

## Chapter 5

# Digital Technology in Kindergarten: Challenges and Opportunities

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### ABSTRACT

*This chapter examines the literature surrounding digital technologies within kindergarten. It highlights the ways in which mobile devices and smart gadgets are used by early childhood teachers and young children in diverse teacher-focused and child-centred approaches. The challenges faced by early childhood teachers to successfully use and integrate mobile devices and smart gadgets within their kindergarten will be explored. These challenges include, meeting curriculum requirements, mediating parental expectations, seeing the potential of digital technologies, having the confidence and self-efficacy to use digital devices and determining the value and place of digital technologies within a play-based environment. Each of these challenges are explored within the chapter and the ways these challenges can be overcome are detailed. The opportunities which mobile devices and smart gadgets present to maximise young children's learning, play and engagement and which facilitate and support the role of the early childhood teacher will also be examined.*

### INTRODUCTION

No longer are digital technologies in kindergarten destined to be the domain of the lone desktop computer located in the corner of the classroom. Instead, mobile devices and smart gadgets enable young children and early childhood teachers access to a wealth of information, along with the ability to document children's play, learning and engagement, just as easily from within the sand pit or beside the edible garden, as from within the four walls of the kindergarten classroom. Given the fluid, fast paced nature of children's play and learning, mobile devices and smart gadgets can be a highly valuable teaching and learning tool for early childhood teachers to utilise and for young children to engage with and use. Successfully integrating mobile devices and smart gadgets into a kindergarten learning program for ef-

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fective use by both young children and early childhood teachers, is not as easy a task as simply providing access to these technological devices. Instead, there are both challenges to overcome and opportunities to embrace when planning for and successfully implementing digital technologies into a kindergarten learning environment.

The objective of this chapter is to examine the literature surrounding digital technologies, early childhood teachers and young children, in order to provide insights into how early childhood teachers utilise mobile devices and smart gadgets with children to support and extend their play, learning and engagement and to also undertake their role as an early childhood teacher. It will also examine the internal and external challenges encountered by early childhood teachers in relation to successfully integrating digital technologies and will present ideas and strategies to overcome these potential challenges. The opportunities that mobile devices and smart gadgets afford both early childhood teachers and young children will also be examined. This chapter moves beyond simply stating a position of being for or against digital technology use within kindergarten and instead reveals and highlights the ways in which early childhood teachers are engaging with digital technology, meeting curriculum expectations and mediating the challenges and opportunities mobile devices and smart gadgets present in order to maximise and enhance young children's learning, play and engagement.

## **BACKGROUND**

The literature surrounding the use of digital technologies within early childhood education showcases a conflicted and contested space, with both strong advocates and strong opponents of digital technology presenting their viewpoints. It is widely recognised that young children are born into, immersed within, and growing up in a digital world, where an extensive array of technologies are present and utilised in both the home and kindergarten classroom (Hollingworth, Mansaray, Allen & Rose, 2011; Lia, Toki & Pange, 2014; Marsh et al., 2005) however; the development and integration of digital technologies within society and education has not been unproblematic and as such opposing viewpoints prevail.

The introduction of digital technologies into early learning settings has resulted in extensive debate regarding the place of digital technologies within this environment, which reflects the problem of resistance towards a change in pedagogical practices (Lindahl & Folkesson, 2012a). Furthermore, as a result of digital technologies entering early learning settings, it has become a significant task for early childhood teachers to navigate technologically-mediated childhoods (Marsh et al., 2005). In many respects, the challenge and resistance experienced by some early childhood teachers towards digital technologies, is reflective of a wider, societal debate and public concern regarding digital technologies and young children, with everyone from child development experts, to teachers and parents, all having an opinion about the role of technology in the lives of young children (Plowman, McPake & Stephen, 2010; Sharkins, Newton, Albaiz & Ernest, 2015).

While some parents and teachers may have reservations and concerns about the place of digital technologies in early childhood education, government initiatives in various countries have sought to introduce digital technologies into progressively earlier stages of education (Plowman & Stephen, 2003). New initiatives and policies are being implemented across Australia with the aim being to support and enhance young children's development, well-being and success through early childhood education (Schriever, 2013). A critically important policy document was developed in Australia in 2008 by the Ministerial Council on Education, Employment, Training and Youth Affairs. The policy document titled,

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