Chapter 4
Education Technology in Teacher Education:
Overcoming Challenges, Realizing Opportunities

Peter Rawlins
Massey University, New Zealand

Benjamin Kehrwald
Massey University, New Zealand

ABSTRACT

This chapter examines the use of educational technologies in teacher education programs through the exploration of a single professional practice course in a pre-service teacher education program in New Zealand. This case highlights the opportunities associated with teacher educators' unique role in promoting and supporting the use of educational technologies amongst pre-service teachers. It examines the use of a single complex learning activity to integrate education technology into other subject studies and realize some of the transformative potentials associated with the use of technologies in education. It also identifies the challenges of leveraging these opportunities in the face of (a) a complex and demanding role for teacher educators and (b) the forces of change in higher education.

INTRODUCTION

The uptake of digital educational technologies in education has been a focal point of wider initiatives to promote educational development and emerging ideals of twenty-first century education. These initiatives position digital technologies not only as tools for education providers to improve the outcomes of educational programs, but also as tools for learners who are participating in contemporary societies which increasingly rely on digital technologies for a range of personal and professional pursuits.

Teacher educators have particular roles to play in promoting the use of educational technologies in two contexts: First, as higher education practitioners, they are concerned with the appropriate use of technology in the service of higher learning. In this context, the use of digital technologies serves the needs of increasingly diverse groups of learners by creating powerful, flexible, personalized and connected learning experiences. Second, as

DOI: 10.4018/978-1-61520-869-2.ch004

practitioners in dedicated professional education programs for teachers, they are concerned with the modeling of exemplary technology-enhanced education and creating learning experiences which help teacher trainees link their experiences as learners to excellent technology-enhanced teaching. In this context, the use of digital technologies in higher education produces flow-on effects for technology-enhanced education in schools and other educational settings.

Despite these roles, there are distinct disconnects between the operation of teacher education programs and the needs of pre-service teachers which create tensions between the intended applications of educational technologies and the realities of educational technology use in teacher education. These include: (a) teacher educators' disconnect from contemporary practice in schools due to their place outside the schooling sector; (b) the difference between teacher educators' limited experiences of educational technologies, as either learners or teachers, and their roles in modeling effective practice for pre-service teachers; and (c) the disconnect between the intent of teacher education programs to produce teachers capable of responding to change throughout their careers in a dynamic schooling sector and the unwillingness of teacher educators who deliver those programs to embrace change, especially with regard to educational technologies. These tensions background the main focus of the case outlined in this chapter.

This chapter examines the use of educational technologies in teacher education programs through the exploration of a single professional practice course in a pre-service teacher education course in New Zealand. This case outlines the integrated use of educational technologies within a teacher education program to demonstrate the potential application of educational technologies to the teacher education staff and model effective use of educational technologies to the pre-service teachers. The following discussion highlights the lessons learned in the first generation of this new learning activity and some recommendations for future versions of the course.

ORGANIZATION BACKGROUND

The College of Education at Massey University (New Zealand) provides teacher education to pre-service and in-service teachers in a range of educational contexts, including a significant number of early childhood, primary and secondary school teachers. The College offers undergraduate Bachelor of Education programs for pre-service teachers without degrees, Graduate Diplomas in Teaching for those with degrees but not teaching qualifications, and Master of Education and Doctor of Education programs for in-service educators in a range of contexts.

As New Zealand's leading provider of higher education at a distance, Massey University has been at the forefront of distance education for teachers in New Zealand. This focus has included the integration of digital technologies into educational programs as part of efforts to improve the flexibility and quality of programs delivered at a distance. More recently, this use of educational technologies has also featured in on-campus delivery as part of 'hybrid' or 'blended' learning in which individual courses or programs are offered using a blend of not only modes of delivery but also approaches to teaching and learning.

The case study discussed in this chapter is part of the professional practice course for the Graduate Diploma of Teaching (Secondary), a one year pre-service teacher education program for secondary teachers offered by the College of Education at Massey University. The 120 credit program consists of two Integrated Teaching Studies courses (45 credits), three subject studies courses (45 credits), and two professional practice courses (30 credits). The program enrolls an average of 160 students each year

The program is offered via a blended delivery mode with approximately half of the students based