

Chapter 55

Changing the Face of ELA Classrooms: A Case Study of TPACK Professional Development

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ABSTRACT

This chapter looks at the delivery of professional development on technological pedagogical content knowledge (TPACK), designed to increase teachers' abilities to integrate technology into ELA curriculum. Using TPACK and 21st century SCALE frameworks as a foundation, both stipend-based and embedded professional development models provided teachers with skills to integrate mobile technologies into classroom pedagogies, modifying or redesigning selected units of instruction. Change in teacher behavior was evidenced by direct observation of teachers' integration of technology into classroom practice, and their use of technology to support lesson plans aligned to state and common core learning standards in the classroom. Student outcomes include performance on teacher developed action research, attendance, and increased ability to meet learning standards.

INTRODUCTION

This chapter looks at the delivery of professional development on technological pedagogical content knowledge (TPACK), designed to increase teach-

ers' abilities to integrate technology into ELA curriculum. Participating teachers took part in professional development activities that developed specific, standards based classroom curriculum supported by mobile technology. The goal was for teachers to move beyond technology use as merely a delivery tool and to integrate it as a key

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part of the instructional process. Modalities of professional development ranged from summer stipend based workshops supported by District Technology Integration Specialists and outside consultants to embedded coaching and modeling in individual classroom practice. Teachers relied heavily on their own content knowledge and lessons to develop meaningful curriculum that would be supported by mobile technology. Changes in teacher behavior and increased student performance were targeted outcomes of the grant. The purpose of this chapter is to present data within the case study that supports the integration of mobile technology as part of TPACK.

BACKGROUND

In 2010, \$100 million was appropriated by U.S. Department of Education (2010) to fund Enhancing Education Through Technology (EETT) grants, making available the means to purchase and integrate technology into classrooms and pedagogy throughout the United States. By no means the largest appropriation, over \$250 million had been set aside for technology in education grants in each of five previous years. Ultimately, increases in funding are intended to create 21st Century Learning Environments for learners and to increase student achievement. As investments in and presence of technology in schools increases and the novelty fades, the focus is changing from adoption of hardware and gadgets to the provision of effective and consistent use of technology in classroom pedagogy. Over two decades ago, Ertmer (1999) noted that as technology has become less expensive, its presence is increasing in schools; as a result, the decision for school districts is no longer should they be adopting technology, but how they should be adopting technology; that is, a decision that reflects systemic implementation, considering district capabilities, content and most importantly the varying levels of proficiency among teachers. Fishman, Soloway, Kracjik,

Marx and Blumenfeld (2001) identified a need for teacher training that moves from a standalone knowledge base to one that not only introduces the technology, but provides strategies for teachers to integrate technology into content. Keengwe and Kidd (2010) support this, noting that the need to provide requisite skills to teachers becomes more important as spending on educational technology increases; teachers need increased experience in using technology, but also must experience implementing technology in meaningful ways that support the delivery of specific content that will provide rich learning experiences to students at all levels and abilities. As teachers achieve these desired higher levels of technology integration in their lessons, technology should become a tool for meaningful learning activities (Salomon & Perkins, 1996). Coyle, Meredith and Newman (2011) and Coyle and Newman (2012) reported evidence supporting this higher level of use, noting that students' receipt and understanding of information was enhanced with the integrated use of technology.

As professional development for teachers has moved from learning how to use equipment to how to integrate technology and applications meaningfully into content and classroom practices, new questions arise, such as; what constitutes successful professional development, how is success measured and what measures should be used to ascertain impact of professional development on teacher practice/behaviors and subsequently on student-learning outcomes? Lawless and Pellegrino (2007) attributed the "impoverished and uninformative" knowledge base regarding professional development in technology integration to the lack of empirical evidence and inconsistent quality of research in the field. Zhao, Pugh, Sheldon and Byers (2002) suggest that researchers have previously measured the successful use of innovative technology by comparing it to traditional instruction but ignored what the authors called the fundamental outcome, improved student outcomes. Other researchers point out that little empirical

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