the planning of new ones had started. Because of covering classes 1–9 and having a low number of students, they could not have grade-level peer teachers, and co-teaching was more difficult to organize than in other schools in this study. Long-term principals and teachers have wide networks.

School C differed from the other schools by being a school for small children (one to two classes). Their vision emphasized on the early years of learning. This school had a long-term principal who had led the school's steady development. They had consciously slowed down the development pace. Their main concern was to preserve the school because, being a small suburban school, they were under threat to be merged into other schools. They had staff's interaction agreements, wide networks, and mentoring and tutoring practices. Collaboration was organized with class-level colleagues or with the grade-level team. The premises were not a barrier.

School D aimed to provide good basic education and preserve small school "spirit" in a growing suburban school. The school had periods of steady development and stalling before this study, and after a change of the long-term principal, they had developed a vision and had started to progress. The school was in a growing area, and its premises were inadequate for the implementation of the curriculum and too small for the current and predicted number of students. They were looking forward to planning and construction of new premises. Sharing expertise between teachers from different schools was rare and occasional. They had created the staff's interaction agreements, some networks, and mentoring and tutoring practices.

DISCUSSION

We found that the values articulated in the core curriculum, local curriculum, and school curriculum were unclear to the participants from three of the schools, but despite this, they were ready to be PLCs. Not recalling values is contradictory to most descriptions about successful PLCs and questions the importance of values. Additionally, Gurley et al. (2015) found a similar absence of articulated values or organizational commitments in their study. Bush and Glover (2014) state that the evidence of effectiveness of shared values to develop schools has remained mixed. Our finding suggests further research about the importance of values in effective PLCs.

The findings indicate that the principals of these schools play a key role as visionary leaders, and they have created key organizational statements in collaboration with the staff and stakeholders. Hargreaves (2007) stated that PLCs are vulnerable when key leaders leave. In our study, participants from two schools reported that the change of leaders had a positive influence on development. Principals had succeeded in creating purpose and commitment to common goals, and they started positive progressions. Interestingly, the responses concerning the key organizational statements did not include any references about striving for high or excellent learning results in international surveys nor in national sample-based and local evaluations. This finding relates to the characteristics of the

Finnish education system: the lack of standardized testing, not emphasizing results, and no competitive culture between schools (Sahlberg, 2012; Morgan, 2014). We can question whether these schools' visions should relate or focus more directly on learning outcomes to correspond with the core idea of PLC, learning, or if it is unnecessary, as stated by Bush and Glover (2014), because governments provide prescriptions of both curriculum aims and content.

All participating schools based their leadership on shared instructional leadership. Shared leadership was reported to increase staff expertise, commitment, motivation, influence, welfare, sense of belonging, engagement, collaboration, and taking on responsibilities. Teachers in these schools participate widely in the administrative and instructional decision-making processes. This finding is supported by the study of Husu and Toom (2016).

Co-teaching practices relate to the Finnish emphasis on inclusive education and to the core principles of professional learning communities, e.g., teacher collaboration to enhance learning. Co-teaching practices were reported to have many positive effects: it strengthened instruction, learning, and support. Diverse models of co-teaching practices were reported as an effective form of work-embedded PLD activity. To succeed in co-teaching, principals' support, human resources, and enabling structures must be secured. We agree that co-teaching has potential as an educational change driver (Härkki et al., 2020), but further research of its application is needed.

The generalizability of these results is subject to certain limitations. Our findings are related to national and cultural contexts. The number of interviews was limited, and more interviews with lower secondary and comprehensive schools would have provided multifaceted data about the Finnish situation. Now the results from this study report about schools, which have readiness as PLCs. Methodologically, the professional learning community framework can be criticized because it covers most of the school operations. We tried to avoid this by focusing on the key issues of PLC.

CONCLUSION

The previous research on PLCs identified capacities that permit us to evaluate the practices of the school as a PLC. Our findings suggest that the practices of the participating schools' PLCs corresponded with the interpersonal and organizational capacities, but the study also reveal some common and contextual challenges within these capacities, e.g., resources and clarity of values. Findings about personal capacities were limited. The development of schools as PLCs is a process, not an end, and schools follow their own paths of development and have their own phases of development as the circumstances change. Currently, the COVID-19 pandemic is negatively affecting the operations of schools and PLCs around the world. PLCs are stalling, and the situation challenges the leadership, structures, collaboration, PLD, culture, and climate of PLCs. Preventing the transmission of coronavirus requires, i.e., reducing of close contact with others and thus affects widely the practices of PLCs. Principals are challenged with safety issues, constantly changing instructions, changing arrangements, quarantines, absence of staff members, maintaining relationships, sense of community, and staff members' well-being.

These findings suggest several courses of action for the national education administration, the teachers' labor union, local education providers, schools, principals, and teachers. First, the challenges with organizational capacities should be solved at the policy and education provider levels. These include grievances about the teachers' collective agreement, which determines human resource structures, teaching and collaboration time and compensation, and challenges with physical conditions. Second, the focus on learning should be secured by solving how teachers and principals can manage with higher administrative workloads. Third, the potential of co-teaching should be considered as a change and PLC driver, e.g., in teacher education and in-service training. Finally, networking between schools, principals, teachers, and stakeholders should be enhanced at all levels.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher. The datasets are available on request.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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SUPPLEMENTARY MATERIAL

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