Chapter 8
In-Service Teachers’ Use of ICT for the Promotion of Collaborative Professional Learning

Ana García-Valcárcel
University of Salamanca, Spain

Juanjo Mena
University of Salamanca, Spain

ABSTRACT

Information and communication technologies (ICT) are often rendered as key tools in the promotion of teachers’ collaborative learning. Their use enables teachers to complete assignments, solve problems, or create products together. The content of this chapter is based on the information published in a previous research study by the authors. In that study, they aimed at describing teachers’ use of ICT towards collaboration from a triple perspective: what they believe (teachers’ opinion), what they know (teachers’ knowledge), and what they do (teachers’ use). A questionnaire and interviews were the instruments to collect data. Some results pointed out that teachers used ICT to promote collaboration on a regular basis, but it is limited to the knowledge they have on particular tools, which is acknowledged to be intermediate. The most important implication for teacher education programs is considering the actual limitations of teachers’ knowledge and use of ICT in practice to set a more accurate starting point to promote collaboration through technologies.

INTRODUCTION

Educational Research has shown how collaboration plays a key role for effective teaching (McLaughin & Talbert, 2006). Collaborative teaching implies exchanging ideas and working together in small groups to meet a specific goal. In other words, “sustained teacher collaboration about instructional strategies, curriculum, students, and assessment, as well as general collaboration is the primary vehicle for continuous improvement of teacher practice, for sharing accountability, and collective responsibility” (Killion, 2015).
Collaborative learning activities typically include debates, group projects, case-study discussions, role-playing exercises, personal essays, shared stories and multiple-goal activities.

Collaborative learning among teachers has its foundation in communities of practice (Lave & Wenger, 1991; Wenger, 1998) by which teachers engage in a shared enterprise over time. ‘The key mechanism for individual and group learning comprises access to observing and then participating in the practices at the core of the community’ (Levine & Marcus, 2010). Scharff & Brown (2004) also report the efficacy of creating Learning Communities based on socio-cultural learning principles (Vygotsky, 1978), since they provide a mutually supportive framework for teachers. Collaborative learning allows teachers to progress beyond what they are able to learn alone by observing or learning from teacher education programs.

Traditionally, four types of collaboration have been distinguished to take place in schools (Little, 1990): (1) storytelling and scanning, (2) aid and assistance, (3) sharing and (4) joint work. The first two are based on a collaboration relation among the participants (Monereo Font & Durán, 2003) and characterized by a low level of interdependency and collective autonomy (–traditional perspective) whereas the latter two are based on constructed knowledge (Scardamalia & Bereiter, 1994) and represent the highest level of collaborative work (Hernández, González & Muñoz, 2014).

Therefore, collaborative skills to be acquired need time to be interiorized (Rigelman & Ruben, 2012) as well as engaging in reflection (Wells, 2001), systematic inquiry (Ball & Forzani, 2010) and practical knowledge (Paulus, Woodside & Ziegler, 2010). But most importantly is that collaboration depends heavily on other factor: the context where it is taking place (Wenger, McDermott & Snyder, 2002). The conditions for collaborative teacher learning may differ considerably between schools that, ultimately, may lead to different types and amounts of learning activities (Bakkenes, Vermunt, & Wubbels, 2010).

The information to be presented in the following lines of the chapter basically reproduces a research study that was published in the Journal of Information Technology Research (JITR) in García-Valcárcel & Mena (2016). Please see references.

THEORETICAL FRAMEWORK

Educational research has emphasized the study of teachers’ collaborative work mediated using ICT. Traditionally, this line of research has been approached under the name of Computer Supported Collaborative Learning –CSCL–(Garrison, 2006; Kirschner, 2002; Palloff & Pratt, 1999; Oakley et al., 2004; Rubia, 2010)

In the last five to eight years the vast majority of collaborative processes mediated through ICT have begun to rely on the use of the so-called web 2.0. not only in the sharing of knowledge but also in its online co-construction (Little, 1990). The ultimate promise is that web 2.0. and web 3.0 tools will increase ways of collaboration in the classroom (Pérez & Delgado, 2012) because they promote students’ collaborative learning (Pérez Mateo, Romero & Romey, 2014; Domingo, Coscollola & Marquès, 2011) and create the expectation of a change in teaching practices (Crook, 2012).

In essence it implies a combination of technology (the relationship between the design of technology and the use of technology); affordances (affordances constrain the ways in which technologies can possibly be written or read); institutions (implementation of collaborative learning in the schools), and infrastructure (the provision of ICT as related to organizational and institutional factors) (Jones, Dirkinck-Holmfeld & Lindstrom, 2006).