

Chapter 2

Optimizing K–12 Education through Effective Educator Preparation: Lessons Learned from a Synchronous Online Pilot Study

Mary Kathryn McVey
Franciscan University, USA

Susan Poyo
Franciscan University, USA

Mary Lucille Smith
Franciscan University, USA

ABSTRACT

Teacher interaction, presence, and participation in online and blended courses are key to facilitating student learning and student satisfaction. Those being prepared to teach in online K-12 environments must learn the knowledge, content, skills, and dispositions relevant to the online learner of the digital age, and particularly to incorporate into online courses the appropriate methods, including Technological Pedagogical Content Knowledge (TPACK). It is imperative that educator preparation programs provide its candidates with authentic field experiences in K-12 digital environments. This chapter includes findings of a pilot study that examined challenges faced by teacher candidates placed in an online student teaching environment and provides recommendations for course design, faculty support, infrastructure, and future research direction.

INTRODUCTION

K-20 students want and need to participate in the fast growing enrollments of online/virtual courses (Allen & Seaman, 2010; Watson, Murin, Vashaw, Gemin, & Rapp, 2013). According to the Babson Survey Research Group (Allen & Seaman, 2010), in 2012, approximately one-third (7.1 million) of

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higher education students in the United States took at least one online course. In the academic year 2012-2013, an estimated 310,000 K-12 students attended school completely online, and 29 states offered fully online education as a choice for students attending school during the 2013-2014 academic year (iNACOL, 2013; Watson, Murin, Vashaw, Gemin & Ryan, 2012; Watson et al., 2013). Policy changes in six states now require students to complete an online educational experience before graduation (Watson et al., 2013) and a recent Phi Delta Kappa Gallup poll indicates over 60% of the general public agree or strongly agree that high school students should have more opportunities to receive credit from online courses (Bushaw & Calderon, 2014). Following current trends, by 2018 10% of all high school classes will be offered online (Kennedy & Archambault, 2012) and this figure could increase to 50% by 2020 (Christenson, Horn, & Johnson, 2008).

Faculty who work with this group of learners are scrambling to determine best practices for teaching in this environment, which is often unfamiliar territory when the majority of higher education faculty are of the baby boom generation. Adding to the troubling situation, only 1.3% of teacher education programs surveyed were preparing teachers for the next generation of online and blended models by partnering with K-12 virtual learning programs (Kennedy & Archambault, 2012). Preparing faculty to instruct teachers to teach in an online environment is primarily in its infancy and not part of the mainstream, traditional teacher preparation programs (Norton & Hathaway, 2013).

This chapter identifies methods for preparing faculty to instruct pre-service educators to teach online, including the kind of interaction that simulates face-to-face instruction, presence to the students through relationship building, and participation in authentic learning activities.

BACKGROUND

Faculty who teach in educator preparation programs must recognize the urgency of preparing pre-service and in-service educators who are amenable and equipped to instruct students in virtual environments or contexts (Gunter & Gunter, 2014; Kennedy & Archambault, 2012; National Education Association, n.d.; Rice, Johnson, Ezell, & Pierczynski-Ward, 2008; Rice & Dawley, 2009). In the recent publication *Guide to Teaching Online Courses*, the National Education Association implores all teacher education programs to include instruction in online education and all accreditation organizations to assess these programs in their competency to equip future educators to teach in a virtual learning environment (NEA, n.d.). While steadily increasing numbers of schools are adopting instructional technology (The American Association of Colleges for Teacher Education, 2013), it is questionable how effectively these technologies are being used (Gronseth et al., 2010; Koenig, 2011).

Changes in the field of education require teachers to acquire specific knowledge of technology and its effective use in the classroom (Koehler & Mishra, 2005). Teacher preparation programs provide a starting point for creating technologically proficient teachers. Competent use of instructional technology is foundational to effective teaching in both higher education and K-12 environments (AACTE, 2010; AACTE, 2013). Two approaches to integrating technology education into the teacher preparation programs have been primarily utilized. These include stand-alone technology courses and modeling the use of technology. Neither adequately prepares in-service teachers to use online technology effectively.

Stand-alone technology courses focus on teaching pre-service teachers how to use technologies such as word processing software, audio and visual presentation software, and document cameras (Gronseth, et al., 2010; Harris, Mishra, & Koehler, 2009; Lambert, Gong, & Cupper, 2008). These courses are ef-

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