

Designed spaces and Learning Communities as agents of change in pedagogical capacity: An example of moving beyond the researcher-practitioner divide

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Abstract: We describe the progress of one particular aspect of an ongoing research, design and development effort to enrich the active learning pedagogical capacity within the college system in and around Montreal, Quebec (Canada). Borrowing from Penuel et al.'s (2015) framework of Researcher-Practitioner Partnerships (RPPs) as examples of joint work at boundaries, we describe how a Professional Learning Community at Dawson College uses new active learning classroom environments as 3rd space focal-points for joint work and boundary crossings.

Many have suggested that long-term collaborations between practitioners and researchers that bridge the professional cultures of both domains with a focus on collaborative learning structures and that are organized to improve educational research and educational practice - what are called Researcher-Practitioner Partnerships (RPPs) - are a way of addressing the divide between research and practice with the goal of improving education (Korthagen, 2007; Coburn, Penuel & Geil, 2013; Coburn & Penuel, 2016). Penuel et al. (2015) suggest that traditional RPP interventions have failed in part because they are based on a *translation metaphor* in which the results of research are translated for and to practitioners. By highlighting successful RPPs in which true partnership arrangements aim for greater mutualism and reciprocity as participants engage in *boundary crossings* through individual interactions across different sites of practice (Akkerman & Bakker, 2011), the authors argue for a conceptualization of RPPs as examples of what they call *boundary practices*, that is, joint work at the boundaries. In our work, such boundary practices and joint work manifest themselves in our iterative processes of co-design, research and development as researchers and practitioners focus on understanding and improving active learning pedagogical strategies in the development of faculty learning communities and the management of designed learning spaces – i.e., active learning classrooms.

Faculty Learning Communities as Intervention

At the heart of our intervention is the broad notion of Learning Communities (LCs), Communities of Practice (CoPs) and Professional Learning Communities (PLCs). LCs have been a long-standing interest of the learning sciences, they seek to advance collective knowledge while supporting the growth of the individual through a culture of learning (Bielaczyc & Collins, 1999; Hod & Ben-Zvi, 2014; Scardamalia & Bereiter, 1994). Similar in nature to LCs but focussed on learning as a means of improving practice, CoPs are broadly defined as groups who share a passion for what they do and interact regularly in order to improve this practice (Wenger, 2011). Faculty Learning Communities (FLCs; Cox, 2004) and Professional Learning Communities (PLCs; DuFour, 2004) are hybrid entities that can be characterized as subsets of CoPs. In general terms, FLCs are cross-disciplinary faculty groups which engage in an active process of enhancing teaching and learning, however the predominant usage in educational literature (Cox, 2004) is more limited and prescribed than the activities considered in this paper. PLCs also focus educators on the task of learning and acting collaboratively to enhance their effectiveness for the benefit of students but use of the term encompasses a broader range of groups and modalities (Hord, 1997; Stoll, Bolam, McMahon, Wallace & Thomas, 2006; Vescio, Ross & Adams, 2008). In an effort to even further extend the scope of PLCs, Stoll and Louis (2007) propose a model that extends both laterally to include support staff, professionals and institutional bodies, and vertically to include other academic institutions, communities and even cultures. In similar fashion, Jackson & Temperley (2006) again broaden the notion of PLCs to include networked communities, especially in cases where individual groups lack the diversity and scope to provide rich learning opportunities to its members. In our case, we wish to add another dimension to the consideration of PLCs, and that involves the focal point around which PLCs form. In our particular case, it is the physical spaces created by our institutions' suite of active learning classrooms – what are sometimes referred to as Future Learning Spaces (Hod et al, 2016) – that provides the focus for our PLCs. Tying this together with Penuel et al.'s framework described above, the acts of boundary crossings and joint work at boundaries that occur in our extended PLCs use our collection of active learning classrooms as focal points. This emergent community is consistent with the notion of a *third space* as characterized by Whitchurch (2008) in that it forms a zone of development for the members by blurring the boundaries between activities and agents within the RPP communities.

Active Learning Classrooms

Active learning spaces are complex environments in which the interplay of pedagogy, tools, technology and space form an ecosystem of interdependent systems (Prieto, Sharma & Dillenbourg, 2015; Slotta, 2010). Active learning spaces can be broadly defined as purposefully designed spaces that facilitate interactions between students as they work together on interesting and meaningful tasks (Beichner, 2014). Our active learning classrooms (ALCs) feature pod-like tables for 4-6 students, large writing spaces on peripheral walls that are dedicated to student use, viewable by all, and that serve as shared perceptual spaces (Roschelle & Clancy, 1992) and artifact creation/manipulation spaces (Jonassen, 1999). In several classes these interactive surfaces are digital information and communications technologies (ICTs) that allow students to create, save and manipulate artifacts of knowledge as well as access information and digital tools for learning (Prieto, 2015). A sample of these active learning classrooms are shown in Figure 1.

Information About the Context

Both the extended PLC and the active learning classrooms that are the focus of this paper are situated at Dawson College - the largest institution in Quebec's unique system of publically funded institutions of higher education that form a bridge between the secondary school system and universities. The PLC side of the RPP at Dawson is the Dawson Active Learning Community (DALC) which is made up of approximately eighty members, including faculty and professionals from a broad spectrum of the college, and who represent a range of experience and knowledge of active learning principles and practice. The activities of the DALC include regular meetings throughout each semester (approximately 15 per semester) where faculty share and enrich their knowledge and use of active learning strategies, tools and technology, orchestration, and support each other in the process of adapting and changing their practice. The direction and coordination of the DALC is carried out by a faculty-researcher coordinator and a sub-group of the DALC who are partially released from their teaching load to deepen their understanding of the foundations of active learning and develop resources for the community: the Dawson Fellows Program (DFP). In addition to coordinating the DALC, the coordinator also works with the college administration on the planning of active learning classroom spaces, designing those spaces, and manage their use and scheduling.

The individuals involved on the research side of the RPP are part of a cross-institutional research team, itself consisting of two researchers and four practitioners - i.e., learning scientists and STEM instructors, from Dawson College and its two sister colleges in the Montreal area. Members of the research team have been directly involved in designing and fostering the effective use of active learning classrooms over a ten-year period. Using reflexive methodologies of action research and design-based research, the team has studied processes involved in adopting and effectively using these spaces to promote learning and change instructional practices. In particular, our action research has documented the development of LCs to support changing practices for instructors.

In addition to the local instantiation of the DALC, an inter-institutional network of PLCs, called SALTISE, acts as a resource, a support, and a driver of change. It fosters the development and research of tools and resources for active learning pedagogical innovations and as such provides another type of third space (this



Figure 1. Photographs of the Dawson Future Learning Spaces (classrooms).

time virtual) that brings together educators, researchers and professional development personnel across the province of Quebec. As a tool for the broader community, SALTISE has a website (www.saltise.ca) that: identifies, celebrates and connects community members; outlines projects and project opportunities; provides a rich bank of evidence-based resources that have been tried and tested in the classroom; provides news and opportunities for the sharing of information and events, and; highlights the SALTISE annual conference. As an event, the annual SALTISE Conference brings together practitioners, researchers, students and professionals from across the educational sector in Quebec and beyond to share and develop capacity, tools and resources for active learning. Additionally, as an agent for innovation and change, SALTISE supports the design and development of tools and interventions through a program of mini-grants to local, small-scale RPPs. The extent of the nested and extended PLCs described above is represented in Figure 2 with the particular area of focus for this paper highlighted.

Examples of our Professional Learning Community using active learning classroom environments as focal-points for joint work and boundary crossings and thus forming new 3rd space zones of development include:

- Members of the Dawson Fellows Program (DFP) interact with the educational research literature through guided readings, discussions and interactions with the Dawson Active Learning Community (DALC) Coordinator who is an active member of the education and cross-institutional research team and use this exploration to design and build interventions for their colleagues in Community of Practice Meetings;
- Members of the cross-institutional research team work with members of the DALC to design, implement, study and disseminate interactive tools such as DALITE – an asynchronous peer instruction platform (Charles-Woods et al., 2013; Bhatnagar et al., 2016; Charles et al., 2015);
- The iterative development and design of DFLSs is driven by the DALC Coordinator in collaboration with members of the cross-institutional research team working in a Design Based Implementation Research (DBIR – see Fishman et al., 2013) project, and in conjunction with at least four distinct administrative areas of Dawson College (Lasry et al., 2013; Lasry, Charles & Whittaker, 2014; Charles et al., 2015).

Explanation of Challenges and Opportunities

What is often overlooked in the research, design and implementation of educational strategies, especially those involving complex technologies, is the means for a sustainable adoption of the innovations by the instructors and students alike. We have found that by using a structure of overlapped educational research activities, extended PLCs, and physical spaces of designed classrooms we were able to grow, scale and sustain solid adoption and uptake within the community of practitioners while producing rich opportunities for research and design. Using a framework of joint work at boundaries, our efforts can be seen as an intentional structuring at a multitude of levels of *boundary practices* and *joint work at boundaries* in which researchers and practitioners can engage in boundary crossings. In this way, their interactions across different sites of practice where they encounter difference and unfamiliar territory within a supportive network that extends both laterally and vertically to satisfy both their specific area(s) and level(s) of interest and their readiness to adapt, has resulted in a growing and as yet sustainable collective effort to improve educational activities.

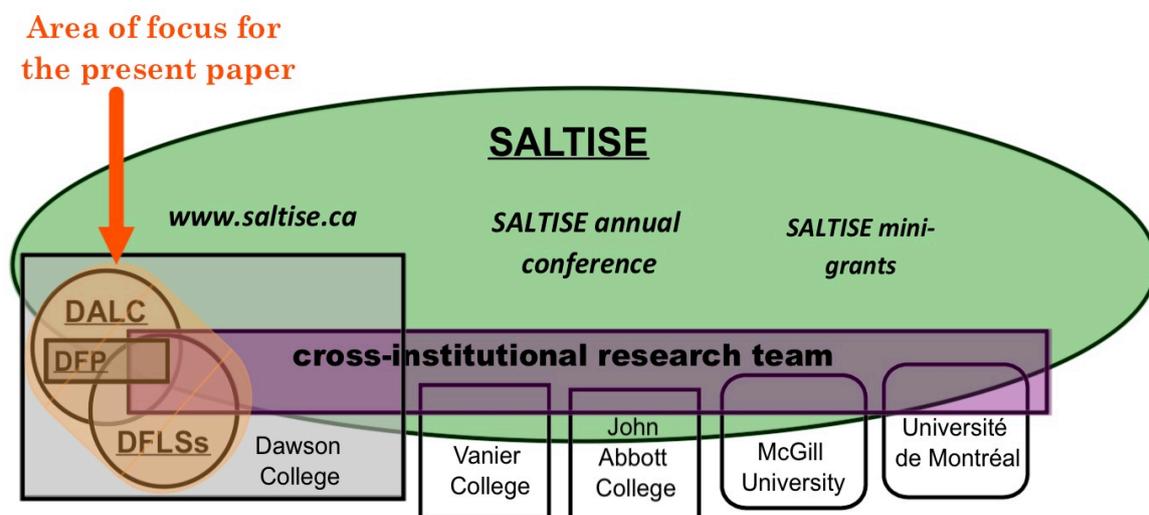


Figure 2. An illustration of the key elements of the extended PLC considered in this paper. (DALC = Dawson Active Learning Community, DFLSs = Dawson Future Learning Spaces, DFP = Dawson Fellows Program).

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