Integrating Technology into the Classroom via Chromebooks

Using Preservice Teachers as Community Collaborators

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An outgrowth of the technological infusion over the past twenty years has been the change in educational programs and staff development. There is continual need to advance and learn the latest technological advances while developing best practices of instruction. A generation of students has grown up in a technological era, comfortable with its use as a result of the resources available in their homes. (Gumbo, Makgato, & Helene, 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, Baran, Thompson, Mishra, Koehler, & Shin, 2009). “One arena where there is great potential for pushing the boundaries of social innovation forward is integrating technology in schools,” (Smolin & Lawless, 2011). Although many students and education professionals are comfortable at using technology outside of an educational domain there is a gap between theory and practice when technology is used for attainment and fulfillment of instructional objectives. (Gumbo, et al., 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, et al., 2009). “Through technology, teachers and students can soften the boundaries between life in schools and in communities as well as between their present and future lives” (Smolin, & Lawless, 2011). Past research indicates “[t]echnology has the potential to expand learning in ways that a traditional curriculum cannot” (Smolin, & Lawless, 2011).

As technology has evolved over the past decade so have the questions posed in research studies. How to connect technology to student learning has been an on-going goal for modern educators (Gumbo, et al., 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, et al., 2009). Beginning research concentrated on examining how to gain political acceptance of technology as a valid educational tool. Some professional development models have focused on helping educators become familiar with the usefulness of equipment by promoting knowledge of how to implement its use. In this scenario, teachers used technology to supplant and enhance existing instruction. Early staff development did not emphasize integration of curriculum but rather
served to support teachers on the workings of technology to enhance existing tools (Gumbo, et al., 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, et al., 2009). For example, in the classroom as technology evolved, writing on a chalkboard was supplanted by projection devices which advanced to SMART Boards, Power Point presentations and video streaming. “Such technologies have the potential to fundamentally change the ways that learning and teaching are carried out greatly favoring constructivist and collaborative approaches to learning, and flexible and adaptive approaches to teaching” (Manuguerra & Petocz, 2011).

Ertmer and Ottenbreit-Leftwich (2010) state, “One of the explanations for the gap between what teachers know and what they do relates to their confidence, or self-efficacy, for performing the task successfully.” Through professional development, support and assistance in a school setting, there is increasing research evidence that teacher use of technology strengthens student engagement (Ertmer & Ottenbreit-Leftwich, 2010). In an environment with limited monetary resources, there has been a push to define which types of professional development and technological devices will successfully accomplish and achieve outcomes when using technology with students. Hutchinson, Beshorner and Schmidt-Crawford (2012) found that the use of mobile tablets showed an increase in student expressive responses, imagination and engagement while studying text.

Today the technological competency of the teacher provides the needed skills that encourage instruction that assists students’ understanding and mastery of goals (Gumbo, et al., 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, et al., 2009). Teaching and learning in a classroom where students easily access technology provides differentiated experiences that are profoundly enhanced and individualized. “The problem is that in order to prepare current K-12 students for productive lives in the 21st century more emphasis is needed on models of
teaching that take into consideration more modern theories of how people learn” (Murray & Olcese, 2011). This transference occurs through well designed, on-going professional development. “Teachers have difficulty sustaining the transformative practices they learn in professional development without ongoing support and mentorship.” (Smolin, & Lawless, 2011). Whereas older models of professional development did not necessarily focus on applications for instruction and lesson planning, recent research is beginning to develop key components for successful professional development (Gumbo, et al., 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, et al., 2009).

Crichton, Pegler, & White. (2012) found that “teachers need to be introduced to new technologies as learners” and receive appropriate and consistent support. As the instruction of educational technology moves toward a different era, more research is required that assesses the impact of professional development so that teachers assimilate, embrace and adopt technological skills to incorporate into instructional pedagogy (Gumbo, et al., 2012; Lawless & Pellegrino, 2007; Miller, 2012; Schmidt, et al., 2009). Therefore, the purpose of this study is to add to the body of knowledge and understanding as it relates to integrating technology in the classroom using professional development and pre-service teachers.
References


