The transformation of participation at the boundary between teaching and research practices

Alain Breuleux[1], Gyeong Mi Heo[1], Sandra Fréchette[1,2], Karen Rye[2], Jessica Saada[2], Marta Kobiela[1]

[1] McGill University, Montreal, QC, Canada

[2] Riverside School Board, Saint-Hubert, QC, Canada

alain.breuleux@mcgill.ca, gyeongmi.heo@mcgill.ca, SFrechette@rsb.qc.ca, KRye@rsb.qc.ca, JSaada@rsb.qc.ca, marta.kobiela@mcgill.ca

Abstract: This short paper summarizes arguments and findings in support of the conjecture that the most valuable and rewarding work in partnerships between teachers and researchers is the *transformation of participation* in the nexus of curriculum design, teaching, reflection, and research as collective activity systems. We present briefly the context and conceptual framework for our work, and then summarize a multi-year case of successful teacher-researcher partnership illustrating different transformations of participation, highlighting key findings and implications.

Introduction / Purpose

Through engagement for more than 10 years in partnerships with teachers, the researchers in this team have identified that the most valuable and rewarding feature of this work might be the *transformation of participation* in the nexus of curriculum design, teaching, reflection, and research as collective activity systems. What emerges from our experience is a sense that we (researchers, teachers, pedagogical consultants, and school board administrators) engage differently in our core activities, and in joint activities, as we connect with the practices of other professionals. This short paper summarizes arguments and findings in support of that conjecture, giving voice to the teachers, consultants, and administrators in the team. We present briefly the conceptual framework and context for our work, and then summarize a multi-year case of our teacher-researcher partnership, highlighting key transformations and their implications.

Conceptual Framework

Fostering partnerships between teachers, consultants, and researchers is increasingly considered a promising way of approaching problems of practice in education with a view to resolving them in an adaptive and sustainable way (Coburn & Penuel, 2016; Rosenquist et al, 2015, Wentworth et al, 2017). As Penuel et al (2015) suggest, such teacher-researcher collaboration is enabling joint work through mutual engagement across professional and disciplinary boundaries. This approach brings "the world of research and the world of [professional] practice closer together, mediat[ing] between these two cultures, in order to construct knowledge leading to an informed practice" (Savoie-Zajc & Bednarz, 2007, p. 578). Our project aims at identifying and developing processes for successful teacher-researcher partnerships in which teacher teams collaborate over extended periods of time with researchers to design and enact classroom practices that support educational success (Voogt et al, 2015).

We consider *learning* from socio-constructive and cultural-historical perspectives as *the experience of expansive transformations of participation in communities of practice* (Engeström, 1999a; Rogoff, 2003; Wenger, 1998). As individuals engage in meaningful, challenging, socially patterned and situated activities, their participation may be transformed by how they engage differently with others, how their identity shifts, how the object of their activity expands, and so forth. These transformations of participation correspond to what we mean by *learning*. In the context of different co-existing communities of practice and interacting activity systems as we experience in our research-practice partnership (RPP), this transformation may involve crossing boundaries between these different practices. It may also involve learning in terms of evolving forms of engagement, tuning of the enterprise, and developing the repertoire of the community (see Wenger, 1998, p. 95).

Context of the Research-Practice Partnership

The context of the work reported in this paper is an experience spanning more than 10 years, that we now refer to as a teacher-researcher Partnership for Reflective and Collaborative Teaching, Inquiry and Support (PRACTIS). Here, we describe the core partnership initiative and its historicity as it emerged from a previous project and is now giving way to a strategic spin-off initiative in the partner school board.

Our core research-practice partnership (RPP) project was "*Creating, Collaborating, and Computing in Mathematics (CCC-M)*" (2013-2017) that aimed at enhancing the capacity of teachers and students to integrate

technology into teaching and learning and to improve student success in mathematics, with a focus on the transition from elementary to secondary school. With the partnership between a university-based research team (i.e., McGill University) and the educational services of a school board (I.e., Riverside School Board), the CCC-M Leadership Team consisting of researchers and practitioners (i.e., three consultants and one senior administrator from the school board) designed and implemented activities for teacher professional development together following the design-based research (DBR) approach (Brown, 1992; Collins, Joseph, & Bielaczyc, 2004). In the first year of the project, 13 teachers from elementary and high schools voluntarily participated in the project. The CCC-M team as a professional learning community had four to five face-to-face (F2F) meetings per year. At the F2F meetings, they discussed issues related to their practice and had collaborative learning activities that included a process of curriculum design, enactment, and reflection. Between the F2F meetings, the teachers interacted and collaborated with each other in an online learning community space (i.e., Edmodo).

The CCC-M partnership emerged from a previous project, "*Building Community through Telecollaboration (BCT)*" (Breuleux et al., 2009; Heo et al., 2011) to encourage, facilitate, and support collaboration to enhance ICT-supported learning across the community. This province-wide teacher professional development initiative supported by the Quebec Ministry of Education lasted for six years (2007-2013) through three phases of evolution of the community. In fall 2007, about 50 administrators and teachers from nine English school boards across Quebec participated in the project. Due to limits in the Ministry budget for this project, in the last third phase of the project (2011-2013), two school boards with administrators and teacher leaders, who had actively supported and engaged in the project and hence had appreciated the values and benefits of the project, continued participating in the project to develop further a collaborative teacher team in each school board. One of the school boards was the Riverside School Board (RSB) that the research team collaborated with for the CCC-M project, a partnership development project funded by the federal government.

During the final year of the CCC-M project, the RSB launched in the Fall of 2016 the *School Success Team (SST)* project "to look at learning across curriculum and at conditions that make learning possible and success attainable for all". The work conducted during the 2016-2017 phase of the CCC-M initiative contributed to seeing how fruitful it would be for the McGill Team and the RSB Team to collaborate on this initiative. The SST is a school board-driven multi-year initiative in which all elementary and high schools in the school board participate. Each school has formed a SST with 4-6 members (sometimes more in the case of high-schools), including a principal, teachers, and resource teachers. The SST leadership team has consisted of a senior administrator and ten curriculum consultants and the research team has been invited to participate on the basis of the positive relationship developed through the CCC-M project. Although the SST's target goals and participants (e.g., a layer of schools in the school board) are different from the CCC-M (e.g., a layer of teachers), SST has adapted the process and "ways of thinking and reflecting" of the CCC-M project and hence the roles of researchers and practitioners have been also changed. For example, the research team participates in more supporting and contributing roles rather than leading or guiding the project.

Five practices were identified in the RPP: Teaching, Reflection, Consulting, Research, and Leadership (more details are provided in later sections).

The Transformation of Participation in Practices

In this section, we document instances of transformation in the practices of teaching and reflection, consulting, research, and leadership, based on our qualitative analysis of interviews as well as on-going field notes. We focus on consultancy first, and describe that practice as experienced by the three co-authors who are engaged in it as members of the curriculum team, mentioning a few transformations. We then report on analyses of transformations in the other practices.

Consulting: Consultants' challenges and benefits in participating in the RPP

The curriculum team, led by Jessica who is the assistant director of educational services for the school board, is composed of a dozen of pedagogical consultants, each specializing in a subject (e.g., math, social studies). Their role can be described generally as supporting the teachers in their practice by providing curriculum material, pedagogical guidance, and responding to emergent needs; however, as we will see later in this paper, the roles have been somewhat transformed as a result of participating in this partnership project. Three consultants, in addition to the associate director of educational services, participated in the leadership team of the CCC-M project: elementary mathematics, secondary mathematics, and pedagogical integration of technology. In the following paragraphs, we introduce the practices of Karen, Jessica, and Sandra, and in the next section we share the findings from our further analyses of different transformations of participation.

In a recent conversation with the principal researcher (Alain), Jessica mentioned how the curriculum team faced a few significant challenges and threats in the early phase of the project. In the context of budget cuts,

a general perception emerged that pedagogical consultants might not be part of essential services. Combined with the sense that consultants worked hard but had limited impact, motivation and enthusiasm grew thinner. One of the significant transformations identified by Jessica is a shift to a different way of engaging with the teachers: "less board-driven and more collaborative". Through this shift, the different expertise of teachers and consultants are combined. But the shift in relationship between the Curriculum Team and the schools is not just between consultants and teachers, and impacts the perception of school administrators and general school staff. For this reason, the School Success Team, as it includes principals and vice-principals as well as a variety of school staff members in addition to teachers, has enabled on-going conversations not only between teachers and consultants, but between the Curriculum Team as a whole and the school teams in their diversity.

(1) Techno-pedagogical consultant

Karen is a techno-pedagogical consultant at the school board. She began a relationship with the research team when participating in the BCT project in 2007. She was a teacher who actively integrated technology into her classroom and was willing to share her experiences with other teachers and to help them. In phase 2 (2009-2011), hence, she was invited to be one of *lead teachers* in the team and played a role as a representative of the teachers through engaging in the project development process. As a lead teacher, she also facilitated and supported communication and collaboration among teachers (Heo et al., 2011). This leadership experience led her to be appointed a techno-pedagogical consultant at the school board since 2011. The relationship of trust and mutual understanding that developed through the BCT project between the research team and the school board allowed us to expand and consolidate the research-practice partnership through the CCC-M project. In relation to transformation of her practice through engaging in the RPP, Karen reflected that her approach to professional development (PD) workshops as a techno-pedagogical consultant had evolved away from just presenting how to use technology to "having conversation, posing the right questions and leading people to reflect." In other words, her role was expanded from a consultant with a specialized mandate to a broader, deeper role as designer of collaborative PD and "facilitator of conversation."

(2) Senior administrator (Assistant Director of Educational Services)

Jessica joined the CCC-M project in the fourth year of the project when appointed to replace the previous assistant-director who retired. As a newcomer to the CCC-M leadership team, she recounted the collaborative design process within the leadership team that "for me, it was very eye-opening because I felt I had different experiences of collaboration with university teams. But I felt that this was very much about *working together* not that university is coming in to broach topics." She appreciated that the collaboration between researchers and consultants with different knowledge and expertise in different areas allowed the project to move forward. While engaging in the CCC-M project, she reflected on her previous experiences as a pedagogical consultant on effective way to design PD for consultants of the school board as well as teachers. She indicated that what she learned from the CCC-M project was not about what consultants bring to the teachers but about "how to support and how to foster." Accordingly, she has played a role as a transformative agent to change the approach to PD programs and workshops in the school board. One of the initiatives is the SST project (as described in the previous section) that aims at building capacity for collaborative design and implementation processes within not only schools but also the curriculum team.

(3) High school math consultant

As a high school math consultant, Sandra took a role in guiding and supporting high school teachers and facilitating interactions between elementary and secondary teachers in relation to the focus of the CCC-M project, that is students' successful transition from elementary to secondary schools. While working with the research team in the CCC-M project, she was able to break away from her preconception about researchers as not having "a realistic view of what's happening in the universe" and to appreciate the value of partnerships between research and practice. This experience of collaborating with the research team in a supportive, respectful and non-judgmental environment motivated her to move forward in her professional career and to cross the boundary from consultant to researcher. Sandra took a more inquiry-oriented stance and decided to take the CCC-M project as the object of her Master's thesis research (an option she had not considered when entering the program). As a practitioner researcher, she identified and described the trajectory of participation that the teacher team experienced in the CCC-M project (more details on the study are presented in the following section).

Teaching & Reflecting: Teachers' evolving participation

Analyzing the transcripts of four iterations of end-of-year interviews with teachers participating in the CCC-M project, Sandra gathered evidence of a transformation of mindsets: the teachers changed their views on

the purpose of the CCC-M PLC, or in other words, what the project is all about, its object. The thoughts recorded in the interviews showed two major transitions. First, from being a group that is externally driven by its leadership team (i.e., researchers and consultants) where ideas are exchanged and new practices are suggested and practiced –the *Conversation* phase– to one that is internally driven by the members of the group (i.e. the teachers) –the *Collaboration* phase. The collaboration matured due to the gain in trust of its members, increased opportunities for rich exchanges, hands on experimentation of practices selected by members and the use of tools (e.g., video) for reflection and conversation. Second, this rich collaboration eventually brought about increased *Reflection* on teacher practice –both individual and collective. Figure 1 shows how this evolution of thoughts can be visualized as three phases –Conversation, Collaboration, Reflection– where elements of an earlier phase are still present at later phases, but augmented by new conceptions and experiences. This trajectory represents a transformation of the nature and the object of engagement or participation: there is a deepening of the conversations, and more consequential activities to examine more seriously "what we do" and to try things out.
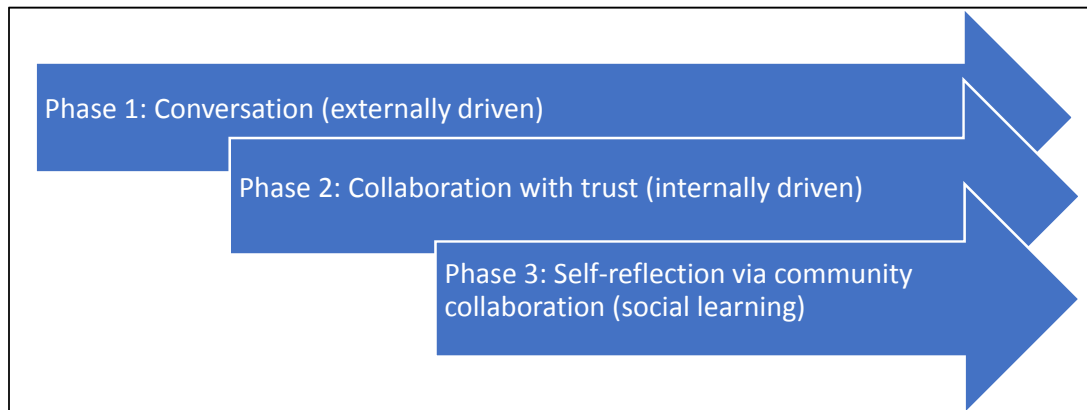
Figure 1. Evolution of the teachers' view on CCC-M project

Research: Researchers as mediators/enablers of reflection by the curriculum team

Jessica and Karen also mentioned how the curriculum team benefited from engaging with the research team. Their comments highlight how our practice as researchers differs from the "classic" mode of interaction with teachers. Jessica perceived the researchers as:

> "[…] giving perspectives on the things that were happening in the sessions... and drawing out the reflection of the curriculum team involved... which was very important... we don't often have the opportunity, as a curriculum team, to have somebody who, without criticizing... [is] constructively critical of the way things are approached..."

Leadership

The leadership team, composed of the senior administrator, three consultants, and the researchers, became a very rich microcosm and catalyst for the transformation of participation by the consultants and the researchers. Significant coordination was achieved through "*joint work at boundaries*" (Penuel et al, 2015). In Jessica's words:

> "[…] it felt like everybody was working together, not that the University was coming to broach topics... it was really about the school board team meshing with the University team to build understandings together... there was definitely evidence of common growth"

> Jessica also mentions "*joint leadership*" during preparation and planning meetings "driven by everybody at once...". According to her, although the curriculum team played a much more active role during the large group meetings with the teachers, she felt that "it was the result of joint leadership in developing the plan in the first place."

Implications

From the summary report above, we can see that several transformations occurred in the way consultants, teachers, and researchers participate in their respective practices and engage in the activity systems of other practices.

In the case of the teachers moving through phases of communication, collaboration and reflection we see the transformation from an individual, private practice of lesson-planning and teaching to collaborative curriculum design, reflection, and inquiry (plan-do-act-study) situated in collective and public spheres where engagement in new activities and "unremarkable innovations" (Engeström, 1999b) become visible. We also see, from a community of practice perspective (Wenger, 1998) the transformation of identities, for instance from consultant to researcher-practitioner (Sandra). Researchers appear as peripheral "outsiders" providing opportunities to *see things differently* though the acknowledgement and experience of *respectful differences*. Overall, the participants are collectively imagining and exploring new forms of activity, participation is transformed (Rogoff, 2003), and expansive learning (Engeström, 1999a) takes place.

We see also the *centrality of relationships* as an important ingredient of success for this RPP. It is, to a large extent, the relationship of mutual trust and respect between Karen and Alain that accounts for the development of the partnership from the BCT project to the CCC-M project. The consultants mention collegiality, respect, and other personal traits as important contributors to the positive "negotiations of activities and outcomes with other practitioners" (Edwards & Daniels, 2012).

Thus, the paper contributes to identifying what constitutes successful collaborative, participatory design research and what is required to foster and sustain learning in such endeavors: the authenticity of relationships, respectful differences, and productive conversations, amongst other things. Although such features have been identified in previous work at a broad level, this paper provides a more concrete and detailed narrative of how they are experienced in a coherent and integral cycle.

Conclusions

We presented arguments and findings in support of the conjecture that the *transformation of participation* is the most valuable and rewarding work in partnerships between educators and researchers. We have focused on the case of pedagogical consultants and teachers, showing how the way that they participate in their respective activities and in new joint activities, is transformed. We have also indicated how the researchers have engaged in a different version of research as "interventions that aim at the construction of new models of activity jointly with the local participants" (Engeström, 1999a; p. 35). We believe that the paper contributes to "understanding characteristics of both the research and practice communities […] in order to strengthen ties between research and practice in education" (Farley-Ripple, May, Karpyn, Tilley, & McDonough, 2018). It provides a concrete example of examining the "operations" of a RPP, in addition to its outcomes, and allows to reflect on –and understand better—what accounts for the experience of a successful research-practice partnership.

What next: we are continuing our partnership through the School Success Teams initiative, monitoring the transformation of participation along the lines of what is reported in this paper. We see this as an opportunity to explore the very special type of "scaling up" that occurs when the object of a partnership is owned equally by the partners (as opposed to having to be "translated" and "adopted" (see Coburn & Penuel, 2016).

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