

How to Establish and Develop Communities of Practice to Better Collaborate

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Abstract

Although education research has shown collaboration to be of the utmost importance, schools continue to lack the necessary means to help them incorporate communities of practice (CoPs) to facilitate and sustain their development and growth. We analysed the process by which CoPs were successfully implemented, under the guidance of a research-action-training (R-A-T) initiative, as well as the conditions for effective collaboration between the different instances involved (school districts, university, and principals). The study was based on a conceptual framework consisting of three key concepts: (1) the CoP and two of its sub-themes, namely, participation and reification (Wenger, 1998); (2) collaboration; and (3) the capitals involved (economic, human, and social) (Bourdieu, 1979a, 1979b; Bourdieu & Passeron, 1970; OECD, 2001). The data was from multiple sources (individual interviews, questionnaires, focus groups, personal logs). Results show that economic capital made it possible to access the human and social capitals. Economic capital in fact enabled the establishment of three CoPs which generated social capital, supported by a team of university facilitators, and ultimately human capital (material pertaining to supervision and reification).

Keywords: collaboration, communities of practice, research-action-training, school principals, school districts

Context and Research Problem

Any society desirous of innovation and growth cannot isolate itself (Tapscott & Williams, 2006). Therefore, to be effective, each organisation cannot develop knowledge without collaboration (Bickmore, 2010; Fullan, 2009; Marshall, 2013). Despite over 20 years worth of studies on the subject of communities of practice (CoPs) (Wenger, 1998), to this day few institutions have incorporated CoPs to ensure the professional development of their human resources, and even when such communities of practice exist, they rarely reach maturity. The challenges evoked in the literature regard their operationalisation in organisational settings, which impedes their implementation and development (Pyrko, Dörfler, & Eden, 2017).

Similar to Pyrko et al. (2017) and Corradi, Gherardi, & Verzelloni (2010), we view CoPs as entities that are introduced according to a planned process, as opposed to merely being “set up”. Indeed, their implementation cannot take place here and now, except for the actions necessary to set the stage to facilitate their implementation and thereafter ensure the sustainability of the group’s activities (Bouchamma, Giguère, & April, 2017). It is thus important to act, both before and after, to regulate the practices related to the preparation and planning of the CoP, and also to adopt certain practices to enable the group to achieve its initial objective (namely, the professional development of its members).

While the aspect of collaboration is strongly advocated in official documents, such as government guidelines and competency profiles, schools continue to lack the means to introduce and develop these

communities of practice. To do so effectively, each level of the education system must contribute to ensure and support collaboration in their respective settings.

Educator/Researcher Collaboration in a Context of Accountability

As in other organisations, schools are increasingly likely to adopt accountability frameworks (Sackney, 2007). In the province of Québec, this movement has grown considerably, with emphasis on results-based management (RBM), as advocated in the province's Public Administration Act (Government of Québec, 2018a). One of the core principles of RBM is the participation and collaboration of all actors throughout each phase of the management process (Dembélé, Goulet, Lapointe, & Deniger, 2013). Collaborative initiatives between school leaders and university research teams are thus strongly encouraged by both universities (Brassard et al., 2004) and the government (MEQ, 2001; MELS, 2008). Indeed, this collaboration is not limited among educators but also involves universities in research endeavours that not only address the main issues affecting schools but also generate direct benefits on the academic achievement and intellectual growth of the students (MELS, 2008). In short, the school principal must create the necessary conditions for effective collaboration, support the research-action and collaborative research initiatives of their teachers and other colleagues, and promote the decisions issued from these collaborations and consultations (MELS, 2008).

Considering the multidimensional aspect of collaboration in the CoP between educators and researchers, we examined how this collaboration was achieved between the various actors, namely, the university research team, the Ministry of Education, school districts, and their school principals. Each instance had a goal to accomplish, with teacher professional development as the common denominator to ultimately benefit student learning. To reach this goal, the university team conducted a research-action-training (R-A-T) project involving the school principals. The study focused on defining the school's needs and providing the relevant *training* for principals using a CoP approach. Here, the *action* consisted in guiding the school leaders to instill a collaborative work ethic among their teachers through the community of practice (CoP). Briefly, these CoPs operate as a collaborative unit, where the members share a clear vision of student achievement and hold formal meetings to discuss the subject and associated issues. They also nurture a culture of collaboration, share leadership duties, make decisions based on relevant data, and strive to improve their students' outcomes while ensuring the professional development of each teacher involved.

Research questions. In this context, the results of this study answer the following questions: (1) Which stakeholders have to work together to establish CoPs? and (2) What are the conditions enabling effective collaboration between the different stakeholders in these CoPs?

The study of these questions is significant because collaboration between the different members of the school community creates benefits for pupils' academic success (Dionne, Lemyre, & Savoie-Zajc, 2010). Additionally, it can improve teachers' senses of personal and collective efficiency and their professional identity and health (Senge, 1990; Wenger, 1998). However, few studies have addressed how collaboration sets and grows in school environments. Indeed, the studies that have examined collaboration (in professional learning communities - PLC) have described the importance of shared leadership between a number of bodies: school boards, school principals and teaching staff (Isabelle, Genier, Davidson, & Lamothe, 2013), and between academia and schools (Richmond et al., 2017; Van Sickle, Perry, & Capelloni, 2017). Nevertheless, it must be noted that there is a lack of scientific research on the establishment and development of CoPs in schools.

Conceptual Framework

This research project was based by the following concepts: (1) community of practice (CoP) (Wenger, 1998; Wenger, McDermott, & Snyder, 2002); (2) collaboration; (3) the notion of capital, divided into three categories, namely, economic, human (OECD, 2001), and social capital (Bourdieu, 1979a). Figure 1 shows a clockwise presentation of economic capital (a necessary component in the implementation process of a CoP), which provides access to the human and social capitals.

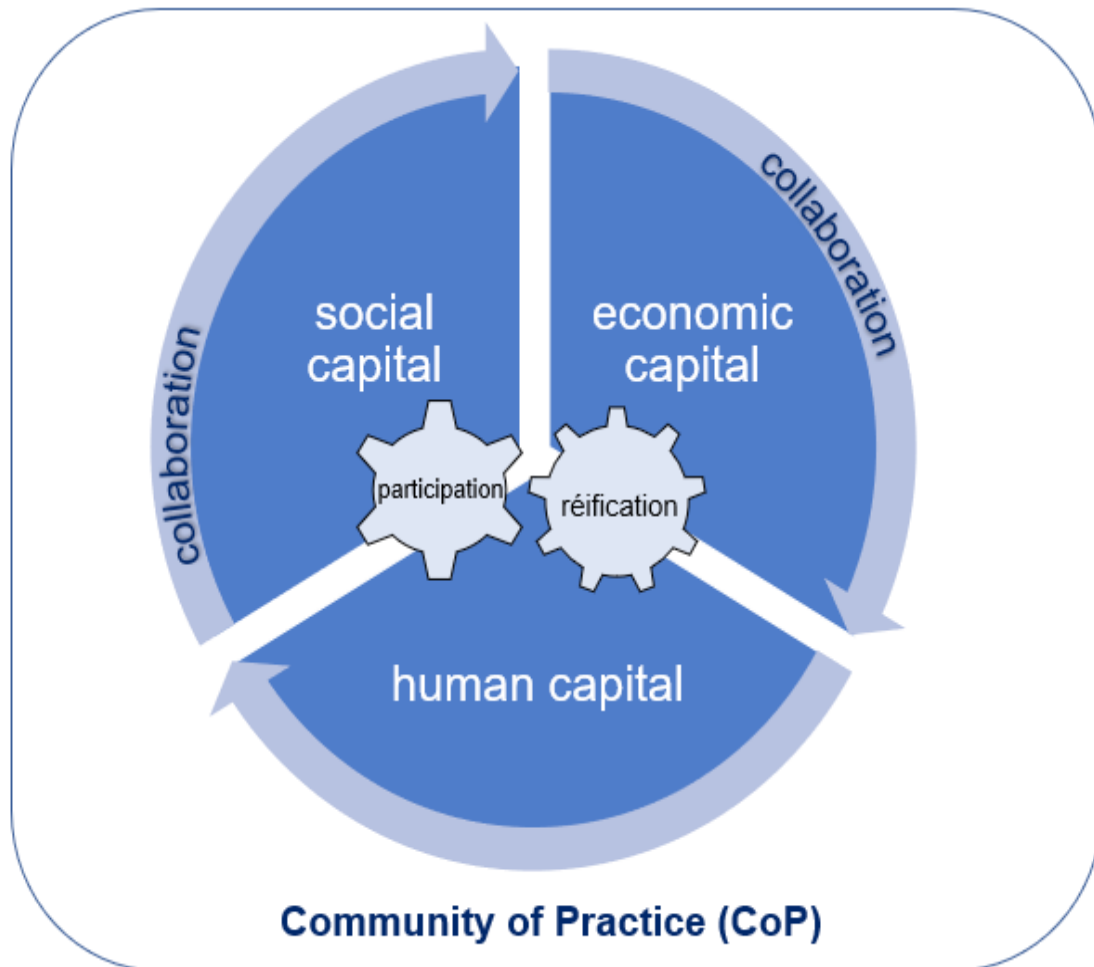


Figure 1. Factors determining the process of establishing and developing a CoP.

The Community of Practice (CoP)

The CoP is defined as a group of individuals in the same field of expertise or professional practice who come together to discuss, share, and learn from one another, either virtually or in person (Wenger, McDermott & Snyder, 2002). Wenger (1998) divides the analysis of CoPs into four components: practice (learning by doing); community (learning by belonging); meaning (learning by experience); and identity (learning by becoming). For the purposes of the present study, two factors issued from the last two components were retained, namely, *participation* and *reification*.

Participation refers to the members' affiliation, sense of belonging, and active involvement, which shapes their experience within their practice communities, while reification adds form to what is experienced within the CoP by providing objects that translate the experience and render it more concrete for its members (Printy, 2004; Wenger, 1998). These objects anchor each discussion in the CoP and are a means to negotiate meaning through supported interaction, gradual accomplishment, and mutual exchange (Wenger, 1998), as well as decision-making supported by solid evidence (Borzillo, 2007; Sakney, Mitchell, & Walker, 2005).

In the context of a CoP, its members not only possess a common interest toward specific knowledge but also the desire to share their concerns, experiences, methods, tools, and best practices (Bourhis & Tremblay, 2004). Individuals are encouraged to learn within different formats, namely, alone, as part of a team, and even within larger CoPs as part of a fluid, hands-on learning experience (Sackney, Mitchell & Walker, 2005). For these activities to occur, collaboration and access to economic, human and social capitals are vital.

Collaboration

Members of the CoP must enable collaboration, which encourages mutual support (Wenger, 1998) and a sharing of responsibilities (Borzillo, 2007; Sackney, Mitchell & Walker, 2005). Wenger's conceptual framework on CoP is strongly oriented towards the concept of collaboration (Wenger, 1998). CoP aims to operationalize collaboration and calls for school principals to ensure their continuing education through discussions and professional development activities with their peers. These discussions focus on the challenges faced daily by school principals and on practical solutions (Wenger, 1998). Thus, CoP centers on problem solving as a group. Consequently, CoP members do know who they can go to if they have a concern and how to formulate their needs to be better understood by peers (Wenger & Snyder, 2000).

Capitals

Bourdieu's capitals are well suited to study systemic approaches (including those in school systems) (Bourdieu, 1980). The concept of capital has been widely used in the organizational theories (Cappelletti, 2010; Emirbayer, & Johnson, 2008).

Economic capital. To optimise the quality of the interactions between members and enhance their productivity, the CoP must have financial resources to provide the necessary support in the form of material and financial resources (Borzillo, 2007; Wenger & Snyder, 2000). We refer to these resources as the economic capital, which includes such resources as time and money. This capital pertains to all of the individual's economic actions, revenues, and material resources (Bourdieu, 1979a). In this study, it refers to the material and financial resources provided by the school districts and the Ministry of Education of Québec for the university research team who initiated the project. Having economic capital makes it easier to access the two other capitals (human and social).

Human capital. The notion of human capital regards the person's qualifications and other characteristics that proffer various advantages, whether personal, economic, or social. These qualifications and competencies are mostly acquired but may also be innate. They signify the individual characteristics, knowledge, qualifications, and competencies that facilitate the creation of personal, social, and economic well-being (OECD, 2001).

Social capital. Social capital refers to all of the current or potential resources associated with the possession of a durable network of more or less established relationships that connect personal knowledge to that of others (Bourdieu, 1980). Learning in a CoP takes place collaboratively, in both a reflective and an active manner, and guides development to work through the complexities of learning and teaching (Sackney, 2007).

Methodology

Type of Research

This qualitative research project demonstrated how CoPs were established within the context of a research-action-training (R-A-T) initiative in two school districts. The article presents part of a larger research that has adopted a mixed approach (Teddlie & Tashakkori, 2009). The study was guided by the principles of symbolic interactionism (Blumer 1969; Mead 1934) and phenomenology (Vermersch, 2012). This method allowed us to collect and interpret data and to understand and evaluate school principals' practices in a context where there is no formal Departmental policy to frame their practices. While the three poles of this study (research, action, and training) could be examined separately, they were combined to form the overall project (Paillé, 1994). The three axes of the R-A-T project thus provided a certain methodological flexibility to meet the needs of the actions being deployed (Anadón, 2006) as well as teacher professional development. In this R-A-T, the practices of the school principals with regard to teacher supervision were directly targeted so as to better determine the appropriate training for each action.

Sampling and Project Execution

This R-A-T project, conducted in 2014-2017 was made possible with support from Quebec Ministry of Education and its program "Chantier 7" (enforced between 2008 and 2016). This program supported training and educational initiatives delivered by academia in collaboration with practitioners.

Participants. Among the participants in the R-A-T project ($N = 36$), 58.3% were principals and 41.7% vice-principals. Sixty one point one percent were women and 38.9% men. The average number of years of experience as principal or vice-principal was 4.16 years. The number of teachers under their responsibility was between 14 and 113 ($\bar{X} = 64$ teachers).

According to the principle of the CoP, members are present in response to a need and thus with a specific goal in mind. In the CoPs of this project, the participants were there to discuss the legal considerations of their role as pedagogical supervisor (Public Education Act) (Government of Québec, 2018b) and for which they lacked the necessary competencies. They therefore meet to discuss, share, and learn from each other, whether virtually or in person.

The university research team ($N = 3$) served as facilitators according to a prearranged schedule. Each session had an established agenda as well as training content that was prepared by the university team and validated by a pilot or monitoring committee in each school district. This pilot committee was composed of a school district head or representative, human resources officials, and school leaders from each level of education (primary, secondary, vocational training, and the adult education sector). The committee met on several occasions to validate the data collection tools.

The participants all spoke about the conditions that favored the collaboration between the different stakeholders (university, school boards members, and school principals).

Data collection. The present study used a portion of the data collected during the overall project in which several data collection methods were utilised, such as focus groups, individual interviews, a questionnaire, discussion forums, and the university team's log entries. Questions were asked to the participants regarding their different collaboration practices (including in collaborative teacher supervision) and their experience in the R-A-T (during a summary interview and within the framework of the pilot committees).

Data analysis. Validity was ensured by multi-source triangulation (Marshall & Rossman, 2016; Merriam, 1998), using individual interviews, focus groups, and personal logs, while reliability was determined by calculating intracoder and intercoder reliability (Miles & Huberman, 2003), which were 92% and 90%, respectively. These data were analysed using the Atlas.ti software with theme-by-theme coding (Miles & Huberman, 2003). The entirely transcribed data were divided into segments and were then coded and grouped by mixed coding, based on a list of codes that remained open to the emerging themes of *economic*, *human*, and *social capital*. The latter was divided into two sub-themes: participation and reification (Wenger, 1998) in the CoP. The quote sources indicate the origin of each participant (SD1/SD2 = school district 1 or 2; UNI = university), their identification number, as well as type of data collection (individual interview = II; statements made within the CoP or by the pilot committee = CoP; personal journal = PJ).

Ethical Considerations

This study has received ethics approval from the ethics committee for research on human subjects of Université Laval. Personal details were removed and names were replaced with alphanumeric codes to anonymize the data.

Results

In this section, we present the conditions that enabled the establishment of CoPs for school principals within the R-A-T project.

Bourdieu (1980) defined the necessary conditions for collaboration as being divided into three categories, namely, economic capital, human capital, and finally social capital with its two sub-themes participation and reification in the CoP. A table summarising the various themes and sub-themes is presented in the Appendix.

Economic Capital

It takes economic capital to create the ideal conditions for effective collaboration. For full optimisation, these resources require the participation of each member who will reify the various invested means (financial, temporal, work space, material, data) into reusable resources for the group. As illustrated in the first section of the Table 1 (economic capital), the members further their participation with four components that are essential to establishing an effective CoP, namely, financial resources, time-related resources,

designated work areas, and material/data. Reification is thus ensured by producing new material and data.

Access to financial resources. Implementation of the CoPs was made possible with the financial assistance of the Ministry of Education of Québec (MEQ). This project interested two school districts, which was a government prerequisite. One of the school districts also provided funding to begin the project, when the financial contribution of the MEQ was delayed due to changes within the Ministry. Briefly, the obtained funding served to recruit human resources (trainers, research assistants) as well as to cover the leaves of absence, travel expenses, conference registrations, photocopies, translation, and other material. On another level, during the action portion of the R-A-T, the participants were asked to establish CoPs in their school, supported by the appropriately secured funding. To do so, they had to negotiate these amounts with their respective school districts: “For each action, we look at how much it will cost... The training, the didactic material, the conferences I can go get a few hundreds of dollars here and there; sometimes, it helps” (SD1-8-CoP).

Time management. In general, the school leaders considered the number of CoP meetings to be “adequate” for their needs, but did emphasise that the action required to get things started was a challenge in terms of time management. While the school leaders mentioned saving time when the meetings took place online: “The virtual meetings, yes, it’s interesting if we look at the time factor and the travelling” (SD1-11-II), they did complain that this format provided no opportunities for interaction with peers, compared to the live, in-person sessions. Of interest was the participants’ appreciation for the noticeable availability of the university team outside of the CoP meetings, whether through phone conversations, emails, or presence in person in the different schools. “I had some questions.... I called the facilitator a few times. He also came to see me in person. I think they [university team] truly understand just how busy our schedules are, as principals” (SD1-11-II). Another participant added: “Mr. X (facilitator) was even ready to come visit our team of vice-principals to help transfer knowledge! The support aspect with us was invaluable” (SD1-8-II).

Work space provisions. The school districts allocated the necessary workrooms for the live meetings, while the participants participated in the group’s online meetings from their respective schools. When they attended the sessions in person, their focus was better sustained than when they linked in from their school, as they were often interrupted: “Even if we close our door, we are still interrupted and constantly in demand” (SD2-2-CoP). Another principal added: “I don’t have a closed office where no one can see me.... People would come knocking to find out if I was available or not” (SD2-9-II).

Use of material and data. Two types of resources were used: didactic material and data (from the needs analysis, the self-assessments, the reports, and the minutes of each meeting). First, the participating principals mentioned the support aspect of the didactic material used as references:

Everything changed when [we were offered the didactic material]. I have it in my hands, I can refer to it, I can reconsult. It reminds me of the notions [discussed] during our meetings; it’s something that stays, it’s my reference. (SD2-15-CoP)

It must be noted that, aside from a few exceptions, the university team and the principals encountered no major problems associated with the technological equipment, videoconference software, Web capsules, websites, or other multimedia during the group’s online sessions. They felt that they possessed suitable technological material for this type of meeting: “We are totally on board with this team! I’m all set up for that and we even have a meeting room for our online sessions” (SD2-11-CoP). Some participants, however, admitted lacking technological know-how, which delayed their participation in the videoconference: “At the second meeting, my microphone did not work. I am not technologically inclined.... I couldn’t interact!” (SD2-9-II).

As for the data issued from the needs analysis, self-assessments, meeting reports, and minutes, these were also evidenced in the discussions between school leaders in the CoP. One participant revealed how the data collected from the teachers and principals fueled the R-A-T: “We began with a lot of statistical data, such as a survey done with the teachers and principals on the subject of pedagogical supervision.... Then we shared the orientations of the training, together” (SD1-3-II). In this second point of view, the production of objects transformed what was experienced in the CoP. These objects not only anchored the discussions in the CoP but were a means to negotiate meaning and knowledge and stimulate participation. Finally, the principals were able to use these collected data in their accountability reports to their school district heads, who then followed suit with the MEQ, as is required in results-based management.

Data and material production. The production of material and data to support creation and transfor-

mation is a process called reification. The pilot committee and principals in their CoPs validated the data collection tools, which consisted of semi-structured individual interview grids and a questionnaire that was administered to principals and teachers on their respective needs with regard to pedagogical supervision. Following the needs analysis report, one of the two school districts deemed it necessary to develop a supervision “tool box” for the principals. A committee composed of the university team, interested principals of the CoP, and school district representatives met on three occasions to create this pedagogical support tool box. One principal who was a member of this committee mentioned how this reification made it possible to reach a larger network of school leaders who were not part of the R-A-T project: “It means a great deal to me, because I can share my CoP experience on another level with all of my peers [who did not necessarily participate in the CoP]. That’s added value” (SD2-12-II). Of interest is that the participants from the other school district also contributed by drawing up and validating a formal policy on pedagogical supervision, which clarified their definition of teacher supervision, its objectives, and the roles of each actor involved in the process.

The participating principals also shared material with each other in the CoP, which meant reinvesting in the practice: “Our colleague [Mrs. X] shared documents that she [wrote when she established a CoP in her school]. I also used them in my school” (SD2-8-II).

As for the university team, they contributed by conceiving several documents, such as a planning table, observation sheets, self-assessment grids, articles, theoretical presentations on themes related to supervision, two practical guides, and two reference manuals. Furthermore, the team submitted seven reports to the school districts throughout the project and the minutes were transcribed following each meeting, which represents another example of reification. This helped to inform the school boards of the progress made in the CoPs and to provide appropriate follow-up; for those participants who missed a meeting, this practice was useful to keep them up-to-date and help maintain their active participation: “Unfortunately, I was unable to participate [in the last meeting] but I did good reports ... which provided me with all of the pertinent information” (SD2-1-CoP). These documents validated and discussed in the CoP thus constitute a second form of reification.

Human Capital

Human capital refers to human resources, knowledge, expertise, and abilities. Our data enabled us to divide this capital into the following sub-themes: Participation, divided into two sub-themes, namely, *mobilisation of human resources* and *establishment of a shared repertoire*, and Participation in the reification (use of respective expertise).

Participation by mobilising human resources at different levels. This engagement was evidenced four ways: (1) mobilisation of the school districts by the university team, (2) mobilisation of the principals by their districts, (3) mobilisation among principals, and (4) mobilisation of the school districts and the principals by the university team.

(1) In this initial collaboration, the school districts provided the university team with access to their human resources, education services, and personnel required for the project (computer technicians and administrative staff).

(2) The director of each school board and their human resources division proceeded to recruit principals to participate in the CoP and the pilot committee. The following district head spoke of their willingness to collaborate in projects with the MEQ: “When a representative from the MEQ or the university comes to me with an innovative project in education, [I get involved] and I incite my principals to do the same” (SD1-2-CoP). The school district leaders participating in this study were open to the project at every level. For example, one district head was involved in developing the project and its objectives in accordance with their Strategic Plan. Both school boards also provided feedback on certain aspects of the project, such as content, deadlines, and schedule. The CoP participants voiced their appreciation of the presence of their district’s education services and human resources during each CoP meeting. This presence kept the members informed regarding their needs:

I always find it interesting when Human Resources and Education Services are present [at our CoP meetings]. It’s a winning situation, because it allows them to learn about our needs so that things are developed ... tools, techniques [coming from] the source. (SD2-6-II)

(3) Recruitment of volunteers for the CoPs. The participants also recruited during the project by sharing their CoP experience with their peers: “The challenge for the university team is to recruit people.

Actually, the CoP members themselves recruited ... In our meetings with other principals, some would ask ‘Would you like to be join our CoP?’” (SD1-4-II).

(4) The principals were ultimately in agreement that the discussions in their CoP had a positive effect in mobilising their school team: “I am now able to sell the [supervision] project to my staff and get [it] set up. I talk [with them] about my own personal experience in a CoP [with other principals]” (SD1-4-II).

Establishing a shared repertoire. Developing a common language was among the ways to implement a shared repertoire. For example, the object of the CoP (teacher supervision), still conveys a certain stigma for teachers because of the false perception of the concept of supervision in relation to assessment. In this regard, one principal stated that “research makes it possible ... to define a common language [and that] the pilot committee allows itself to [bestow] the same vision to the school district leaders, the university team, and subsequently the principals” (SD1-1-CoP).

Next, the sharing of objectives was deemed important for effective collaboration. One school district head spoke of the importance of determining objectives together to ensure coherence:

What was interesting to us about the university project was that it fit perfectly with our objectives and that this was a way to help our principals to introduce structured supervision practices in a context as flexible as possible; we try to simplify things with the CoP and by using different methods. (SD1-2-CoP)

Defining objectives in each collaborative activity resulted in each member expressing their expectations and determining their roles. Different expectations were evoked, depending on the collaborative context. For example, the university expressed its expectations toward the school districts to “better identify the [training] needs of each group” (UNI-1-CoP). One district head voiced their expectations toward their principals regarding mobilisation: “We expect that all of our principals and their teachers get involved in this process of supervision and guidance” (SD1-2-CoP). Finally, one participating principal related their expectations with regard to the idea of sharing their “winning teacher supervision practices” (SD1-7-CoP) with peers in the CoPs. To meet these expectations, the members must determine the roles in each collaborative situation. For example, the role of the school district was to counsel the university team on the orientations of the training to properly address the needs expressed. On another level, one principal defined their role in the CoP as follows:

disseminate what I am already doing and how I am doing it. Expose the issues, ask questions.... At the same time, learning [from my peers]. I do not claim to say that all I do is give; I [also] learn! It goes both ways. (SD2-6-CoP)

The regular follow-ups and occasional evaluation of the meetings were another determining factor in the establishment of a shared repertoire:

The training courses that are monitored over a period of years are now [instilled] within my core values. They have had tangible effects on my work.... The fact of having several meetings with regular feedback and that we work on implementing throughout an entire year [makes it possible to] have a common vision that evolves. (SD2-2-II)

It must be emphasised here that following each CoP session, the principals were asked to write a reflective synthesis in order to make adjustments for the meetings to come.

Finally, differentiation also contributed to a shared repertoire. One school district preferred to form two homogeneous groups according to teaching level, while the other district opted for a single heterogeneous group. A participant from the first school district stated: “The group was neither too big nor too small. This type of composition was interesting.... We were able to get a more personalised monitoring and explore the same vision” (SD1-2-CoP), while a participant from the second school district, regarding heterogeneity, noted: “Not everyone is at the same level, are not the same age, or have the same abilities. Sometimes, there is resistance because of their different profiles. [However], adjustments were made to suit our needs [and our level]” (SD2-8-II). Indeed, some modifications made by the university team facilitated this cohesion: “I liked this a lot, the more flexible aspect of the meetings, where we had a actual say in what went on the agenda” (SD1-10-II). “We felt that the interventions were a direct response to our questions and not merely something that the university team wanted us to hear. That also had a positive effect on our unity” (SD1-9-II).

From participation to reification: Using everyone’s expertise. Different types of expertise also constituted a condition for collaboration. The first type of expertise was that shared between principals: “I think that my colleagues are an enormous source of information that [guides] our problem-solving

strategies” (SD2-15-II). Another participant underlined the more practical aspect of sharing expertise with peers: “For me, it’s the practical side of things... It means a lot to me because these things are highly transferable in my own practice” (SD2-8-CoP). The second type of expertise was introduced by the university team. One participant spoke of the connection between practice and theory: “It was a good mix between field know-how and research expertise. [They] were a credible, multitalented, multidisciplinary team, with experts on both sides” (SD2-11). The school leaders thus appreciated the “external, different, rational perspective” (SD2-1-II). The third type of expertise was provided by guests outside of the CoP. One participant described this contribution:

I found it to be very interesting and highly informative... the testimonies of some principals who came in to talk to us about how they set up communities in their schools. I felt better equipped after that to do the same thing in my own school. (SD1-5-CoP)

The fourth expertise, that of the school district services, also contributed:

I can’t be a lawyer, an engineer, or an architect... I am a teacher and a manager. Furthermore, ... I can’t answer every question on the contents of the teaching programs.... When I need help [information, data, tools], I call upon the District’s services who are specialists in that domain. (SD1-12-CoP)

The multi-source expertise shared through participation was the basis for an eventual reification, as aforementioned. Indeed, in addition to the material reifications, the different forms of expertise were also reinvested into the practice, as underlined by this principal:

When we hear other principals say “I tried this in my school and it [worked]”, it motivates us to do it too. Hearing other principals [discuss their issues] similar to mine, to see how they work, it helps to... pursue in our own school. (SD2-9-CoP)

Social Capital

Participation in the social capital is articulated around three sub-themes: *facilitation*, *reducing isolation*, and *building a trusting environment*.

Facilitation. Facilitation of the CoPs was provided by one member of the university team following specific monitoring principles:

To take on the role of facilitator [of the CoPs], certain techniques must be mastered: fully explain the goals of the meeting, bring each participant to express themselves, go around the table, use humour when necessary, use reminders, synopses, etc. (UNI-1-CoP)

The principals noted the ability of the facilitator who ably referred to elements from the previous sessions, introduced topics, and showed the participants how to work on them: “The facilitator knew how to introduce each topic, how to go about working on it, and remind us of elements from our previous meetings, without imposing too much” (SD1-11-II). They also appreciated the listening skills of the university team during each collaboration, including the ones with the districts: “I’d say that the team was very attentive to me” (SD1-5-II). This attentiveness enabled the CoP members to create discussions: “They take the time to listen to what we had to say... and to use this to better direct the discussions” (SD2-1-II).

We submit that the interactions during online CoP meetings were perhaps “too structured” and less directed toward interactions between peers, as each participant was sitting in front of their computer and not next to their peers. In addition, the order in which each participant spoke made for less spontaneity: “When we are online, it’s more of discussion with the facilitators [than with our peers]” (SD2-16-II). “It’s like a monologue. We [each] take turns speaking [so we don’t all talk at once]” (SD2-14-II). The online sessions therefore limited the interactions: “The fact of being alone in a room in front of a screen takes away the human element... The relational aspect isn’t [always] there!” (SD2-8-CoP). “When you’re online, you’re not into the feelings and emotions. You are cut off from the spontaneity of the others. In this virtual setting, I find that we’re restricted” (SD2-2-CoP).

The presence of facilitators in the CoPs helped the peer discussions on common issues and enhanced exchange between colleagues for mutual support, which enabled them to share their experiences: “When I shared with my colleagues, I became aware that other [principals] had gone through the same [problem situation]. The facilitator helped us share our winning practices and solutions” (SD2-9-II). For another participant, this peer support was perceived as a form of encouragement: “My colleagues encouraged me to continue my teacher supervision, even when the cases were difficult. Talking together [and helping each

other] is constructive” (SD1-5-II).

Reducing isolation. In general, the CoP enabled the principals to feel less isolated. This participant viewed the work in a CoP as essential: “We are all alone in our corner... We really must build a network between principals. For me, for the work that I do, it’s vital” (SD1-11-CoP). However, communication does not automatically lead to collaboration and to reducing isolation, which remain constant concerns in the CoP. Each day, school principals work alone, even in the presence of vice-principals, and although they communicate with their assistants and their district superiors, this communication is limited to giving or receiving information without necessarily engaging them in discussions aimed at solving problems:

As principal, we are a bit alone, in managing our staff... We don’t [necessarily] work on the same issues with our vice-principals and district heads; yes, we do communicate and discuss things but we don’t really enter into action to address a common problem. (SD1-10-II)

Building a trusting environment. During the various collaborations, the principals, school district, and university team sought to create a nurturing environment by establishing trust and empathy. From a collective standpoint, before setting up, establishing mutual trust within the team takes time: “We open ourselves up to colleagues we don’t necessarily know, we share confidential information... You have to put aside [your ego] and [share your weaknesses]. It’s a challenge that takes time!” (SD1-3-CoP). Some participants expressed that it took them the better part of a year before being able to trust their peers: “The first year, I can’t say that I felt totally trusting, but this year, it’s different! As our discussions continued, the level of trust grew” (SD1-9-II).

To summarise, the CoP experience helped its members gain confidence, which in turn helped them grow professionally. This confidence was evidenced in their feedback to their peers which demonstrated empathy and an understanding of the emotions evoked: “I truly understand you” (SD1-8-CoP) (principal to principal); “I would have done the same thing!” (SD2-4-CoP) (SD to principal); “How did you feel?” (SD1-4-CoP) (university team to principal).

The table found in the Appendix presents a synthesis of the necessary conditions for each type of collaboration.

Discussion

Our results show that the participation of the three different interest groups (principals, school districts, and university team) made collaboration possible. It goes without saying, however, that these conditions alone do not suffice to create the appropriate dynamics within a CoP to ensure effective implementation and the attainment of objectives.

Initially, the CoPs used economic capital which the university team obtained from the MEQ (funds to recruit students and other research personnel) as well as from the school districts involved (funding, workspace, personnel) to launch the process and establish the school principals in their CoPs. CoPs must always have the necessary financial and material resources (Borzillo, 2007; Wenger & Snyder, 2000). Economic capital thus made it possible to access the other forms of capital (human and social) and to organise the principals into CoPs. The latter participated voluntarily, guided by a sense of purpose and a need to share their concerns, experiences, models, tools, and best practices (Bourhis & Tremblay, 2004).

During their meetings over the course of two years, the members maintained their mutual commitment (engagement), collective effort (joint enterprise), and shared knowledge base (shared repertoire) on the subject of pedagogical supervision. Through this unique experience, the members experienced learning in a variety of ways (individually, from their peers, the university team, invited guests, etc.) through the sharing of responsibilities (Borzillo, 2007) and an absence of hierarchy, through self-organisation and mutual support, and by negotiating meaning (Sackney 2007; Wenger, 1998). Retaining the members’ level of interest was in fact possible by maintaining a constant balance between participation and reification (Wenger, 1998) using a developed pedagogical tool box, a supervision policy, and relevant reference material (practical guides, reference manuals, planning table, observation and auto-assessment grids, published articles, theoretical presentations on specific subjects, two how-to books, and two reference works).

Participation of the members was also sustained through common knowledge and interests (Wenger, 1998). Indeed, the CoP members shared an interest in better understanding and improving their teacher supervision practice and they communicated with each other for this purpose. The CoP meetings were thus opportunities to share their experiences, validate tools, discuss the inherent challenges of their respective practices, and acquire new knowledge (Wenger, 1998).

Parallel to the CoP, differentiated supervision was also provided for the participants, at their request, which made it possible to follow the principle of unification prior to sustainment (Wenger, McDermott & Snyder, 2002).

Learning within the CoP also occurred through more concrete means, which in this case were the data collection tools, observation grids, and the various training activities on such topics as the principles to be considered in the teacher supervision process. These professional development activities directly addressed the needs of the members and indicated in which direction the training should go (Hargreaves & Fink, 2006; Huffman & Hipp, 2003; Sackney, 2007).

The members contributed to each step of the process (development of a policy on pedagogical supervision as well as a supervisor's tool box, completion and validation of the various grids, completion of the questionnaires, evaluation of each meeting, etc.) While this may not translate to *production* in the literal sense, the members did produce material and validate data analyses, which is in agreement with what research in this domain refers to as the *production of common resources* (Lave & Wenger, 1991; Printy, 2004; Wenger, 1998).

Conclusion

To conclude, the goal of this study was to analyse the types of collaboration between the different stakeholders so as to establish appropriate and effective CoPs to ensure the professional growth of the principals in a bridging approach uniting experimentation in their schools and a critical analysis of the group experience and perspective.

The results exposed three main forms of collaboration that have ensured the success of three CoP: collaboration (1) between the university and the school boards through pilot committees; (2) between school boards and principals during the meetings in CoP; and (3) between the university and the principals and between the principals within them, in CoP.

The results also indicate that economic capital has provided access to human and social capitals. In fact, material and financial resources (or economic capital) made reification possible. This reification, which has taken different forms (toolbox, grids, exercises and didactic material), has even been reproduced in publications (Bouchamma, Giguère, & April, 2016, 2017) which serve for the initial and ongoing professional development of school principals and for future research-action-training (R-A-T) projects. In addition, the results highlight the role of university researchers as coordinators, which also allowed for the establishment of a very efficient link between ministerial expectations (results-based management policies and the requirements of the Public Education Act) (Government of Québec, 2018b) and the practices in the field. This has been possible by establishing and developing CoPs, which improve collaboration between the different stakeholders of the network.

Although collaboration is strongly advocated, few studies have investigated its limits. Similar to Huxham & Vangen (2005), we found that there are indeed limits to considering collaborative work as a panacea for every problem in the education system (mostly because individual work must be done in parallel to strengthen and fuel teamwork). However, collaboration must always be encouraged and supported when issues are shared. It must also be mentioned that CoP goes through different stages of development that we did not address in this article.

All things considered, the main outcome of this research has been to foster and frame the relationship between the worlds of practice and research in school management. In fact, this R-A-T, done with the practitioners (and not on them) has nurtured the professional development of the school principals, has helped to analyse data to answer poorly researched questions, and has allowed collaboration – which must always be encouraged and supported while taking into account its different stages of development in order to reach maturity.

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Table 1

Elements ensuring the establishment and success of communities in practice

Themes and dimensions	Collaboration and sharing		
	Between the university and the school districts (Pilot Committee)	Between the school districts and the principals (Presence in the CoP)	Between the university and the principals and between the principals (CoP)
Economic Capital			
Participation			
Access to financial resources	Funding received by the Québec Ministry of Education; Budget proposed by the SD to launch the project in case of non-funding	Funding obtained from the SD; Funding received by the Québec Ministry of Education; Budget proposed by the SD to launch the project in case of non-funding	Funding received by the Québec Ministry of Education; Budget proposed by the SD to launch the project in case of non-funding
Time management	Authorised absence obtained by the principals to participate in the project	Presence of human resources and education services during the CoP meetings	Time for training and reflection; availability of the principals and the university team; long-term planning; time gained during the virtual sessions
Allocated workspace	Administered by the SD	Administered by the SD	Administered by the SD; Interruptions during the online sessions
Use of material and data	Discussions on the results of the needs analysis and the assessment grids	Accountability in the Partnership Agreement and the Management and Educational Success Agreement	Occasional reports and meeting minutes to guide the discussions; shared didactic and technological material
Reification			
Production of material and data	Validation of the data collection tools; creation of a teacher supervision policy and a supervisor's pedagogical tool box		Submission of occasional reports and minutes; creation, validation, and didactic material
Human Capital			
Participation			
Mobilisation of human resources	Human resources, education services, computer technicians and secretarial staff	Recruitment by the District Head and the SD; presence of the District services in the CoP	Recruitment by the principals Mobilisation of the school team by the principal
Setting up a shared repertoire	Common language; shared objectives, expectations and roles; follow-ups and assessments	Common language; shared objectives, expectations and roles; follow-ups and assessments	Differentiation; Common language; shared objectives, expectations and roles; follow-ups and assessments
From participation to reification			
Using respective expertise		Consultation with the SD regarding specific expertise (legislation, data, tools, etc.)	Practical expertise of the principals and the invited guests; practical and theoretical expertise of the university team
Social Capital			
Participation			
Facilitating	Facilitation resources, attentiveness, and mutual commitment	Facilitation resources, attentiveness, and mutual commitment	Facilitation resources, attentiveness, and mutual commitment
Reducing isolation	The challenge of constant isolation	The challenge of constant isolation	The challenge of constant isolation
Building a trusting environment	Trust and empathy	Trust and empathy	Trust and empathy

References

- Anadón, M. (2006). La recherche dite “qualitative: de la dynamique de son évolution aux acquis indéniables et aux questionnements présents. *Recherches qualitatives*, 26(1), 5-31. Retrieved from [http://www.recherche-qualitative.qc.ca/documents/files/revue/edition_reguliere/numero26\(1\)/manadon_ch.pdf](http://www.recherche-qualitative.qc.ca/documents/files/revue/edition_reguliere/numero26(1)/manadon_ch.pdf)
- Bickmore, D. (2010). Teaming, not training. *Principal Leadership*, 10(8), 44-47. Retrieved from <https://eric.ed.gov/?id=EJ894682>
- Blumer, H. (1969). Fashion: From class differentiation to collective selection. *The Sociological Quarterly*, 10(3), 275-291.
- Borzillo, S. (2007). *Communities of practice to actively manage best practices*. Wiesbaden: Deutscher Universitäts-Verlag.
- Bouchamma, Y., Giguère, M., & April, D. (2017). *Référentiel de compétences d'un superviseur pédagogique: S'autoformer et s'autoévaluer pour superviser individuellement et collectivement*. Québec, QC: Presses de l'Université Laval.
- Bouchamma, Y., Giguère, M., & April, D. (2016). *La supervision pédagogique. Guide pratique à l'intention des directions des établissements scolaires*. Québec, QC: Presses de l'Université Laval.
- Bourdieu, P. (1979a). *La distinction critique sociale du jugement*. Paris: Les Éditions de Minuit.
- Bourdieu, P. (1979b). Les trois états du capital culturel. *Actes de la recherche en sciences sociales*, 30(1), 3-6.
- Bourdieu, P. (1980). *Le sens pratique*. Paris: Les Éditions de Minuit.
- Bourdieu, P., & Passeron, J.-C. (1970). *La reproduction: éléments pour une théorie du système d'enseignement*. Paris: Les Éditions de Minuit.
- Bourhis, A., & Tremblay, D.G. (2004). Les facteurs organisationnels de succès des communautés de pratique virtuelles. Québec, QC: Cefrio. Retrieved from http://www.cefr.io.qc.ca/media/uploader/Facteurs_organisationnels.pdf
- Brassard, A., Cloutier, M., De Saedeleer, S., Corriveau, L., Fortin, R., Gélinas, A., & Savoie-Zajc, L. (2004). Rapport à l'activité éducative et identité professionnelle chez les directeurs d'établissement des ordres d'enseignement préscolaire et primaire. *Revue des sciences de l'éducation*, 30(3), 487-508. doi:10.7202/012079ar
- Cappelletti, L. (2010). Vers un modèle socio-économique de mesure du capital humain? *Revue française de gestion*, (8), 139-152.
- Corradi, G., Gherardi, S., & Verzelloni, L. (2010). Through the practice lens: Where is the bandwagon of practice-based studies heading? *Management Learning*, 41(3), 265-283.
- Dembélé, M., Goulet, S., Lapointe, P., & Deniger, M.A. (2013). *Perspective historique de la construction du modèle québécois de gestion scolaire axée sur les résultats. L'école à l'épreuve de la performance: Les politiques de régulation par les résultats: Trajectoires nationales, usages locaux*. Brussels, Belgium: DeBoeck.
- Dionne, L., Lemyre, F., & Savoie-Zajc, L. (2010). Vers une définition englobante de la communauté d'apprentissage (CA) comme dispositif de développement professionnel. *Revue des Sciences de l'Éducation*, 36(1), 25-43.
- Emirbayer, M., & Johnson, V. (2008). Bourdieu and organizational analysis. *Theory and society*, 37(1), 1-44.
- Fullan, M.G. (2009). *Motion leadership: The skinny on becoming change savvy*. Thousand Oaks, CA: Corwin Press.
- Government of Québec. (2018a). Loi sur l'administration publique [Public Administration Act]. Retrieved from <http://legisquebec.gouv.qc.ca/fr/ShowDoc/cs/A-6.01>
- Government of Québec. (2018b). Loi sur l'instruction publique [Public Education Act]. Retrieved from <http://www.legisquebec.gouv.qc.ca/fr/ShowDoc/cs/I-13.3>
- Hargreaves, A., & Fink, D. (2006). The ripple effect. *Educational leadership*, 63(8), 16-20. Retrieved from <http://www.ascd.org/publications/educational-leadership/summer06/vol63/num10/The-Ripple-Effect.aspx>

- Huffman, J.B., & Hipp, K.K. (2003). Professional learning community organizer. In J.B. Huffman & K.K. Hipp (Eds.), *Reculturing schools as professional learning communities*. Lanham, MD: Scarecrow Education.
- Huxham, C., & Vangen, S. (2005). *Managing to collaborate*. Abingdon, UK: Routledge.
- Isabelle, C., Genier, É., Davidson, A., & Lamothe, R. (2013). CAP: Un leadership partagé entre le conseil scolaire, la direction et les enseignants. *Éducation et Francophonie*, 41(2), 155-177.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. UK: Cambridge University Press.
- Marshall, K. (2013). *Rethinking teacher supervision and evaluation: How to work smart, build collaboration, and close the achievement gap* (2nd ed.). San Francisco, CA: John Wiley and Sons.
- Marshall, C., & Rossman, G.B. (2016). *Designing qualitative research*. Newbury Park, CA: Sage Publications.
- Mead, G.H. (1934). *Mind, self and society*. Chicago, IL: University of Chicago Press.
- Merriam, S.B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass Publishers.
- Miles, M.B., & Huberman, M. (2003). *Analyse des données qualitatives* (2nd ed.). Brussels: De Boeck University.
- Ministère de l'Éducation, du Loisir et du Sport. (2008). *La formation à la gestion d'un établissement d'enseignement: Les orientations et les compétences professionnelles*. Retrieved from http://www.education.gouv.qc.ca/fileadmin/site_web/documents/reseau/formation_titularisation/07-00881.pdf
- Ministère de l'Éducation du Québec. (2001). *La formation à l'enseignement: Les orientations. Les compétences professionnelles*. Retrieved from http://www.education.gouv.qc.ca/fileadmin/site_web/documents/reseau/formation_titularisation/formation_enseignement_orientations_EN.pdf
- OECD. (2001). *The well-being of nations. The role of human and social capital*. Retrieved from <http://www.oecd.org/site/worldforum/33703702.pdf>
- Paillé, P. (1994). Pour une méthodologie de la complexité en éducation: Le cas d'une recherche-action-formation. *Canadian Journal of Education/Revue Canadienne de L'éducation*, 215-230. Retrieved from http://www.jstor.org/stable/1495128?seq=1#page_scan_tab_contents
- Printy, S.M. (2004). The professional impact of communities of practice. *University Council for Educational Administration Review*, 46(1). Retrieved from <http://www.ucea.org/resource/ucea-review/>
- Pyrko, I., Dörfler, V., & Eden, C. (2017). Thinking together: What makes communities of practice work? *Human relations*, 70(4), 389-409.
- Richmond, G., Dershimer, R.C., Ferreira, M., Maylone, N., Kubitskey, B., & Meriweather, A. (2017). Developing and sustaining an educative mentoring model of STEM teacher professional development through collaborative partnership. *Mentoring and Tutoring*, 23(1), 5-26. doi:10.1080/13611267.2017.1308097
- Sackney, L. (2007). History of the school effectiveness and improvement movement in Canada over the past 25 years. In T. Townsend (Ed.), *International handbook of school effectiveness and improvement* (pp. 167-182). Berlin: Springer.
- Sackney, L., Mitchell, C., & Walker, K. (2005, April). *Building capacity for learning communities: A case study of fifteen successful schools*. Paper presented at the annual conference of the American Educational Research Association, Montréal, Québec.
- Senge, P.M. (1990). *The art and practice of the learning organization. The new paradigm in business: Emerging strategies for leadership and organizational change*. New York, NY: Currency Doubleday.
- Tapscott, D., & Williams, A.D. (2006). *Wikinomics: How mass collaboration changes everything*. New York, NY: Penguin Books.
- Teddle, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quan-*

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- titative and qualitative approaches in the social and behavioral sciences*. Thousand Oaks, CA: Sage.
- Van Sickle, M., Perry, L., & Capelloni, A. (2017). University–Urban high school partnership: Math and science professional learning communities. *School Science and Mathematics, 117*(3-4), 137-145.
- Vermersch, P. (2012). *Explicitation et phénoménologie: Vers une psychophénoménologie*. Paris, France: Presses universitaires de France.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. New York, NY: Cambridge University Press.
- Wenger, E.C., McDermott, R., & Snyder, W.M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business Review Press.
- Wenger, E.C., & Snyder, W.M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review, 78*(1), 139-146. Retrieved from http://www.rareplanet.org/sites/rareplanet.org/files/Communities_of_Practice__The_Organizational_Frontier%5B1%5