

Chapter 19

ICT Ecologies of Learning: Active Socially Engaged Learning, Resiliency and Leadership

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ABSTRACT

This multiple case study investigates how a cohort of thirty-eight elementary teacher candidates (TC) and a volunteer subgroup of eight teacher candidate researchers (TCR) were prepared to use ICT in their teacher education program (TEP). The authors expected social and cultural relationships would contribute to the formation of these beginning teacher's pedagogical perspectives and practices in relation to ICT. The study examined both TC and TCR uses of ICT from multiple perspectives: as students in the TEP; as teachers in their practicum classrooms; and as research participants. The researchers collected data on how their TEP, and ICT ecologies of learning (ICT-EL) experiences, influenced the formation of TC and TCR ICT perspectives regarding curriculum knowledge (ICT literacies) and pedagogy (ICT practices). This chapter describes the role institutional isomorphism and knowledge and curriculum fragmentation appear to play in the formation of oppositional, or resistant, ICT perspectives. It argues for active socially engaged learning (ASEL), efficacious learning, and critical inquiry as emergent systems that are in a continuous state of formation and change within these institutional contexts.

INTRODUCTION

In 2003, the School District of Philadelphia and Microsoft collaborated to develop a 750-student high school that could serve as a model for 21st-century learning communities around the world. This venture promised to enhance educational

practices and promote digital inclusion. The plan was to integrate technology into every area of learning and curriculum. The school would be a collaborative community supported administratively to create engaging content that would be shared and assessed. This School of the Future (SOF) would model ways to generate innovative educational practices and new approaches for learning. The hope was to create a space that

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engaged all participants in passionate and self-responsible learning. With this in mind, students would be prepared to succeed in a digital world and global economy.

The ‘closing’ of Philadelphia’s SOF provides a regrettable example that the integration of information and communication technologies (ICT) is not simply transferrable into educational contexts. Even though the school promised to revolutionize education it was unable to fulfill its mission. Jan Biros, associate vice president for instructional technology support and campus outreach at Drexel University and a former member of the SOF Curriculum Planning Committee, said, “We naively thought, I guess, that by providing a beautiful building and great resources, these things would automatically yield change” (Stansbury, 2009, p. 1).

In a recent study examining the extent to which computer-related technologies were used in schools, Leonard & Leonard (2006) found technology integration remained problematic because many experienced teachers seemed unwilling or unable to incorporate pedagogical changes using ICT into their teaching and learning processes. But this phenomenon is not unique to only experienced teachers. Dawson (2007) found that beginning teachers abandoned their use of ICT during their induction year to fit within unsupportive ICT school situations. In addition, Brown & Warschauer (2006) found that a new teacher’s ICT perspective and willingness to continue to use ICT through difficult and unsupported school situations was influenced by their teacher education program (TEP) ICT experiences. Not surprisingly, a teacher’s ICT perspectives are connected to a complex web of experiences that include their past and present ICT practices, educational environments, and the cultural specificity of their professional and personal relationships (Albion & Ertmer, 2002).

Over the past 5 years, our research has focused on teacher candidates’ (TC) engagements with ICT in their TEP at a large regional university in

Canada. We reasoned that if beginning teachers could assume a leadership role as they exited the program, they might be able to help build momentum to change ICT perspectives and practices in educational institutions. Before we began our research, we examined scholarly research to identify conditions that contributed to the formation of beginning teachers ICT perspectives. In this chapter we report on our literature review and the first two years of our three-year study called “ICT Ecologies of Learning (ICT-EL)”.

We view ICT ecologies of learning as conceptual positions that acknowledge contextual issues are multi-dimensionally and multi-directionally articulated by experiences, human socially interested agency, and environmental conditions. Research shows that ICT has increased the complexity of people’s ways of living (culture), saturating experiences with profound challenges of pedagogical and technological adaptability (Krug & Arntzen, in press; Foucault, 1982; Hall, 1981; Kirsh, 2000). Our definition of ICT ecologies of learning draws from research on ecologies and neuroscience. We articulate active socially engaged learning (ASEL), efficacious learning, and critical inquiry through ecologies as emergent systems that are in a continuous state of formation and change. The emergent formation of a learning ecology is guided by both intrinsic characteristics of the participants and the external conditions they are simultaneously situated within.

In this multiple case study we investigated how a cohort of thirty-eight elementary teacher candidates (TC) and a volunteer subgroup of eight teacher candidate researchers (TCR) were prepared to use ICT in their teacher education program. We expected social and cultural relationships would contribute to the formation of these beginning teacher’s pedagogical perspectives and practices in relation to ICT. The TCRs participated in an extended series of collective inquiry processes that led them to investigate and discuss with each other their experiences using ICT in educational contexts. We examined both TC and TCR uses of

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