

Chapter 5

Improving Teaching Practice in Early Childhood Supported by Mobile Technology

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ABSTRACT

This chapter discusses the findings of an ethnographic case study investigating the implementation of mobile learning at an early childhood centre in Hawkes Bay, New Zealand. The study describes how mobile technology is being used to support children's learning and communication. The findings show that the devices are an integral part of the learning culture of the centre. The devices are being used to actively engage children in the learning environment and support teaching inquiry. As one of the early studies to investigate how mobile technology is being used in early childhood education, the current study provides pedagogically sound examples and insight on how mobile technology can be embedded into early childhood. The study is seen as a starting place for more in-depth investigations into the impact of mobile learning on young children's learning.

INTRODUCTION

Technology can be used to facilitate, share and transform the activities, roles, and relationships, with children and educators in early childhood education setting (Bolstad, 2004). Mobile devices such as iPads, have become pervasive in all areas of our daily lives and their use, in education, is becoming increasingly more common. Mobile technologies offer the potential to enhance and support children's learning and development. They also offer the potential to positively influence current pedagogy and curriculum (Bird & Edwards, 2014).

The role of mobile technology to support teaching and learning is an emerging area of interest for educational researchers. Traditionally however, most studies into mobile learning have focused on the

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secondary or tertiary setting (Wu, Wu, Chen, Kao, Lin & Huang, 2012). These findings, however, do not necessarily translate well into early childhood sector. The role of mobile technology within early childhood education provides a unique set of challenges, due to the conventional focus of children's active play and exploration (Bird & Edwards, 2014).

Recent studies, within the early childhood sector, have started to highlight that the portability of mobile devices has provided educators with a way to enhance existing teaching practice and support young children's learning (Fagan & Coutts, 2010; Khoo, Merry, Nguyen, Bennett & MacMillan, 2013). Mobile technology has been shown to support collaborative learning, creative play, and teacher documentation, and help to build relationships with children and the wider community. However there has also been some debate on the efficacy and value of using mobile technology with young children (Verenikina & Kervin, 2011). There have been concerns that these devices may remove the focus away from active learning and may ultimately be harmful to children (see Blackwell, Lauricella & Wartella, 2014 for a discussion on some of these factors.) Continued research into mobile technology, with regard to its effective application and implications on play and pedagogy, is needed to inform the early childhood community. More research is particularly needed in providing pedagogically sound examples of effective use (Bird & Edwards, 2014, McManis & Gunnewig, 2012).

Effective use of mobile technology within education should be embedded within an appropriate pedagogy. An inquiry-based pedagogy enables teachers to assess and react to a child's learning. This approach encompasses a cyclical and recursive orientation to learning (Harwood, Bajovic, Woloshyn, Di Cesare, Lane & Scott, 2015.) Teachers need to be able to identify opportunities for active learning and engage and support children's learning through play (Hedges, 2007.) It is the role of the educator to be able to effectively embed this approach to ensure that learning is supported and not negatively impacted when incorporating and using mobile technology. There is, however, little literature on how mobile technology can be embedded into teaching and learning within the inquiry-based framework (Harwood, et. al., 2015.) In this chapter, we explore the results of an ethnographic study of an early childhood classroom which has adopted a Teaching as Inquiry approach (Timperley, Wilson, Barrar & Fung, 2007) to support good practice with mobile technology. The chapter examines how the Teaching as Inquiry model can be used to support effective teaching and learning outcomes when implementing mobile technology in the early childhood sector.

This book chapter has been split into three parts. Firstly, there is an examination of the literature on the pedagogy and practice that supports effective teaching and current use of mobile devices and how they have been embedded into early childhood. The chapter then outlines and examines how mobile technology has been adopted in the current case to improve the learning outcomes of the children at a kindergarten. Lastly, the article concludes with advice and the implications for teaching and teacher education. Specifically, this section focuses on the impact and benefits that mobile technology will have on early childhood learning and the implications on teaching and learning in the early childhood sector.

PERSPECTIVES ON CHILDREN'S LEARNING

Early childhood education services in New Zealand manage supervised education and care programmes for children aged from birth to five years (Ministry of Education, 1996.) A subset of this provision is the kindergarten system that covers the care of children from three to five and focuses on preparing them for school. The kindergarten system employs only fully qualified practitioners as part of their staffing.

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