

## Chapter 16

# A Dinosaur Hatches its Eggs: Using Technology as a Pedagogical Tool

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### ABSTRACT

*Oksika, Johnson, and Buteau (2009) state that incorporating new pedagogy into teaching is attributed to the instructor's feelings about themselves and what they have previously learned. In other words, if one has a positive attitude towards technology, one will be more inclined to incorporate it into one's teaching. This chapter discusses changed attitudes and mindsets toward technology, particularly in the mindsets of the secondary education faculty in the author's college. Because technology has been integrated in the college's secondary education courses, the faculty, including the author of this chapter, had to learn about new technologies to teach as well as model to their students. This chapter also discusses the author's personal journey into using technology as a pedagogical tool. Various technology methods taught to secondary education students will be highlighted, with a concluding sampling of students' ideas to illustrate the creative thinking that technology integration can produce.*

### INTRODUCTION

There is a cartoon that is reminiscent of my personal journey into technology. The cartoon is a picture of a caveman proudly presenting a freshly-chiseled wheel to a group of other cave-men. Instead of being applauded for this insightful invention by his peers, the caveman is confronted with protest signs that say “No wheels here”, “No

new technology”, and simply “No.” Regardless of the protests, the wheel symbolized the beginning stages of technology. I wish I could say that I started out as the caveman with the chiseled wheel when it came to using technology in my instruction, but I was once, unfortunately, one of the sign holders. As an instructor, I survived by knowing the basics of using a computer and was quite comfortable with Microsoft Word® and to some extent, Microsoft Excel®. I used email to communicate with my students and colleagues.

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Instructionally, however, I used overhead transparencies for my lectures, and I shied away from multimedia presentations and eLearning platforms like Blackboard<sup>®</sup>. I discovered I was not alone. Many of my colleagues in secondary education (SEED) were just like me. We were all quite comfortable with our technology level. However, the more I ventured into schools to observe our students working in actual classrooms, the more I saw advance technology usage by both middle and high school students and their teachers. Instead of writing the typical book report, middle school students were creating digital stories to showcase their readings. I observed high school students presenting individual and group reports with the use of the Internet and power point. Teachers were using Smart Boards, or interactive white boards, as an instructional tool. Class attendance and maintaining grades were no longer kept in spiral notebooks but were done electronically. In my observations, I also noted how some teachers were even using blogs and various forms of online discussions as part of their instruction. The plagiarism software program, Turnitin.com<sup>®</sup>, was common in many high school English classes. Finally, as a parent of a high school student, I could track his weekly assignments and grades by simply connecting to EdLine<sup>®</sup>. These are all technology tools that are commonplace in our nation's middle and secondary schools.

My colleagues and I realized that we had to do more in our instruction in preparing future secondary teachers to be not just good teachers but teachers who knew how to use technology to enhance their lessons as well as manage their classroom. The 21<sup>st</sup> century train had quickly caught up with us, and we had to jump onboard, like it or not. We had to embrace technology or be quickly out of date with our instruction. We did not want our pre-service teachers to be at a major disadvantage entering the world of teaching. According to the National Center for Education Statistics (2000), 85 percent of teachers claim they feel somewhat prepared to used technology

in their teaching. As a program, we wanted all of our teacher candidates to feel very prepared in this area, not just somewhat prepared. Furthermore, one of the conditions for teacher certification in the state of Illinois is successfully passing the Illinois Assessment of Professional Teaching (APT) exam, which includes questions based on technology standards set by the Illinois State Board of Education. Therefore, we had to critically evaluate how technology was being taught and integrated into the SEED teacher preparation program. Instead of relying on and hoping that our students would get the technology exposure and practice they needed in their field placements, we knew that in order to prepare our students fully, we as a faculty had to use and model various forms of technology ourselves and facilitate its use by our students by integrating it into our instructional program in meaningful and practical ways.

Using the metaphor of the dinosaur as “old technology,” this chapter will focus on two areas: (1) technology growth in our college and the secondary education program area (“The Incubation Period” and “Laying the Eggs”), and (2) my personal growth as an older faculty member using technology as a pedagogical tool to enhance instruction (“Hatching the Eggs”).

## **THE INCUBATION PERIOD: KEEPING TECHNOLOGY AT A “SAFE AND COMFORTABLE” LEVEL**

### **Technology in the Classroom Course**

In our College of Education, graduate students were once required to take one a 3-hour course in technology (Technology in the Classroom) as of one of the requirements to complete the Master of Arts in Secondary Education. The M.A. program was a 36 hour program which included 24 hours of teacher preparation courses for Illinois state certification in secondary education and 12 hours of courses that would lead toward the

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