Chapter 40

A Call for Teacher Preparation Programs to Model Technology Integration into the Instructional Process

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ABSTRACT

The purpose of this chapter is to create a sense of urgency for teacher preparation programs to integrate technology into the instructional process. School administrators expect that first-year teachers will know how to integrate technology with instruction to enhance the teaching-learning process (Webb, 2011). Yet, teacher preparation program faculty, do not consistently model the use or pedagogy of technology-infused coursework. The intentional embedding of technology in teacher preparation courses and assignments is critical in developing teacher candidates with requisite technology knowledge and skills for P-12 teaching in the 21st century. This chapter discusses: (a) the need for technology literate teachers, (b) the role of teacher preparation programs, (c) the need for technology literate faculty, (d) one training model for integrating technology into instruction, enhancing Missouri's Instructional Network Teaching Strategies (e-MINTS).

INTRODUCTION

Today's educational technology discussions focus on teachers using strategies for integrating technology into instruction in meaningful ways that enhance the learning experience of a diversified group of students. Attention has shifted from providing teacher training upon employment to an expectation that first-year teachers will arrive at their jobs with needed technology knowledge and skills. Twenty years ago, a report concluded that teacher preparation programs were not preparing graduates to use technology as a teaching tool (Office of Technology Assessment [OTA], 1995). About the same time, Cooper and Bull (1997) discussed how teacher educators were faced with increasing pressure to "…integrate

technology in their programs and to graduate new teachers who are knowledgeable about and skilled in use of technology" (p. 97). Today, Cooper and Bull's call for action remains applicable; while there has been progress, many teacher educators still do not focus on instruction that integrates technology tools. Furthermore, technology has not universally been integrated into the curriculum of teacher preparation programs. This chapter will discuss: (a) the need for technology literate P-12 teacher candidates and teachers; (b) the role of teacher preparation programs in providing technology literate teacher candidates; (c) the need for technology-literate teacher preparation faculty; (d) a professional development training model for integrating technology into instruction that is being used in P-12 schools.

BACKGROUND

While accessibility to and use of technology in the classroom has increased, most teachers and students tend to only use technology for basic tasks such as communication, record keeping, and Internet research (National Center for Statistics [NCES], 2000). In a national survey of P-12 classroom teachers, only 40% indicated that they or their students frequently use technology for instructional activities (NCES, 2010). It is clear that effectiveness and efficiency in meeting today's high demand for technology in the P-12 classroom goes beyond availability and use and must include delivering curriculum content and instruction to meet the diverse learning needs of students (King-Sears & Emenova, 2007).

"Administrators generally expect new teachers entering the classroom for the first time to be fully prepared to integrate technology into the curriculum and their classrooms" (Webb, 2011, p. 4). Hiring a competent, capable, and technology literate teacher benefits an administrator because this individual will potentially need less technology guidance the first year of employment and the focus of support can be on instructional delivery and orientation to the school community. Many P-12 teachers struggle to keep current with the use of emerging and rapidly advancing tools of instructional technology; this lack can be attributed, in part, to a paucity of training opportunities (Teclehaimanot, Mentzer, & Hickman, 2011; U.S. Department of Education, 2005). The reality is that daily life as an educator is time intensive and schools often do not have the ability to provide release time, nor the dollars to pay for professional development. School administrators want to hire first-year teachers who are technology literate; technology-literate graduates who successfully complete teacher preparation programs are the first to be hired.

THE NEED FOR TECHNOLOGY LITERATE TEACHERS

There is a need for today's P-12 teachers to be technologically literate which includes: (a) knowing how to use technology tools; (b) demonstrating pedagogy for technology-integrated instruction, (c) having the self-efficacy for implementing pedagogy through integration of technology with instruction.

Knowing How to Use Technology Tools

The National Council for the Accreditation of Teacher Education (n.d.) Glossary defines the use of technology as: "What candidates must know and understand about information technology in order to use it in working effectively with students and professional colleagues in (a) the delivery, development, prescription, and assessment of instruction; (b) problem solving; (c) school and classroom administra-

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