Chapter 25

Teaching What We Don't Know:
Failing to Adequately Prepare Teachers to Use Technology for the Benefit of Students with Special Needs

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ABSTRACT

When newly graduated teachers enter the classroom, they are expected to possess the knowledge to adequately teach students with a wide variety of needs including students with special needs, whether these students perform far above the majority of their peers or lag significantly behind. A disconnect exists, however, between the expectation and the reality. The truth is that most teacher education programs do not provide adequate training to teacher candidates in the area of special needs, and in terms of teaching pre-service educators what technological tools are available to enhance the educational opportunities of students with special needs, there is virtually no training whatsoever. The conclusions from this study come from a random sample (n=60) of National Council for Accreditation of Teacher Education accredited schools and colleges of education in the United States and its territories.

INTRODUCTION

Schools of education in the United States make lofty claims about how well they prepare their graduates for teaching diverse student populations. One university web site claims to "prepare socially responsible critical thinkers who are collaborative and reflective educators committed to the moral endeavor of schooling in a democracy" (Maryville University, St. Louis, 2010); another claims to "promote extraordinary educators and learners" (Oswego State University of New York, 2010). While these kinds of claims are broad and could

be defended based on qualifying words such as *prepare* and *promote*, the quality of their graduates is implied as generally high quality, but what makes a high quality teacher?

One skill set needed for high quality teachers in the digital age is the ability to infuse technology effectively and seamlessly into practice. Another is the knowledge of how to adapt technologies for the benefit of a diverse student body including students with exceptionalities. Yet in a random sample of the teacher education programs of U.S. schools and colleges of education that are accredited by the National Council for Accreditation of Teacher Education (NCATE), the findings demonstrate that teacher education programs in the U.S. do not adequately prepare their graduates to use current technologies in sound pedagogical ways to enhance student learning in general, and more specifically, they almost completely ignore the needs of students with exceptionalities.

This research examines to what extent teacher education programs accredited by NCATE in 2010 are preparing teachers to effectively use technology in teaching students with exceptional needs. The suggestion is made that perhaps more time should be spent revamping teacher education programs to meet the needs of all 21st century learners rather than continuing to invest time in jumping through the hoops held up by accrediting bodies.

BACKGROUND

In 1995 only three states recommended a technology proficiency component for teacher education programs (Zhou, Kendall, & Tan, 2003). By 2007, 45 states had incorporated technology standards into their programs to assess teacher competency (Bausell & Klemick, 2007). Despite a 14-fold growth rate over a 12-year period, teacher education programs have been extremely slow to respond to the mandate of preparing more technologically competent teachers.

The problem of ill preparation is not limited to the education of pre-service teachers. In-service teachers are also slow to respond to the call to become more technologically savvy. In a 2006 survey, only 18 percent of teachers rated themselves as having an advanced level of technological proficiency (CDW-G, 2006).

Many tools designed to help students with exceptionalities reach their potential exist, including the following:

- Text to speech and speech to text
- Touch screens
- Sticky key functions that allow sequential keystrokes to be recorded as simultaneous keystrokes (e.g. CTRL+ALT+DEL)
- Head and mouth controls
- Wacom Tablets (drawing pads)
- Closed Circuit Televisions
- Alternative assessment tools, such as portfolios
- Writing tablets that recognize even poorly formed letters

The problem is that most pre-service teachers never learn about the aforementioned tools. If teacher education candidates are even required to take a course in educational technology, adaptive technologies are usually addressed as a single chapter in their textbook (see Tomei, 2003), as an afterthought at the end of each chapter (see O'Bannon & Puckett, 2009), or not all (see Naidu, 2003).

If the so-called experts fail to address the needs of students with exceptionalities in their technology texts, it is unlikely that the professor who assigned the text will spend much additional time addressing the needs of this demographic. It is even more unlikely that pre-service teachers who plan to teach in the mainstream classroom will take the initiative to learn about technologies for students with exceptionalities.

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