Chapter 3
Teachers' Attitudes Towards Technology Integration:
Implications for Pre-Service Teachers

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ABSTRACT

As education and teaching have become intrinsically entwined, teachers need to develop the necessary knowledge and skills to integrate effectively technology into their teaching. Teacher educators are thus required to infuse technology throughout their programs and support trainees connect between technology and pedagogy within a given context. Yet, the question that can be raised is: How can teacher education programs prepare young teacher entering the profession to teach with learning technology and digital content? To elaborate on this issue, a study was conducted on a sample of teachers, using a survey questionnaire distributed online. This study seeks to address what teachers must know, understand and be able to do with regard to instructional technology. The research findings are meant to inform both teacher educators and program designers about the kind of training required to assist teachers with technology integration. Based on the data obtained, a set of suggestions for teacher educators are recommended for pre-service teacher training contexts.

INTRODUCTION

In recent decades, technology has become a major tool through which education can be accessed within and beyond the classroom learning context. Today's schools have adopted a wide variety of technologies with the hope that their addition to classroom will have a positive impact on student learning (Brown & Green, 2013; King, 2012). Indeed, with the wide variety of educational technologies and students' interest in using them, instructional technologies are getting a major component of teachers' practices. Yet, as it was noted, "all educators struggle to interpret the appropriateness and utility of new technology in the classroom" (King, 2012, p.1204). Teachers education programs should, therefore, provide pre-service teachers with ample preparation in integrating instructional approaches enriched with innovative

educational technologies. But, the question that can be addressed is what kind of pre-service training can support effective technology integration?

In attempt to investigate this issue, a study was conducted on a sample of in-service teachers to find out about their attitudes to technology use, i.e., whether they are reflecting on technology to integrate it into their lessons. Before outlining the research findings, this chapter aims first to clarify the process of technology integration, its effectiveness in order to generate understanding and efficient instructional practices among teachers. To achieve this aim, barriers to technology integration are dealt with and some technology integration models in teacher education are introduced. To understand how technology connects with both pedagogy and the content of the curriculum, this chapter highlights the importance of teacher reflection. On the basis of the results obtained some suggestions are put forward regarding technology integration training for pre-service teachers.

TECHNOLOGY INTEGRATION

A fundamental challenge teachers face is integrating technology into their classroom practices to create more dynamic learning atmosphere and further students' learning. As Spector (2012) notes "technology integration is perhaps the most challenging and complex aspect of designing educational environments and systems of instruction" (p.151). However, teachers need to understand what technology integration means. According to Morton (1996) technology integration is not simply using the computer as a tool like the blackboard or the overhead, which may require little or no training and may not even need to be used. Within such conception, "the computer environment remains peripheral, an 'add-on' in space and time" (Morton, 1996, p. 417). Instead, technology integration focuses on "how to use technology to support the way teaching is currently done in the schools" (Reigeluth & Joseph, 2002, p.09).

It follows that technology integration does not imply having technology regardless of how it is used, but it has to do with "determining which electronic tools and which methods for implementing them are appropriate for given classroom situations and problems" (Roblyer, 2003, p.08). In this respect, Mishra and Koehler (2006) describe technology integration as a combination of technology and pedagogy within a particular content area. Thus, technology integration has to be purposeful, i.e., has a pedagogical intent, and an integral part of how the classroom functions. It needs to account for which digital tool needs to be selected to support teaching and learning, when and how it should be introduced and integrated within the content to attain a teacher's instructional goals.

Hence, the question that might be raised is: What is meant by successful or effective technology integration in 21st education? Though there has been a great deal of research on the efficacy of technology tools for teaching and learning, many of these studies may not translate well to the reality of the classroom. Palak and Walls (2009) found that teachers mainly use technology to support their existing teaching approaches and rarely to foster student-centered learning. Similarly, Djoub's (2015) study on English language teachers' integration of mobile learning showed that their integration was devoted to developing language usage among learners who were not provided with opportunities to reconstruct meaning, use sophisticated software to interact or involve in collaborative tasks. Technology should be used for more than just supporting traditional teaching methods (Tezci, 2011). If its potential is not exploited to support students learn and develop the necessary skills to cope with change, what is then its worthiness in the classroom!

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