Chapter 110
Blending Digital Content in Teacher Education Programs

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ABSTRACT

Teacher Education programs worldwide are engaging in a digital conversation around best practices for supporting and teaching teacher candidates in the creation of digital content for a 21st century blended classroom. This chapter examines the status of teacher preparation in technology and explores current trends for instructors of the NextGen educator. Further the authors share how 21 Century Skills and global competencies among pre-service teachers can be applied in an online learning environment in teacher education programs.

INTRODUCTION

Jennifer Juarez a preservice teacher begins a new assignment as a substitute teacher in a secondary science classroom. The science teacher Ms. Matthews is attending professional development training. Ms. Matthews and her colleagues at Franklin high school, consider their instruction program to be aligned with 21 Century practices. They use a learning management system to assess students, track progress, as well as plan lessons and post activities for students to complete online. The teachers' lectures are prerecorded so students have already watched today's lesson on hydroponic plants for homework last night. During class students must work with a partner to complete a lab assignment that is submitted through the class online digital portal. However the online dropbox to submit the assignment was not created by their teacher and students are in a mild state of panic. There is nowhere to submit work in a digital format and the substitute teacher Ms. Juarez cannot assist her students who are accustomed to turning in their assignments online as she has never used an online learning management system.

School districts across the nation have gone to the cloud for document storage and for sharing and distribution, in fact in many schools all workflows are submitted digitally; this includes documents from the administration, teachers, and students. In addition to the cost benefit of going paperless, the growing wireless infrastructure has increased accessibility to the Internet and the movement toward one device

per student in the classroom. Hundreds of thousands of dollars have been saved on cases of copy paper but here is the problem: Are we truly preparing our teacher candidates for the digital classroom? The reality is the need for technology savvy teachers who can access and support digital resources and digital curriculum has never been greater.

As today's preservice teachers become tomorrow's classroom teachers, knowing how to teach online, create and manage digital content, and support students with web-based tools will likely be a prerequisite for hiring. The Baltimore City School District stopped printing curriculum and instruction guides for distribution to 200 schools. Instead, they populate their curriculum management system (CMS) with the guides and resources teachers need to create curriculum for the classroom. The district has a repository for teachers to drop in lesson plans and activities in a collaborative space (Speak-Up Survey & Blackboard Learning, 2014).

The preparation of future educators hinges on the skills and dispositions of the instructor who is teaching them. According to Pritchard and O'Hara (2009) "in addition to being able to communicate in oral and written form, to be considered truly literate, one must be able to think critically, reason logically, and use technology" (p. 15).

Traditionally, teacher education programs have focused on preparing teacher candidates to establish classroom management, design and deliver standards-based curriculum, as well as assess and support diverse learners. Theory, pedagogy, and methods are the focal points of most teacher preparation programs, but there should also be an emphasis on application of twenty-first century skills. The focus of this chapter is to examine the twenty-first century skills that are in demand of teachers and determine how teacher preparation programs might redesign their program to best support new ways of teaching and learning.

The goals of this chapter are to:

1. Discuss the disconnect that exists between teacher education programs and K-12 classrooms.
2. Share best practices for supporting teacher candidates in building and curating digital content.
3. Provide a framework for supporting teacher educators to integrating technology tools in their instructional delivery.
4. Analyze the use of technology in today's classroom and the impact on student learning.

BACKGROUND

The History of Technology in Teacher Education

Since the early 1900's, pre-service teachers have received formal training in technology, however the movement to integrate technology skills into various aspects of the teacher education programs has been in a minority position with little change in terms of how much exposure pre-service teachers receive. Technology training typically consists of a single or separate course with 3 hours of credit being the average (Bertus & Molenda, 2002). Despite the proliferation of technology in the classroom pre-service teachers do not receive a substantial amount of formal training as such it is not surprising that only one-third of teachers surveyed feel well prepared or very well prepared to use computers and the Internet in the classroom (NCES, 2000). More recently, 1000 teachers were surveyed and 96 percent of the U.S. respondents indicated, "technology plays a significant role in their classroom" (TES, 2015). In fact,

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