Chapter 5
Preparing Beginning Teachers to Use Instructional Technology Effectively

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EXECUTIVE SUMMARY

In this case study, two education professors examine how an instructional technology course founded historically in an industrial model of teaching evolved to reflect and model the pedagogy needed in a 21st century classroom. Critical in this evolution is the development of course content and structure that allowed their students (all future teachers) to identify problems and collaboratively create solutions. With this new focus, the role of the students changed from being passive actors in an instructor-designed space and evolved into one where students were actively engaged in creating their understanding through their participation.

ORGANIZATIONAL BACKGROUND

Millersville University of Pennsylvania sits in the heart of Lancaster County, an area best known for its Amish culture brimming with cornfields and horse drawn buggies. Despite its rural nature, Millersville University has a strong tradition of

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innovation in teacher education. Founded over 150 years ago, Millersville University began as one of the first "normal schools" in Pennsylvania charged with providing the educational foundation necessary for those seeking employment as classroom teachers. Since its founding, Millersville University has evolved from a small regional normal school into a comprehensive state university with over 8000 undergraduates. Today, Millersville University produces more than 500 certified teachers annually. These graduates are both the present and the future of our nation's K-12 education. The next generation of teachers must be able to prepare students for the goals and challenges of the 21st century. Millersville University's teacher preparation program must continually evolve to addresses the needs of this knowledge-age economy.

SETTING THE STAGE

Just as Millersville University has changed dramatically in the 150 years since its founding, so too has the requisite knowledge base and skills for beginning teachers. Much of this change was fueled by economic needs. 150 years ago, the country consisted of an agrarian society and school curriculum focused on practical matters of basic literacy and mathematics. During the industrial age, education supported the goals of industry with a curriculum that focused on the acquisition of knowledge, and a school climate that valued attention to detail, following directions, and recognizing the authority of the teacher (Trilling & Fadel, 2009). Now we find ourselves in a knowledge age economy where critical thinking, creativity, and the ability to work collaboratively are valued and needed. Rather than memorizing large amounts of facts that are now easily accessed online, curriculum should focus on using information to create new understandings (Gilbert, 2010). It appears that our economy has changed faster than our educational system as many classrooms still cling to an industrial age model of schooling with desks neatly in rows and the teacher lecturing from the front. Schools of education must lead this curriculum reform if the nation's k-12 schooling is to meet the needs of today's knowledge based economy.

Teaching is a unique profession in that students in teacher education programs have a clear sense of the teaching profession. They have spent a lifetime in the classroom as students watching teachers practice their craft. It takes time engaged in the act and praxis to change teaching practice. The current structure of secondary teacher preparation makes promoting this change exceedingly difficult in that students majoring in secondary education must master both the content in their subject and learn new pedagogy. In most secondary education programs, students spend the majority of their college career mastering their the subject matter content. Content is often the bulk of their course load and pedagogy is added as a quick supplement at the end. This leaves students with a disconnect between content area knowledge

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