E-PICTURE BOOKS:
The perspectives of New Zealand parents and early childhood teachers on young children’s use of e-picture books as an emergent literacy tool

Lisa Sheridan Helmling

A thesis submitted in partial fulfilment of the requirements for the degree of
Master of Education
Unitec Institute of Technology
2019
Declaration

Name of candidate: Lisa Sheridan Helmling


is submitted in partial fulfillment for the requirements for the Unitec degree of

Master of Education

Principal Supervisor: Maureen Perkins

Associate Supervisor/s: Carol Cardno

CANDIDATE'S DECLARATION

I confirm that:

- This Thesis/Dissertation/Research Project represents my own work;
- The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
- Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.

    Research Ethics Committee Approval Number: 2017-1019

Candidate Signature: [Signature]

Date: 29 July 2019

Student number: 1360830
ABSTRACT

Picture books are one of the foundation tools for parents and early childhood teachers in supporting young children to develop their emergent literacy skills. There has been an increase in digital screen technology use in our society, and an increase in the production and publication of digital picture books aimed at young children. Therefore, this qualitative research investigates the perspectives of parents and early childhood teachers, in New Zealand, on the use of e-picture books by young children as an emergent literacy tool. An online survey informed the development of interview questions for five parent and five early childhood teacher participants. Findings demonstrated that parents and teachers guard children’s access to screen technology and thus their use of e-picture books. Parents were more likely than teachers to have explored these resources and to provide their children with access. Both parents and teachers raised a range of issues with children using screen devices, which focused on children’s brain and language development. The research found a clear correlation between the participants’ experience with and reliance on screens in their careers as an indicator of their willingness to engage with this resource with children. Parents had a positive perspective on the use of e-picture books but teachers had divided views about their use in early childhood settings. Recommendations include early childhood teachers developing their confidence in using screen technology alongside children, and further research on children’s use of screens.
ACKNOWLEDGEMENTS

This thesis would not have been possible without the support and guidance of a few significant people.

First and foremost, I would like to thank my participants who invited me into their lives and were willing to talk about their experiences for this research.

To my research supervisors Maureen Perkins and Carol Cardno, thank you both for your wisdom, insight and belief in me! Thank you both for your time and effort reading through my numerous drafts, my numerous emails and for keeping me on track.

I would like to thank my fiancé Peter Chong without whom I would have given up half way through this research. Thank you for your encouragement to continue forwards and for the many glasses of wine to keep me sane.

I would like to thank my mentor, friend and associate Robyn Reid. Without her wisdom, support, encouragement and fantastic editing support I would never have finished!

Finally, I would like to thank my parents Glenn Helmling and Glynis Callan, for their continued support of my studies and continual education and optimistic ideas.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declaration</td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>ABBREVIATIONS/GLOSSARY</td>
<td>viii</td>
</tr>
<tr>
<td>CHAPTER ONE: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Contextualising this research</td>
<td>1</td>
</tr>
<tr>
<td>Rationale for this research: why an interest in children reading picture books digitally?</td>
<td>3</td>
</tr>
<tr>
<td>Research aims and questions</td>
<td>4</td>
</tr>
<tr>
<td>Thesis organisation</td>
<td>5</td>
</tr>
<tr>
<td>CHAPTER TWO: LITERATURE REVIEW</td>
<td>7</td>
</tr>
<tr>
<td>Research strategy</td>
<td>7</td>
</tr>
<tr>
<td>The transition from printed to screen-based picture books</td>
<td>8</td>
</tr>
<tr>
<td>Emergent literacy and e-reading</td>
<td>14</td>
</tr>
<tr>
<td>E-reading of picture books</td>
<td>17</td>
</tr>
<tr>
<td>CHAPTER THREE: METHODOLOGY AND METHODS</td>
<td>28</td>
</tr>
<tr>
<td>Subjectivist epistemological position</td>
<td>28</td>
</tr>
</tbody>
</table>
Theme three: e-picture books

E-picture books: Parents

E-picture books: Early childhood teachers

Consolidated views of parents and teachers

CHAPTER SIX: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

Critical issues regarding young children reading e-picture books on digital devices

Parents’ perspectives on using e-picture books as an early literacy tool for young children

Early childhood teachers’ perspectives on using e-picture books as an emergent literacy tool for young children

Conclusions and recommendations

REFERENCES

APPENDICES

Appendix A: Information sheet for parent digital survey and the survey instrument

Appendix B: Information sheet for early childhood teachers digital survey and the survey instrument

Appendix C: Parents interview schedule

Appendix D: Early childhood teachers interview schedule

Appendix E: Information sheet interview participants

Appendix F: Consent form for interviews
LIST OF FIGURES

Figure 4.1 Influence of picture books on children’s emergent literacy

Figure 4.2 Parents’ and children’s confidence using and reading from screens

Figure 4.3 Use of screen technology

Figure 4.4 Influence of picture books on children’s emergent literacy

Figure 4.5 Early childhood teachers’ confidence using screen technology

Figure 4.6 Early childhood teachers use of screen technology on a daily basis

LIST OF TABLES

Table 5.1: Summary of perspectives of parents’ and early childhood teachers’

ABBREVIATIONS/GLOSSARY

ECE – Early childhood education

E-picture books – digital picture books read using a digital screen device

E-Book – digital book read using a digital screen device

App - applications

TV - television

BBQ - barbeque

NZ – New Zealand
CHAPTER ONE: INTRODUCTION

Contextualising this research

The need for adults to be confident competent readers in our society is widely known. The foundation of adult literacy is young children learning to read through developing their emergent literacy skills. Picture books are often described as key tools in supporting children’s emergent literacy skills. Through the development of picture books and digital screen technology the production of e-picture books is taking place. This research looks at parents and early childhood teachers’ perspectives on the use of e-picture books as an emergent literacy tool to support young children’s literacy development in New Zealand.

Images have been used to represent stories throughout history. Stone carvings showing images depicting stories have been dated back to ancient civilisations such as the Ancient Greeks and the Mayans (Knight, Studdert-Kennedy & Hurford, 2000). In more recent history, the advancement of the printing press, specifically the use of moveable type, has influenced the production of texts. These technological innovations have provided the opportunity for quick and cheaper production of printed words and images, resulting in cheaper, more widely available books.

Moreover, during the Renaissance period in Europe, the concept of ‘childhood’ developed. The development of a period in a child’s life were an understanding of time where a child is able to play and explore before becoming an adult was starting (Jenks, 2005). Prior to this time, children were considered firstly small savages, and once morals were installed, small adults (Jenks, 2005). Between the late-seventeenth and mid-twentieth centuries the understanding of childhood as a time children were able to be children (in the modern sense) started to develop (Jenks, 2005). This provided the impetus for items such as children’s toys, and items provided for children to play and learn from. This is important as without this development there would not have been a need for children’s picture books to entertain and delight as well as supporting their emergent literacy (Jenks, 2005; Lewis, 2001; Pettegree, 2011).
In addition to the development of childhood, combined with the popular use of the printing press, the strict production of religious texts soon gave way to include novels and ‘stories’ aimed at a secular population. An example of one of the first secular picture books, with a primary aim of entertaining children, was printed in 1744 by John Newsberry’s. His book, *A Pretty Little Pocket Book*, was printed, changing the purpose and nature of children’s books. Prior to this, children’s texts focused on educating (Lewis, 2001). Picture books were developed from the combination of books with printed images and words for entertainment for the use by children to explore and play within the newly developing idea of ‘childhood’ (Lewis, 2001).

Traditionally pictures were used to highlight the story, or to demonstrate the written word (Salisbury & Styles 2012). But, in 1883 Randolf Caldecott published the children’s picture book *A Frog He Would Go a Wooing* (Salisbury & Styles 2012). Caledcott challenged this normality by printing a picture book where the pictures told the story (Salisbury & Styles, 2012). The pictures extended, explored or continued from the words and the words continued, explored and extended from the pictures (Bull & Anstey, 2002; Salisbury & Styles, 2012). This was the first time the images were integral to the story and continued the narrative providing an interplay between illustrations and written text (Bull & Anstey, 2002).

Now, as we look towards the year 2020 with rampant technological advancement, traditional children’s picture books are now being published digitally. E-picture books are children’s picture books produced and read on digital screen devices. Common digital devices which are able to read e-picture books are smart phones, iPads, tablets and computers. In 2014 the Ministry of Education in New Zealand uploaded a range of e-picture books to Google Play, including New Zealand classics such as Joy Cowley’s (2014) *I’m The King of the Mountain*. These publications celebrate and demonstrate how wide reaching the influence of the digital age has become. Technology is now influencing and even creating tools for the youngest people in our society, children (Li, 2008).
Rationale for this research: why an interest in children reading picture books digitally?

This research is the result of my internal struggle to understand my own perspective on children reading e-picture books. I felt my opinion, focused on children not using general screen technology was challenged when The Ministry of Education of New Zealand uploaded a range of e-picture books to Google Play. Reading through the digital version of Joy Cowley’s *I’m The King of the Mountain* (Cowley, 2014) I was intrigued by my own contradictory feelings. I found myself considering these e-picture books as a great way to learn to read. I also felt a sense of unease and uncertainty. Something about the picture book being digital bothered me? I was unsure. My contradictory emotions focused on my own feelings which felt that children shouldn’t be using digital screens, and the importance of children have access to picture books. This influenced me to research other people’s perspectives on this type of emergent literacy tool. Additionally, there was a clear lack of literature, from New Zealand, which documented other people’s perceptions and opinions on children reading e-picture books, whether at home or within their educational settings.

This research is worthwhile for a wider audience (other than myself) as it responds to the Education Review Office (2011) conclusion that New Zealand had variable quality literacy teaching practices in early childhood education centres even though they highlighted the importance of literacy development for children’s life-long success (Education Review Office, 2011). Therefore, exploring the perspectives of parents and teachers use of digital e-picture books as a support tool for children developing literacy is important.

This research will also address parents and teachers who are interested in exploring digital options as emergent literacy support tool. Bolstad (2004) suggested one way to engage children in emergent literacy is through using popular digital devices in early childhood centres. He concluded that using literacy opportunities which children are familiar with from their home environment, in their school environment, engaged children in emergent literacy learning more (Bolstad, 2004). In addition, Wright and Forbes (2015) discuss the portable possibilities of digital screens such as iPads and the tablet offer wide reaching opportunities for teachers and parents to support children to engage in emergent literacy experiences.
Therefore, exploring the perspectives of parents and early childhood teachers will highlight others thoughts on the use of this type of tool by young children.

This research will benefit parents and teacher who will be able to use my findings as an evaluation tool to support their own decision making in regards to using, or allowing children to use, e-picture books as an emergent literacy tool.

**Research aims and questions**

This study investigated critical issues with young children reading e-picture books as an emergent literacy tool.

**Research aims**

- To investigate critical issues related to young children’s developing literacy skills when reading e-picture books.
- To investigate parent perspectives on the value of young children reading e-picture books to develop literacy skills.
- To investigate early childhood teachers’ perspectives on the value of young children reading e-picture books to develop literacy skills.

**Research questions**

1. What are critical issues related to young children’s literacy skills development when they read e-picture books?
2. What are parents’ perspectives of the value of e-picture books for young children’s literacy skills development?
3. What are early childhood teachers’ perspectives of the value of e-picture books for young children’s literacy skills development?
Thesis organisation

This thesis is divided into six chapters.

Chapter one: Introduction

The first chapter introduces the research topic of reporting parents and teacher’s perspectives on the use of e-picture books as an emergent literacy tool. It contextualises the research with reference to both literature and the researcher’s rationale, along with providing the research aims and questions.

Chapter two: Literature review

Chapter two critically reviews the literature pertaining to the development of children’s picture books, the influence of picture books on children’s emergent literacy, the use of digital screens by children, both at home and in educational settings, and, children’s access to, and use of e-reading technology.

Chapter three: Methodology and methods

The methodology and methods for this research are explained in chapter three. It provides an explanation for the rationale underpinning my epistemological position and the use of a qualitative methodology. It describes the two methods used for data collection and the factors related to data analysis, validity, triangulation and ethical considerations.

Chapter four: Survey results

This chapter presents the results from digital surveys. The results from the survey of 59 parents and 43 early childhood teachers. The results are presented in order of the questions asked in the survey. The survey findings informed the questions used in the interviews which followed.
Chapter five: Interview findings
Chapter five provides the findings from the interviews of parents and early childhood teachers. The findings are presented in relation to the three key themes that emerged from the data: the use of general screen technology, the use of picture books and the use of e-picture books. The findings from parents, followed by findings from teachers, are presented within each theme.

Chapter six: Discussions, conclusions and recommendations.
The sixth chapter discusses the significant key findings from the interviews and makes comparisons with the findings of the literature review. The key findings are discussed under the three research questions, with several subsections for each research question. Following the discussion of findings conclusions from the study are drawn and recommendations proposed.
CHAPTER TWO: LITERATURE REVIEW

This chapter will critically review and examine the literature pertaining to picture books, children’s emergent literacy skills, e-reading technology and the rise of e-picture books. Due to limited research about children’s use of e-picture books and digital screen technology, literature is drawn from both local and international publications as well as research focused on primary school and from outside education.

From the key word search relating to the research questions three common themes were evident:

- The transition from printed to screen-based picture books
- Emergent literacy and e-reading
- E-reading of picture books

Therefore, the literature was examined and organised into these three common themes.

Research strategy

Key search terms relating to e-picture books, picture books and children’s emergent literacy which provided the foundation literature for this review were: childhood, children, kindergarten, preschool, literacy, pre-literacy, early-literacy, emergent literacy, reading, digital, digital literacy, iPads, technology, screens, e-reading and picture books and e-picture books. These provided a range of current research articles, popular articles and text books. To extend the available literature the same search terms were used in Google Scholar, focusing on the first five pages of results.

To ensure the literature was relevant and current, the search was restricted to texts post the year 2000, which is highlighted by Hou, Rashid and Min Lee (2016) when they explain how perceptions of digital literacy are influenced by contextual and societal expectations and experiences. For instance, their study identified that adult readers who grew up reading only
paper based books preferred paper based reading and those who grew up reading both paper and screens preferred a range of options dependent on the type of prose (Hou, et al., 2016). They also concluded that digital literacy was influenced by the quality of the presented text and therefore, argued that the quality of the digital device in which the text is presented was one of the determining factors in their research results. So it is not sufficient to compare paper-based reading to any screen reading; research needs to ensure the quality and representation of texts are equal (Hou, et al., 2016). Due to rapid technology development and the significant increase in quality of screen-based technology since the year 2000, only research published after the year 2000 was considered relevant in relation to reading e-books, e-picture books and digital screen technology.

The transition from printed to screen-based picture books

E-picture books are the result of the amalgamation of screen technology and picture books. A common theme throughout the literature was highlighting the transition picture books have made through history, beginning with early publications and moving through the digitally produced e-picture book. The historical transition of picture books provided the context and understanding of picture books and how they are valued, perceived by teachers and parents as well as the critical issues associated with the development of picture books. Two subthemes within this literature theme were how picture books have influenced society and the transitional changes of picture books with the development of technology.

Historically, the beginning of pictures as a reference for a story is evident from the ancient drawings of early people. Examples include drawings found in caves throughout Australia and Europe, the Mayan accounting systems carved onto stone, Egyptian hieroglyphs and Ancient Greek carvings. Throughout time civilisations have been defined by their literacy practices, many of which included the use of images and pictures to communicate both orally and through spoken and written word (Knight, et al., 2000). Salisbury and Styles (2012) highlight the many changes in literacy practices throughout the last few hundred years with the oldest surviving illustrated book, being hieroglyphics on a papyrus roll dating from 1980BC, coming from Egypt. Historical technological developments such as the evolution of inks, parchment and paper followed by the printing press are milestones in the history of the
written word, that contributed to the historical foundations of what we now know as children’s picture books (Salisbury & Styles, 2012).

Jumping forward in time, post 2000, picture books are a fast moving, high gross-selling commodity, valued in the Western world for their educational importance on young children’s development, including their literacy skills (Berder, Varney & Gosden, 2009). Moreover, picture books are now available as digital screen texts, known as e-picture books or e-picture book apps (Helmling, 2017). This has seen children’s literature move into this new electronic medium, incorporating interactive images, hyperlinks and videos (Dresang, 2008; Helmling, 2017; Li, 2008). Shamir and Shlafer (2011) argue that through the incorporation of digital and technological elements into children’s stories, these support children’s literacy skills development. Jalongo, Heider and Kelly (2005) state “From printing press to tablet computer, we change – and are changed by - the things we invent” (p. vi.). This emphasises how changes in our society, for example in technology and how we use it, results in an irrevocably altered vision of literacy. This literacy, often termed emergent literacy, requires children to learn not only to read and write words, but includes an understanding of the mode of delivery of picture books, as well as the style, imagery and details found within them (Jalongo, Heider & Kelly, 2005; Dresang, 2008). Therefore, emergent literacy requirements of children in a society influenced by digital screen technology require children to have the literacy to explore them (Dresang, 2008; Shamir & Shlafer, 2011).

Children today, and their relationship with digital technology is expressed beautifully by Gibbons (2015) who states that “digital childhoods are experienced in a digital age” (p. 119). The increasing number of digital platforms available for children (and adults) as learning tools and as part of our everyday lives is ever developing and regularly growing worldwide (Common Sense Media, 2013). Geist (2012) develops this by stating “young children today will not remember a time when there was not internet, laptops and pad-based computers. It is part of their life experience” (p. 26). In relation to e-picture books, computers and screen technologies have developed a complex range of colourful technological applications (Li, 2008). Their sophistication has enabled new home and community experiences and have provided a valuable literacy resource for families worldwide (Wild, 2000). Digital screens have not only increased in how they are used, but over the past 25 years they have become exponentially more available within practical, sophisticated, hand-held devices (Wild, 2000).
Societies’ influence on the transition of picture books from traditional to digital

A common sub theme within this transition from printed to screen-based books, was societies influence on the transition. Picture books are a product of the era in which they were produced (Hunt, 2005). Images and stories represent children’s social and cultural contexts of the time in which the story was written and the illustrations drawn (Hunt, 2005; Lewis, 2001). Perceptions and valuing of picture books are also a product of time and era, an important historical element in understanding parents’ and teachers’ perceptions of picture books today. Additionally, society and culture influence what and how children read (Lewis, 2001). Therefore, picture books are not only influenced by changes in society, but, changes in our society and culture are depicted and reproduced in the stories (Lewis, 2001). (2005). Hunt (2005) agrees, further emphasising how they represent the values, cultures, stereotypes, gender expectations and views of children and childhood. He explores changes and evolution of the images and how these indicate where picture books have come from, as well as how the process of change is continuing (Hunt, 2005). Therefore, picture books are considered unique to the time and space, as well as to the society in which they were published. Hunt (2005) also highlights how picture books represent the values, cultures, stereotypes, gender expectations and views of children and childhood from that era through the images within the story. He explores changes and evolution of images and how these indicate where picture books have come from, as well as how the process of change is continuing (Hunt, 2005). Therefore, picture books are considered unique to the time and space, as well as to the society, in which they were published.

Kiefer, et al. (2014) point to another uniqueness of children’s picture books: how they are addressed to children, about children and are authored by adults who represent childhood experiences in socially and culturally acceptable ways. Rochow (2011) highlights picture books as complex communication “contributing to the development of the social self and thus the social reality as a whole” (p. 40). These two descriptions of picture books demonstrate how they represent society and cultural norms. However, Lewis (2001) describes how they also demonstrate the expectations and limitations of childhood. An example of this is Voices in the Park (Browne, 2001), which depicts two children and the parental expectations of the limitations on them and their play. It draws attention to the differences in society as represented and understood by the author (Helmling, 2017). Grenby and Reynolds (2011) identify this evolution through describing how re-reading a book that was loved as a child as
an adult can “facilitate exploration of the child a person was, the same way, books for children are often used to teach the prevailing values and accepted behaviours of a particular time” (p.1). Furthermore, they continue to express the importance of the history of picture books, as they offer historical insights of “domestic and institutional, official and unofficial, high and mass cultures and often includes visual elements material” (p.1). As a repository for historical information, picture books can give historians images of societies gone by, moreover, they can also tell us about our own values right now.

Literature highlights how living in the twenty-first century requires knowledge and a certain aptitude with reading the imagery in our everyday including texts, both printed and digital (Bebell & Pedulla, 2015; Hahnel, Goldhammer, Naumann, Krohne, 2015; Hou, et al., 2016). Bull and Anstey (2002) describe how images have become globalised texts, where an image is understood worldwide, for example the McDonald’s ‘M’ which is recognised worldwide (Mallan, 2017). These images are regularly woven into children’s picture books as part of our visual literacy (Lewis, 2001). Bull and Anstey (2002) describe the “choices that an illustrator makes are part of what can be termed the grammar of the artists and would make up part of a new visual literacy […] just as readers need to learn the grammar of writing, linguistic grammar, they [also] need to learn an artistic grammar involving such elements as line, colour, form, media, texture, balance, design and layout” (p. k56). Therefore, we need to be able to competently ‘read’ images within our environments (Bus, Takacs, & Kegel, 2015).

**The development of e-reading technology**

When a picture books is digitised the story includes a range of digital features (Li, 2008; Wild, 2000). E-picture books include picture books which have been digitally scanned, e-picture books for e-readers such as the Kindle, and interactive applications which have read aloud options, animations and hypertext links (Wild, 2000). There are many differences between traditional paper books and e-picture books. Firstly, the material existence of books is radically different to the existence of e-picture books. Al-Yaqout and Nikolajeva (2015) highlight a range of issues that have arisen from the technological advancement of e-picture books. They describe the physical location of an e-picture books as not straightforward, describing how searching for an e-picture book using a search engine, is radically different and requires more knowledge of what you are looking for than searching for a paperback book.
in a store or library (Al-Yaqout & Nikolajeva, 2015). They highlight another issue with e-picture book, focusing on the need to pre-purchase applications which enable the reading of e-picture books, before being able to search for texts or stories within them (Al-Yaqout & Nikolajeva, 2015). Many of these applications also have limitations in their selection of e-picture books. Another concern about e-picture books are the frequent technology updates which make prior purchases redundant, unable to be read, and require further purchases of new technology (Wild, 2000). Al-Yaqout and Nikolajeva (2015) also highlight the physical materiality of picture books changes when they are digitised. They describe how e-picture books are currently unable to replicate the different physical sizes and shapes which are available in the traditional printed versions (Al-Yaqout & Nikolajeva, 2015). Al-Yaqout and Nikolajeva (2015) also point out the spine of the text is lost, as well as, the colour, title, thickness and presentation of the cover of each text when they are digitised. They also highlight a range of concerns regarding the unconventional opportunities within an e-picture book: swiping, music, animation, hypertext links to further information, different story lines or various performance modes. Seomum et al. (2013) research looked into students use of different e-readers and using screens to read text. They found students were becoming stressed, fatigued and agitated when their digital texts did not work properly and this impacted on their learning.

Li’s (2008) research investigated different e-reading devices exploring the different opportunities they provided for readers. Although he highlights how e-readers are able to “imitate the best quality of paper but also allow people to exploit extra capabilities” (p. 1). He critiques physical aspects of e-reading devices, including the form of the device, it’s weight, size and ability to store large quantities of books and how these influence the developing popularity of each device. Furthermore, Li (2008) highlights how these aspects of e-readers are associated with a range of reading concerns including the lack of a side by side view (viewing two pages, side by side). He continues to highlight issues with back lighting leading to eye strain, the arduous nature of navigation with the lack of page flipping and the reliance of a connection to a computer to change or get new texts (Li, 2008).

Bus et al. (2014) also studied the physical nature of digital e-readers. They researched the positive and negative effects of electronic stories, such as e-picture books, and found them
“conditional upon whether materials are consistent with the way that the human information processing system works” (79). They found that hyper-media features, which define many of the digital technological platforms, interfered with the optimal learning conditions for young children. They found that these features “lure children’s attention away from the narration and turn literacy experiences into games and diminished children’s performance in story and langue comprehension” (p. 92). Similarly, Flewitt et al. (2015), described how their teacher participants were concerned about how iPads may cause potential harm, “wary of the addictive and ‘over-stimulating’ nature of digital gaming and feel children were spending ‘not enough time outside…too much time sitting down’” (p. 295). Interestingly, they also described how children were experts using screen technology; they were fast learners and “were considered to be ahead of staff with new technologies, brilliant at computers and able to teach the teacher” (Flewitt et al., 2015 p. 298). In addition, they also described these tools as being able to redress the knowledge/power imbalance between teachers and children and offering young learners an opportunity to be an expert in their field of knowledge.

Over time, technology has not only influence the physical nature of reading, but it has also influenced how we read (Dresang, 2008). Traditional books printed on paper allowed for a logical progression reading from left to right. In English speaking countries we read left to right, top to bottom, turning the paper as you go. New technology allows readers to break away from this structure (Dresang, 2008; Terras & Ramasay, 2016). E-books, including e-picture books, include music, narrators, traditional reading structure as well as hyperlinks. Hyperlinks allow for readers to break the reading structure, sending the reader on a journey outside of the pre-destined conclusion, changing the reading structure (Hatherly, et al. 2009). Menu options and drop down boxes are popular on digital reading applications. These require children to now also learn to read top to bottom, staying on the left hand side, before moving to the content on the right. Therefore, the non-linear flow of digital screen based reading may forever be a major influence on the learning and development of early or emergent literacy skills (Dresang, 2008; Terras & Ramasay, 2016).

This literature theme highlights how screen technology is here to stay. E-picture books are a product of a transition of change from traditional printed picture books to being produced digitally as e-picture books (Dresang, 2008). Our society, and our future literacy skills,
including emergent literacy and literacy learning tools, will likely change and develop along with digital developments (Terras & Ramsay, 2016). This is an important element in researching critical issues with children reading e-picture books for their emergent literacy development.

**Emergent literacy and e-reading**

*What is emergent literacy*

Picture books are recognised as a foundation tool to support children’s emergent literacy (Arrow, 2010; Booth, 2005; Hamer, 2005). In many western communities, this focuses on the foundation skills required for reading and writing (Arrow, 2010). There are many different views and definitions of emergent literacy. In New Zealand, it includes: alphabet knowledge, letter-sound knowledge, concepts about print, concepts about books, visual literacy, phonological awareness, vocabulary knowledge, discourse skills, phonemic awareness and emergent writing (Education Review Office, 2011). McLachlan and Arrow (2011) highlight New Zealand’s focus on language skills for a range of purposes including “experience with books, development of vocabulary, syntax and grammar, awareness of concepts of print, enjoyment of writing, playing with and using words” (p. 128). Internationally, emergent literacy definitions include Barratt-Pugh and Rohl’s (2000) description of early literacy as “a period between early childhood and formal schooling when children gain their foundational understandings of what literacy is and what it means for them as learners […] emergent literacy [early literacy] means that children develop reading, writing and oral language concurrently and interdependently as a result of their exposure to social contexts in which literacy is a component without the absence of formal instruction” (p. 27). Whereas Booth’s (2005) description of the three main components of early literacy as oral language, print awareness and phonological awareness. Moreover, Arrow (2010) describes emergent literacy as the importance of children acquiring early literacy skills that contribute directly to the acquisition and development of conventional literacy. These early literacy skills are defined as “alphabet knowledge, phonological awareness and oral language or vocabulary” (p.58).

An important aspect of emergent literacy is the process of learning literacy. Hamer (2005) highlights how pedagogy which encourages children to understand, enjoy and engage with
literacy, including providing engagement with books, words, language and common sounds (often in singing) are more likely to support children to be successful literacy learners. Moreover, picture books are emphasised in early childhood education documents as a key tool for teachers and parents to support children to engage in literacy activities (Education Review Office, 2011; Ministry of Education, 2017). Booth (2015) describes the importance of young children having access to print (both formal and informal) and how it is important for them to be actually involved in the literacy learning process. In addition, Booth (2015) describes a key component of emergent literacy as the ability to make meaning from print opportunities. She describes the value of picture books as a tool alongside informal print learning opportunities (words on walls, advertising, street signs, labels on jars, images on everything).

Children’s access to picture books is therefore paramount as integral in early childhood education and are therefore a foundation step in understanding the perspectives of early childhood teachers in the use of e-picture books by children as an emergent literacy tool. The New Zealand early childhood curriculum Te Whāriki requires children to be provided with a range of stories of their own and other cultures (Ministry of Education, 2017). Picture books are an essential element in young children’s lives, offering learning about social skills, emergent literacy and literacy development, fun and enjoyment as well as being respected and valued in society. Throughout this literature search, nothing recommended that children were not provided with picture books, or that stated picture books were detrimental to young children’s development or their early or emergent literacy.

**Sociocultural influences on emergent literacy**

Teachers are encouraged to value early literacy experiences from children’s homes as well as their cultures and incorporate these into their teaching practices (Education Review Office, 2011; Hamer, 2005). Moreover, Booth (2005) describes how children “acquire language skills in social contexts, through their interactions with others such as peers, teachers and parents. Consequently, the sociocultural background of each child plays a major part in their approach to understanding literacy” (p. 68). Therefore, Hamer (2005) highlights that children are “inseparable from their social contexts, and knowledge and meanings [including literacy] are seen as embedded within sociocultural practices” (p. 70). The Education Review Office
(2011) describe how communication helps to build a bridge “between early literacy practices in the home and literacy practices at school” (p. 4). The Ministry of Education (2017) highlight the importance of family and community and their influence on a child’s literacy learning (2017). Additionally, the Ministry of Education (2017) also highlights how children’s emergent literacy is influenced by their societies views on culture, cultural artefacts and communication within their society. In other words, early literacy is not only a skill learnt in educational systems, early literacy occurs in homes, communities, shops and even on the streets. Although each context has a different purpose or ‘form’ of literacy, the languages and literacy are embedded in our communities through written, print, oral and visual literacies (Hamer, 2005).

In addition, Barratt-Pugh and Rohl (2000) describe how our understanding of literacy and children’s emergent literacy learning changes and is embedded in the “political, social and philosophical context of the time” (p.1.). Emergent literacy is knowledge learnt in a child’s cultural context, hence children become familiar with the literacies in their homes. Therefore, picture books that are focused on children’s communities and engage them in stories from their culture and society are key in supporting children’s emergent literacy (Barratt-Pugh & Rohl, 2000).

**Emergent literacy and technology**

Flewitt, Messer and Kucirkova (2015) explain how children develop emergent literacy within their own communities and how screen technology is currently influential in our societies. Flewitt, et al. (2015) argue that digital tools and apps including e-picture books, are cultural artefacts that influence the community. The inclusion of e-book technology in these discussions highlights how the popularity and prevalence of technology in children’s lives, families, society and in children’s play influences their emergent literacy skills (Flewitt, et al., 2015).

Evidence of digital technologies growing influence is also demonstrated by the increasing popularity of e-picture books over the past 25 years (Barrett-Pugh & Rohl, 2000). In 1971 the Project Gutenberg dedicated their time to digitalizing texts, fast-forward 36 years, and in 2007
Amazon debut’s the first Kindle e-reader (Barrett-Pugh & Rohl, 2000). This e-reader was the first digital device with the specific aim of being used to read books (Li, 2008). It combined features aimed at replicating reading on paper with digital features such as high capacity storage. Additionally, Amazon is one of the largest internet retailers in the world who specialised in digitised e-books, including a range of e-picture books (Li, 2008). Interest in e-books has continued from here and now, 10 years later, there is a current total of 5,148,318 of e-books available on the Amazon.com, with 454,540 of these categorised as children’s books (as at 5/10/2017) demonstrating their popularity. This popularity of e-reading is investigated by Hou et al. (2017) who brought together a range of research papers focused on adults reading on paper verses screens and compared research pre 1990’s and post 2000’s. They discussed how research prior to 1990’s found that university level students “read slower, less accurately and less comprehensively on screens than from papers” (p. 84). In contrast, they highlighted a range of similar studies in the late 2000’s which found faster reading, more accuracy, and better recall and comprehension when similar aged university students were reading on a screen rather than from paper based texts (Hou, et al., 2017). They concluded that changes in society, technology, culture and normalizing of the use of technology by students, in both their everyday lives and for their study, influenced the results. Therefore, they concluded that the popularity of digital technology combined with the quality of screen technology is influencing the way society is able to read.

**E-reading of picture books**

Throughout the review of literature many articles, research pieces and opinion pieces focused on ‘should’; should children have access to technology, should children be using e-picture books, should children be monitored during their time with technology (Bebell & Pedulla, 2015; LeBourgeois et al., 2017; Ministry of Education, 2016; Myrberg & Wiberg, 2015). To explore these questions a range of research has been conducted comparing children reading a traditional printed book versus reading an e-picture book. This theme is presented firstly with evidence of children’s current access to digital technology. Secondly those who are proponents of children having access to e-picture books and thirdly, those who are opponents to providing children access to e-picture books.
A study on screen technology was conducted in New Zealand by Colmar Brunton (2015). They found that 98% of New Zealand children had access to a television in their household. Interestingly, they also found that 72% of children had access to a tablet such as an iPad or Samsung tablet, and 58% of children used a smartphone on a regular basis. Similarly, a research project by Rideout, Vandewater and Wartella (2003) examined the amount of screen technology young children had access to in the United States of America. They concluded that 99% of children lived in a home with a television. Their results also found that 68% of the children under the age of two used screen media on a daily basis with 74% of infants and toddlers watching television before the age of two. Therefore, the prevalence of screen technology in our society demonstrates children have access to technology, and tablet technology is popular with New Zealand children.

**E-reading proponents**

There has been a range of research focused on whether or not children should be using screen technology as an emergent literacy tool, with many concluding that children should be provided access to these tools.

Flewitt et al. (2015) highlight the importance of engaging in discussion about children’s use of screen technology. They discuss how the popularity of screen technology can support further engagement and discussion with children about their emergent literacy and language learning. They argue that children who are immersed in a digital world, with digital tools are in a “critical period in their lives when their emerging literacy skills and identities as effective and competent learners are being moulded by the conventions of the social and cultural words in which they live” (p. 291). Therefore, they argue that children should have access to tools used by the rest of society. Hartherly, et al. (2009) argue the importance of providing children access to technology based tools, such as e-picture books. They highlight how tablet technology can redress the knowledge/power imbalance between teachers and children and support children’s emergent literacy (Hartherly, et al., 2009).

Wright and Forbes (2015) focused on relational pedagogy opportunities available when working with and alongside children on screens. They highlight how screens should be one
of many tools used to support emergent literacy available for young children. They also argue, children are competent and confident to explore and find their own way around iPads, but teachers also need to understand these mediums and be critical consumers of technology (Wright & Forbes, 2015). Similarly, Hatherly and Chapman (2013) identified emergent literacy as the focus of their research. They focused on how tablet use, or screen technology such as iPads, may be able to support children who were not actively engaging in traditional emergent literacy practices such as reading and writing, in their early childhood setting. They identified a young group of boys, described as “our wonderful construction boys” (p. 139) and engaged in research to find a tool which could support these boys to develop self-motivation to actively engage in emergent literacy practices (Hatherly & Chapman, 2013). Their research highlighted how iPads were able motivate these boys to engage with emergent literacy practices, especially reading and narrating stories and provided a platform of which they were interested and motivated to engage with. Their research also highlighted the prominent aspect of iPads and their ability to promote problem solving, promote social interactions and promote inclusion alongside the literacy skills it was supporting.

Similarly, in New Zealand Bolstad (2004) describes the use of digital technology, such as e-picture book applications, as having the potential to enhance educational opportunities for young children, especially in regards to their emerging literacy. Geist (2012) also highlights the importance of children having access to technology. He observed two year olds using iPads and focused on their interactions (Geist, 2012). He found that the children naturally interacted with the touch screen in a similar way to how they interact with other new toys or resources. He observed many of the children confidently unlocking, swiping and navigating the iPads after only a few days (Geist, 2012). He concluded “In the future perhaps tablet computers will be a staple of the toddler and preschool classroom just as are books, blocks and imaginative play” (Geist, 2012, p. 34). Similarly, Guernsey (2011) studied a range of primary school students, using e-picture books as a support tool for their emergent and early literacy learning. She found a 23% increase in fluency rate with the students who used the e-picture book apps in comparison to those who didn’t. She concluded that e-books should be offered to young children as they provide a wider range of opportunities. Guernsey (2011) highlights how no child has one-size-fits-all needs and e-picture books offer further options and opportunities and should be offered alongside traditional paper books (Guernsey, 2011). In addition, Khoo et al., (2015) observed a range of New Zealand kindergartens and concluded
that iPads provided an appealing literacy learning tool for four and five year olds. They demonstrated that the available applications for e-picture book reading can “support children’s developing literacy, communicative and participatory learning skills and understandings” (p. 2).

Technological tools offer diverse ways of learning, expansion of new pathways and instigates exploration or engagement with others, but teacher’s willingness to engage with these resources influences children’s access to these tools. Hartherly, et al., (2009) describe the importance of teacher’s willingness to incorporate new technology and to work confidently with this as this influences their ability and willingness to provide and engage with it with young children. This view is supported by Dalton and Proctor (2008), who highlight that educators need to face technology, especially new literacy technology, and to actively engage with it to support children to read digital text. Van Deurson’s (2016) research questioned teachers about their confidence and willingness to use an iPad in a public kindergarten. She used questionnaires and analysed a range of assessment documentation focusing on how the iPad could be a literacy learning tool. She explored if teachers were ready, willing, and able to use them (Van Deurson, 2016). The teachers in this study, gave a range of ways they used the iPad within their centre. They highlighted children often independently choose games and pre-loaded apps to engage with. The teachers described how children often engaged both independently and as a social experience. They described children often watching and playing with and alongside others, creating a social space with a single iPad (Van Deurson, 2016). Interestingly, Van Deurson’s (2016) research demonstrated teachers valued the iPad as a literacy learning tool, although when the teachers were asked to rank the learning areas they thought the iPad supported, literacy was at the bottom of the list with social skills and inclusion at the top.

Strongly relevant literature to New Zealand found New Zealand teacher’s experience with screen technology influences their decision making when using or incorporating technology with children (Hatherly et al., 2009). Hatherly et al. (2009) explained in the Foundations for Discovery Framework, a framework which recommended professional learning focus areas for early childhood education teachers in New Zealand, expressed digital screen technology learning should be a key focus. Hatherly et al. (2009) looked at enhancing quality teaching and learning through focusing on the incorporation and use of digital technologies in early
childhood education. The framework recognised a gap in early childhood teacher education and encouraged investment into learning to use digital technology (Hatherly et al., 2009). Flewitt, et al. (2015) explain why this framework was required, they outlined how early childhood teachers found digital technology hard to integrate into their planning due to constraining factors. They explain the constraining factors included a historical focus on paper based reading and a lack of time to explore new available digital resources. These factors compounded into a lack of new possibilities and opportunities for teachers to embrace digital technology (Flewitt et al., 2015).

Similarly, Pohio’s (2009) thesis explored the role of the teacher in relation to implementing and integrating ICT within early childhood education in New Zealand. Her study found the views and perspectives of the teachers implicitly and explicitly influenced the ways (and the quantity) of ICT within their environments. Teachers surveyed in her thesis described their role within early childhood as co-constructors, as facilitators, as support, focusing on working alongside and supporting children’s exploration of technology. She also highlights the importance of the teachers’ willingness to try new resources and to engage in discussion and exploration with new technology with the aim of developing their own knowledge (Pohio, 2009). Her thesis had a very positive undertone and commented on how many teachers were positive in their responses to her survey around the use of ICT, although many were uncertain or unsure of how to support young children to use the technology beyond the role of supporter (Pohio, 2009). Her thesis also highlighted the positive contributions technology was adding to the Auckland based Kindergarten centre, specifically in relation to the teacher’s documentation and communication with families. Pohio (2009) explains how further research is needed in regards to the link between what children can do and teachers ability to notice, recognise and respond to their learning and therefore to continue the ‘how’ within this curriculum area.

Similarly, Oldridge (2010) thesis also explored New Zealand teacher’s practices of ICT within a Wellington early childhood centre. In contrast to Pohio’s (2009) study a year earlier, one of the main constraints found by teachers and their use of technology was not their own experience but access to the technology and having specific tools and resources readily available. Similar to Pohio’s (2009) study, Oldridge (2010) found most of the screen
technology used was focused on administration, communication with whānau and assessment and documentation of children’s learning. In contrast, Oldridge (2010) found only one teacher in the early childhood centre highlighted the importance of having technology available for children to engage with. Many teachers in Oldridge’s (2010) study focused on the ‘how’ of incorporating technology in their centre. In the same fashion, Barett-Pugh and Rohl (2000) express the importance of adults needing to be able to be optimistically flexible when working within a digital space, especially with and alongside children.

Al-Yaqout and Nikolajeva (2015) highlight the importance for teachers to ensure literacy rich play opportunities and provision of literacy rich play environments at the forefront of their practice, and the forefront of their inclusion of digital devices. Coiro (2008) explains how there is an urgent need for teachers to expand their understanding of digital text, but space, time and their own comprehension of new digital literacies has confined this. These research projects have highlighted that it is not the skills and knowledge of how to use these programmes that is needed, but the willingness of teachers to provide and engage with these tools alongside and with children (Coiro, 2008, Khoo et al, 2015; Hatherly & Chapman, 2013).

There was very little research focused on parents and their perspectives within the literature search. Terras and Ramsey (2016) highlight the home is a significant context for children and their literacy development. They highlighted parents use of smartphones and internet, especially social media, was a key determinant of their children’s interest and use of screen technology. Hatherly and Chapman (2013) highlight how one child regularly asked them to share his achievements on Facebook, even though the centre did not have a Facebook page or engaged in discussions about this platform. This example demonstrates how children are able to apply knowledge from home, or other social settings, and apply this to their current exploration – asking to share on Facebook. A similar study was undertaken by Khoo, et al. (2015) who observed a large group of children using iPads with a focus of getting a better understanding of an iPad’s educational opportunities. They focused on the ‘how’ of iPads, and had more of a focus of the usefulness of the product. They concluded, the benefits of an iPad are its portability, ease of use, use of images as a means of communicating, touchscreen, internet capability and highlight the capability of the resource to support teacher/child
interactions (Khoo et al., 2015). Their key finding built on the findings of Van Duerson (2016) and concluded that not only did the iPad support children’s social engagement and inclusion, it also empowered children through providing reading applications and e-picture books for them to engage with, read, and be read to in their own time. This empowerment highlighted by Van Duerson (2016) was also a key finding in Lynch and Redpath (2014) study of five and six year olds in their first year at an Australian primary school. The interviews and observations of these children highlighted the opportunities provided by the iPad. They were able to find, open, close, charge and put away their iPads. The children also commented on their own ability to fix apps by closing them and restarting them, recognition of turn taking and being able to transport the iPad to engage with others (Lynch & Redpath, 2014).

Comparisons between reading printed, paper-based literature and reading on a screen have been popular research focuses over the past ten years. These are helpful as they can provide a literacy foundation when researching whether or not screens are positive, neutral or negatively influencing emergent literacy learning. These comparisons use literacy performance to demonstrate their findings. There are many studies which conclude that children should have access to e-picture books. One example of research with this focus is a study by Bebell and Pedulla (2015). They focused on increasing student achievement through providing 1:1 iPads for use by students in their first year of formal schooling with no specific age range provided. These students were asked to participate in pre and post emergent literacy testing. iPads were provided to 129 kindergarten students for use in class over nine weeks. A control group of 137 children was used, they did the same in-class activities but were not provided with iPads. Both groups of children participated in the same activities and teaching over a nine-week period. One of the critiques of this study is the researchers were unable to measure the amount of time children spent using the screens, nor were they able to control for the teachers, type of teaching, time spent using the iPads or quality of time spent teaching the specific requirements over the nine weeks. Their results demonstrate that all children had an increase in their literacy scores, interestingly, there was a significant increase in children’s results for those using the iPad in the phonemics tests. In all other areas of literacy, the children had mostly equal scores. They concluded that although the iPads supported significant phonemic awareness development, due to the restraints in their data gathering they could not conclude whether the use of iPads increased children’s emergent literacy skills or not. They could conclude that the use of iPads was equal to the more traditional resources.
used by the control group and were not detrimental to the students learning (Bebell & Pedulla, 2015).

Similarly, Ihmeideh (2014) concluded iPad reading significantly enhanced literacy results achieved by young children. Their study compared e-picture books to printed books and focused on emergent literacy skills, but in Jordanian preschools. They compared four preschools, two using iPads and two printed texts. Interestingly, Ihmeideh (2014) had opposite results to Bebell and Pedulla (2015). They found that a wide range of literacy skills were vastly improved by those using the iPads, except in phonological awareness. Imheideh (2014) highlighted some of the reasons for the significant difference between their two groups included: the newness and novel aspect of the iPad, the unique structure and interactivity of the e-picture book, and the engagement with the additional digital features. Unfortunately, similarly to Bepell and Pedulla (2015), this study did not control for the teacher interaction or teacher engagement.

Lauricella, Barr and Clavert (2014) also compared e-picture books to printed picture books through observing parent and child interactions during a reading session. They observed 39 three and four years olds over four visits reading a mixture of e-picture books and paper printed picture books. They found additional digital features benefited the reading sessions and provided parents and children more opportunities to engage. They used the example of how a child is able to touch and hear new and more detailed information (such as touching an icon or hyperlink and have it respond). These digital features provided additional opportunities for discussion and engagement between child and parent (Lauricella et al., 2014). In contrast to Bepell and Padulla (2015) and Kozminsky and Asher-Sadon (2013) whose studies didn’t highlight the role of the adult, or controlled the role of the adult into a passive position; this study had the adult in a prominent role influencing the results of the study. The study concluded that e-picture books offered cheaper options, a wider range of information and additional opportunities for parents and children to engage, but they warned that regardless of the medium or device used, it was the engagement and discussion between adult and child which was paramount (Lauricella et al., 2014).
Research shows children to be confident problem solvers, as well as competent and confident in their exploration of tablet technology, such as iPads and these tools can have a positive influence on their emergent literacy (Edward & Bird, 2017; Ham & Evans, 2009; Khoo et al., 2015; Van Deurson, 2016).

**E-reading opponents**

In contrast to the research outlined above, there are many whose research concluded that children should not have access to screen reading technology such as e-picture books. Aldahfeeri, Palaiologou and Folorunsho (2015) surveyed early childhood teachers in Kuwait and found that although 94% responded that digital devices have had a positive influence on their personal life 46% stated that “digital devices should not be embedded in the early childhood curriculum and 57% stated that children should not play with digital devices in the classroom” (p.352). Likewise, with a focus on digital print and reading Ihmedeh (2014) urged teachers to replace children’s screen time with time spent reading printed books. Their research concluded children may develop lags in a range of literacy skills if teachers relied mostly on digital e-books. Due to such contrasting opinions, children’s access to digital devices, including e-picture books, is a focal topic for many parents and early childhood teachers.

Furthermore, Brownlee and Crisp (2015), Flewitt, et al. (2015) and Gibbons (2015) all argue against children having access to electronic devices such as iPads. Similarly, Oldridge (2010) research highlighted that only one of the five New Zealand early childhood teacher participants interviewed saw any importance in integrating screen technology, such as computers, into their early childhood setting. Additionally, Anderson and Subrahmanyan (2017) highlight how exposure and access to digital media for children under the age of two has associations with negative cognitive development, and for children over two digital technologies can support the development of anti-social behaviour. Furthermore, Khoo, et al. (2015) quote Dr Manfred Spitzer, a German neuropsychiatrist who suggested that young children who spend too much time on a computer can experience permanent cognitive dysfunction. They continued to describe a range of research which describe digital media as “harmful” on young children’s learning and social development (p. 6). Similarly, Whyte (2012) describes in her opinion piece focused on how the Diagnostic and Statistical Manual of Mental Disorders (DSMIV) of Australia has highlighted as a future area of study ‘internet-
use disorder’. This is discussed in relation to people’s over use of screen and digital technology which is leading to the development of an addiction to the internet. Furthermore, Flewitt, et al. (2015) whose research focused on five and six year olds interactions with iPads described concerns from teachers about how the iPads may cause potential harm (Flewitt et al., 2015). The teacher participants in this research were “wary of the addictive and ‘over-stimulating’ nature of digital gaming and feel children were spending ‘not enough time outside…too much time sitting down” (p. 295). The teachers also argued that technology has “no place in early learning” (p. 290).

In a study by Kozminksy & Asher-Sadon (2013) who compared e-picture book reading to printed books reading through the medium of pair reading. They looked at 50 four to five-year-old children, half were provided with e-picture books and half printed picture books. This study importantly noted they had a control for the teacher’s influence. They asked teachers to only passively respond to the children during the experiment. This is important as the role of the teacher and/or other adult during the reading process is a key element in the success of developing emergent literacy skills (Booth, 2005). In contrast to Bebell and Pedulla (2015), Kozminsky and Asher-Sadon (2013) concluded that those who read from the printed books improved their literacy skills considerably more than those with the e–books, especially with their concepts of print, understanding of plot, and vocabulary knowledge. The vast difference in results of these two studies may be related to their pre and post testing. Bebell and Pedulla (2015) used a standardised literacy test, common in the United States of America and gave children the iPads over nine weeks, without detailing or controlling how, when, or amount of time they used them. The researchers could not control for the interest factor. Children are often drawn to use new and different materials more than traditional ones. This may contribute to children spending more time exploring the iPads than those who were doing the activities in a more traditional manner (Bepell & Pedulla, 2015). Whereas, Kozminsky and Asher-Sadon (2013) controlled the interest factor though having controlled group experiences and activities, rather than giving the children complete undocumented access (Kozminsky & Asher-Sadon, 2013).

Bus et al. (2015) cautions against children reading digital e-books because of the interactive features. Their research observed five and six year olds reading and focused on their
comprehension and memory after reading a picture book, comparing e-picture books to paper based books. In contrast to Imehideh (2014) who concluded one of the reasons the e-picture books were so successful was their additional digital features, Bus et al. (2015) cautioned readers against the additional digital features. They argue that digital features, such as visuals and animation in books and stories are not designed for hypermedia links. They concluded that this lead to diminished performance or less understanding of the text. In addition, they concluded that these digital features had the tendency to turn the book into a game (Bus et al., 2015).

Research on young children using digital devices as an emergent literacy tool has demonstrated complex and contradictory findings. The themes from this literature review, do however, provide evidence that there is an increase in the popularity of tablet devices such as iPads. There is evidence that the use of digital devices by young children for reading is increasing and children’s access to e-picture books has increased. It is also evident that children’s access to these tools is influenced by the willingness and confidence of their teachers. Further research into the critical issues of young children reading e-picture books and their influence on children’s emergent literacy is needed as well as the perspectives of parents and early childhood teachers in New Zealand. Therefore, this research will investigate the perspectives of five parents and five early childhood teachers in New Zealand regarding young children reading e-picture books as an emergent literacy tool.
CHAPTER THREE: METHODOLOGY AND METHODS

Introduction

This chapter begins by providing the rationale and justification for the research design. Explained in three sections it will first explain the researcher’s worldview and an explanation of the rationale underpinning the study’s epistemological position. Secondly, it will explain the methodology and thirdly it will explain the two sequential methods selected for data collection.

This research was designed following Creswell’s three philosophical research questions (2002). Each question is described as fundamental to a study’s design.

1. Worldview. What epistemology and assumptions was the researcher making about how and what they will learn during the study?
2. Methodologies. What approaches to the research will be used to inform the methods used to collect data?
3. Methods. What methods will be used for data collection and analysis?

Sequentially organised, these three questions provided the research design framework for this study, using the headings: subjectivist epistemological position; qualitative methodology; method one: online survey; method two: interview; reliability and validity; triangulation; and ethics.

Subjectivist epistemological position

It is important to clearly state a researcher’s ontological stance as this gives rise to their epistemological assumptions (Bryman, 2012). Ontological assumptions are concerned with the “the very nature or essence of the social phenomena being investigated” (Cohen, Manion & Morrison, 2011, p.3). This study’s ontological stance was to understand the participants’ perspectives and experiences through a subjectivist lens (Cohen, et al., 2011). The subjectivist
lens assumes that different people perceive and shape their reality in different ways (Bryman, 2012). Therefore, the main focus of this research was to understand the participants’ interpretations and how they shaped their reality through making sense of their experiences with screen technology and picture books, and how this shaped their judgments and perspectives on the use of e-picture books by young children.

A subjective ontology is normally aligned with an interpretive epistemology (Bryman, 2012). An epistemological position is concerned with questions which focus on what is, or what should be, regarded as acceptable knowledge (Bryman, 2012). The epistemological position is also considered the very basis of how knowledge aligns the research to the nature of reality (Cohen, et al., 2011). An interpretive epistemology requires the researcher to gain access to peoples thinking and “hence to interpret their actions and their social world from their point of view” (Bryman, 2012, p.30). This is also highlighted by Cohen, et al., (2011) who describe an interpretive research design as a study that sets out to understand a specific set of individuals and their perspectives on the world around them.

**Qualitative methodology**

The methodology closely aligned with an interpretative research approach is of a post positivist orientation (Merriam, 2009). Post positivist research acknowledges that knowledge is “relative rather than absolute” (Merriam, 2009, p. 9). This approach assumes there is no one single observable reality, and that our realities are socially constructed (Merriam 2009). Qualitative research is therefore interested in understanding how people “interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (Merriam, 2009, p.5). Qualitative research studies things in their natural settings through collecting data from individual people, in their own specific situations in an attempt to understand or interpret the meanings of their perspectives from the point of view of the participants (Creswell, 2002).

The key concern with qualitative research is to understand the phenomena of interest from the participants’ point of view not the researchers’, and, to understand how the participants made sense of this. Therefore, this research focused on gathering data from parents and early
childhood teachers focused on their perspectives on young children reading e-picture books as an emergent literacy tool. To achieve an understanding of this data, it was important to also gather data focused on how the participants made their own meanings from their experiences. This therefore required also collecting data on the participants’ experiences with digital screen technology and traditional picture books.

To gather this data two sequential data collection methods were selected. Firstly, an online survey was undertaken to gather a broad baseline of data. The results from this survey informed the development of an interview schedule for a series of semi-structured interviews. It was important for this qualitative research project that researcher gathered data to build understanding, perspectives and meaning rather than deductively testing a hypothesis (Merriam, 2009). Therefore, to ensure enough data was gathered to allow the researcher to find meaning and to interpret and understand the perspectives of the participants from their point of view, both sequential stages of data gathering were required.

First method: Online survey

To gather the broad baseline data a small online survey was created. Although this research used a method that is quantitative, the researcher was reflexive in this and did so through ensuring it was a qualitative survey with a small amount of quantifiable data. The researcher was aware that the survey was not a genuine quantitative method as the findings were not going to be generalizable (Cohen, et al., 2011). The survey was small and allowed for quantification of some results as a tool for supporting the interpretation of the development of the following research method.

Two online surveys were conducted, one specifically for early childhood teachers and one for parents. The surveys used a range of Likert scale questions which started by gathering contextual information about the participants. It then focused on gathering participants’ experiences and perspectives on their confidence and use of general screen technology. Following this the surveys focused on participants’ experiences and perspectives on traditional picture books as an emergent literacy tool for children. The survey then concluded with questions focused on parents and teachers’ experiences and perspectives of the use of e-
picture books as an emergent literacy tool. The results of the surveys provided a broad baseline data which were then used to inform the development of the interview schedule (Fowler, 2009; Sue & Ritter, 2007).

**Participant selection: Online surveys**

Sampling can either be probable or non-probable based on the population size, the required size of the sample, the specific design and aim of the research (Fowler, 2009). For this first phase of data collection the most appropriate type of sampling was non-probable. Probability sampling required every member of the population to have a “known, nonzero probability of being included in the sample” (Fink, 2003, p. 36). In contrast, nonprobability sampling does not guarantee that all eligible individuals have equal chance of being included (Fink, 2003). Due to the nature of online surveys and the use of Facebook as a platform for gaining access to participants, it is evident that there were many eligible individuals who were not able to participate due to a wide range of constraints. These constraints included time of posting the surveys, use of Facebook as a platform for engaging with possible participants, the time and date of the posts on Facebook and those who followed and do not follow the specifically chosen Facebook pages. Therefore, this research used non-probable sampling.

The sample population was also defined through using a ‘sample frame’. This means that the sample was framed by the individuals who were members of one (or more) of the Facebook groups in which the survey was posted. The participants noticed the Facebook posts within the Facebook feed (and were therefore logged into Facebook around the times the surveys were posted) and were willing, interested, and available to volunteer to participate. The nature of Facebook and the high number of posts on many peoples’ pages meant that those who logged on hours after each post may not have seen it as it quickly moved down their Facebook feed, requiring Facebook users to scroll through their content to see the survey post. Therefore, the responses represent a framed sample of the population: those who were logged on to Facebook, noticed the post and were willing to participate.

The Facebook pages that the survey links were posted to were chosen due to their appropriate content for parents or early childhood teachers and is therefore likely to be a suitable place to
find possible participants. Facebook uses acronyms as the names of many of these pages. What each acronym stands for is stated after its use. The survey was posted to NZECE Teachers Discussion Group (New Zealand early childhood education), ECE Teachers (early childhood education teachers), Unitec BTECE (Bachelor of teaching, early childhood education), ECE Leaders and Managers, Puawai-Maori and Pasifika Homebased ECE. For parents the survey was posted to: Plunket Auckland, Space for you and your baby at Auckland Playcentres Association, Parents Online New Zealand, and, New Zealand Playcentre Federation. The links were originally meant to be posted once, but after each post a flurry of responses was received quickly followed by nothing as the link moved further down the groups news feed. Once this pattern was identified the link was re-posted to each page on four different occasions, four different times randomly selected times over the period of a week. As each link was posted a flurry of responses was received for around two to three hours’ and then the responses ceased. Reposting the link at different times on different days allowed me to keep the post at the top of the page so those who logged in could easily see it. This resulted in many responses from both teachers and parents over the week of posting. Due to the nature of social media, there were many members of the Facebook pages who did not respond. Due to this nonresponse, the data is representational of only the respondents within the framed sample population.

The consideration of sample size was focused on ensuring there was enough data to investigate the research questions. It was important to gather a large number of responses to provide a broad base-line of information to inform the development of the interview schedule. In discussion with the research supervisor, it was felt that a sample of 30 or more responses would be suitable to balance the data required with the manageability of a Masters level research project. Once the data was collected the research had a sample of 59 parents and 43 early childhood teachers.

**Survey development**

The survey was created using the online application Survey Monkey. This application was advantageous as it provided a single place to create the survey, create links to the survey, as well as providing a single data collection point with built in analysis options. Being dependent on software also had its disadvantages. Time was needed to learn how to use the software
competently. This was achieved through one on one guidance and support from the post-graduate team at Unitec and some lessons on how to use the programme from a regular user of Survey Monkey who also has extensive experience in writing Likert scale styled questions.

Questions are a way of measuring the participant’s opinions, knowledge and perceptions and need to be worded in a clear and focused manner ensuring as little confusion or misunderstanding as possible (Sue & Ritter, 2012). Errors in surveys relate primarily to difficult to understand questions or questions open to a range of meanings (Fowler, 2009). Therefore, a reliable survey is constructed of clear, consistent questions and provides measurement that is relatively free of error with valid findings portraying the respondent accurately (Fink, 2003).

Providing specific, focused questions with a range of ranked answers enabled the participants to quickly understand the question and accurately provide their answer with the click of a mouse. The Likert Scale enabled each question to be easily and quickly answered with each question having five answer options ranging from positive to negative. Because respondents were provided with a range of answers, each question was required to be specific and answerable by the provided answers. This style of questioning allowed the survey to be completed in under seven minutes. This was important as participants were either teachers who were often short on time or parents with young children who could also be called away very quickly. To be respectful of their time, and to try and achieve a high completion rate of surveys questions were written to be fast and easy to answer.

To ensure the questions were clear and focused, two pilot surveys were initially conducted and a feedback conversation was had with those who completed them. These meetings and pilots ensured the questions collected the data required in a clear and focused manner. There was a clear link in both the piloted surveys between the Likert scale questions and the responses in the open ended questions. Evaluation of all questions that failed to get a responses were also examined from the pilot run. There were two questions not responded to by both pilot run respondents. These two ‘non-response’ questions were highlighted and discussed with the supervisor and it was decided to edit them into a previous section. These
questions were re-worded and integrated into an earlier Likert scale rather than as two questions on their own. This evaluation and editing ensured the final survey was clear (Fowler, 2009). See Appendix A for the survey document for parents and Appendix B for survey document for teachers.

**Survey data analysis**

Data analysis focused on transforming large amounts of data from the surveys into a form of which sense could be made. The data was transformed into tables and bar graphs using the Survey Monkey application features. This allowed the results from the data to be clearly represented and easily analysed. The process used was to then thematically analyse data to identify patterns, categories and commonalities that made interpretation possible (Cohen et al., 2011).

Before data analysis could proceed the survey data was cleaned of all entry errors (Sue & Ritter, 2012). These included errors such as incomplete answers. The data cleaning was a three step process; first the data was screened as it was received. The data came in slowly just after the posts were put up on Facebook. This allowed time to screen each entry as it was submitted. This screen looked for patterns of missing data, inconsistencies in the data and strange patterns. This allowed for any technical glitches to be edited or fixed near the beginning of the survey and changes to be made. To start with there was a tick box highlighted which required all questions to be responded to and disabled the ‘next’ option until all questions had been answered. This meant the first three responses were incomplete as participants chose not to respond to a question and then could not continue. After recognising this the settings for the survey was able to be altered to allow respondents to miss or skip questions. This was important as if they did not want to answer one question, they could still move through and respond to the rest, rather than ending the survey at this point.

Once the data was cleaned it was transformed into tables and graphs using Survey Monkey. Each section of the survey had its own Likert scale. For each of these sections a table was created and the number of responses to each part of the scale for each question in both numerical and percentage format. For each table a bar graph was also created. Each bar graph
highlighted similarities and differences between the responses of participants to each question, as well as, providing comparative data between parents and teachers. The default bar graphs of Survey Monkey were used albeit each was edited to support a clearer layout of the findings.

The two open-ended questions were analysed using the ‘text analysis’ feature in Survey Monkey and coded into themes. The coding required close examining of the responses to organise and sort the data into significant categories. Firstly, all responses to each question were read through to give a generalised impression of the data with a focus. Regular and similar responses were coded into themes, and interesting or different responses were highlighted. Then the codes were sorted. The codes were organised numerically with the largest number of responses to the lowest. The first qualitative question for both parents and teachers was thematically analysed into positive responses, neutral and negative responses. The second qualitative question had a range of themes, both of which were different for parents and teachers.

Method two: Interviews

Once the survey data was analysed, the research moved into the second method of data collection: interviews. Interviews are commonly used by qualitative researchers when detailed data is being sought from participants with specific knowledge or experience and the subject material could be of a sensitive nature (Lichtman, 2013) The interview allowed in-depth exploration and personalised investigation of the participants’ perspectives. Interviews also enabled a deeper understanding to be gained through the use of follow up questions and further probing into participants’ responses.

Furthermore, interviews are a way of getting to know the participants, through their stories and experiences (Seidman, 1998). This process of asking the participants questions, and allowing them time to tell their stories is part of the meaning-making process to collect in-depth data (Seidman, 1998). An important element for this research is the focus of the interview being qualitative. Qualitative interviews focus on gathering descriptive in-depth data of experiences and individual perspectives (Oishi, 2003). Therefore, the focus of the
interviews for was to understand the experiences of parents and early childhood teachers focused on and how they have developed their perspectives on the use of e-picture books by young children (Seidman, 1998).

Because the interviews focused on gathering data on individuals’ experiences and perspectives, it was important to balance pre-organised questions with prompts and time for participants to tell their own stories. This style of interviewing is called semi-structured. The semi-structured interview method was used as it balanced structure which provided sufficient means to retain the focus of the research and yet was flexible and used probing questions to further clarify and gather more in-depth data, meaning and a more thorough understanding of the participants’ experiences was able to be sought. The semi-structured interview in this phase of research also allowed for reciprocity between myself and the participants and kept the focus on the research questions, while also giving space and time for the participants to develop and lead the discussion (Galletta, 2013).

**Participant Selection**

The selection of participants for the interviews used a combination of purposeful and convenience sampling approaches. Participants were selected based on their indication of interest to participant further in the research as well as ensuring they were convenient to meet.

Convenience and purposeful sampling are very common in qualitative research (Cohen et al., 2011). Purposeful sampling assumes the researcher wishes to select specific participants in a way that ensures a rich source of information, but are also conveniently located to ensure easy access to a location for the meeting without financial burden or time restraints (Merriam, 2014). The participants were chosen from the survey data. The final question in the survey asked if participants would like to be contacted to be a further part of this research. Participants who indicated they would like to be contacted, and provided their email address were grouped into locations. Participants from the Auckland region were then listed in order that they completed the survey. Every third person on the list was emailed enough interviews were completed.
Interviewing is considered one of the most common means of understanding another human being, especially when investigating their perspectives on a topic (Fontana & Grey, 2005). It is the exchange in conversation which brings thoughts to the surface and generates data (Fontana & Frey, 2005). Therefore, each interview was going to take time and preparation to ensure the research successfully achieves its aims. This meant the number of interviews the researcher was able to carry out, and the amount of data from these interviews was confined by the restrictions of the size of a Master’s Thesis. In discussion with the research supervisor, it was decided that between four and six participants for each of the two groups would yield sufficient manageable data (Tracy, 2013). During the sampling of participants five interviews with parents and five interviews with early childhood teachers was conducted.

**Interview schedule development**

The semi-structured interview required the creation of an interview schedule to ensuring each interview was successful in achieving its objectives. To ensure the interview stays on topic and investigates the research aims and questions thoroughly an interview schedule was created (Cohen et. al., 2011). This schedule provided a framework for undertaking the interview, kept the interview on topic and supported the ease of transcription (Hinds, 2000).

The interviews were arranged into three segments: Opening segment, middle and concluding segment (Galletta, 2013). The opening segment consisted of ensuring all ethical protocol was addressed, including ensuring written permission was gained prior to the interview which explained the focus and the outputs of the research and explained their right to withdraw. The interview then continued by asking contextual questions. These questions provided two main purposes. Firstly, it allowed the interviewer easier questions, such as asking basic demographic information. These were aimed at hopefully allowing the participants to settle into the process.

The second segment of the interview focused on exploring and investigating the survey findings themes to gather more in-depth information. The findings from the survey highlighted three key broad areas. These were the participants’ perspectives on their own use,
and children’s use of general screen technology. Their use of picture books as an emergent literary tool and their perspectives on e-picture books. Questions within each segment focused on gathering further information about the findings from the surveys. It is important to note that although the interview schedule was prepared in advance and sent to the participants before the interview, during the interview the conversation became more of a dialogue between the researcher and participant. Open-ended questions and probes were carefully used to guide the conversation without distorting the data with inappropriate input from the interviewer (Galletta, 2013)

The concluding segment revisited the main themes of the interview, asking questions based on any uncertainties, seeking clarification of ideas and making connections and links to the research questions. This section also clarified the interviewers understanding of the participant’s perspective through repeating ideas for assurance of accuracy. The interview concluded with a final open-ended question, giving the participant time to share, provide or discuss any ideas or questions they have or have thought of during the interview or during the concluding section of clarifying or repeating the interview content. The final question was always ‘what is your perspective on young children using e-picture books in relation to their literacy development’. The interview schedule for parents is Appendix C and the interview schedule for early childhood teachers is Appendix D.

**Interview data analysis**

Data analysis is the process of reducing vast amounts of interview data into form of which meaning could be derived (Cohen et. al 2011). The data analysis for this research started by transcribing the interviews, editing these and sending them to the participants for verification. Once the transcripts were considered verified, the data was to coded following Cohen et al. (2011) four steps of coding:

1. Generating units of meaning.
2. Classifying, categorizing and ordering these units of meaning.
3. Structuring narratives to describe the interview contents
4. Interpreting the interview data
The first step of data analysis was to transcribe the interviews and return the transcriptions to
the participants. It was important for the interviewer to complete the transcriptions as this
allowed time to absorb the information, identify initial themes as well as time for the
interviewer to reflect on each interview (Cohen et al., 2011). To manage the data, first written
consent forms were filed in a separate data base and the digital recordings were filed in an
online protected cloud database (Seidman, 1998). Each interview was then transcribed
through listening to the recording and typing the data in a word document.

Transcripts have the potential to become decontextualized or abstract from time and space
thus losing the dynamics of the situation (Cohen et al., 2011). To ensure clarity and
accurateness within the transcriptions it was important for the researcher to complete the
transcription as close as possible to the interview taking place. This allowed for body language
or infections of the voice, interruptions and indecipherable speech to be hopefully
remembered by the interviewer and still included in the transcription (Cohen et al., 2011).
The importance of completing the transcripts as soon as possible after the interview was also
because many of the interviews took place in a public café or with young children present.
There are many moments in the interviews where interruptions from children and other people
are evident. There are also many moments of thinking or natural pauses while people talk.
Transcribing these was a challenge. After discussion with the research supervisor it was
decided that after the second transcription to stop when an interruption occurred and to
document ‘interruption from public or child’ and then to continue the transcription once the
interruption was completed. It was also decided to record basic sounds, such as ummm, which
the interviewees were making phonetically. During the transcription process it was evident
that people do not speak in paragraphs or clearly punctuate (Seidman, 1998). It was decided
that any pauses for more than two seconds would be recorded as a new paragraph. This gave
the transcriptions structure. Once each interview had been transcribed it was sent to the
participant for verification.

Data coding focuses on reducing the data so the researcher can manage and make sense of it.
(Huberman & Miles, 1994). The researcher chooses a conceptual framework to code and uses
this to select and condense the data. Once the transcripts had been sent to participants, the
data was coded. The coding framework used had four steps as outlined Cohen et al. (2011):
1. Generating natural units of meaning. Colour coding was used to generalise themes.
2. Classifying, categorizing and ordering these units of meaning.
3. Structuring narratives to describe the interview contents.
4. Interpreting the data.

**Reliability and Validity**

With all research, especially qualitative research, research integrity is focused on the validity and reliability of the research, as well as ensuring ethics are properly adhered to (Cohen et al., 2011). This ensures that we gain information that is fair with assurance of its need to be clearly explained, outlined and ensured throughout the study (Guba & Lincoln, 2005; Cohen et al., 2011).

**Reliability**

Reliability is concerned with precision and accuracy and ensuring consistency and replicability over time, over instruments and over participants (Cohen et al., 2011). In regards to qualitative research, a study is reliable when it can replicate aspects of the research and ensure that the researcher gathers data accurately and comprehensively (Cohen et al., 2011). To ensure reliability the researcher ensured the surveys for both parents and teachers were stable; meaning each post had the same survey attached to it for either parents or teachers. Similarly, all interviews were undertaken with the same interview schedule for parents and for teachers. To further ensure reliability the questions for both the surveys and the interviews were checked by the research supervisor and piloted (Fink, 2003). Questions were also provided to the research supervisor to ensure there were no leading questions. Leading questions are those which puts words into the participants’ mouths, where the question influences the possible answers (Cohen et al., 2011). During the interviews, the interviewer was aware of and actively ensured there was no content or questions which included the interviewer’s opinions, expectations, or preconceived notions. Throughout the interview if the interviewer was unsure further questions were asked to ensure no misunderstandings took part. The interview was also aware that they did not transfer their feelings, desires, needs or attitudes onto the interviewee, otherwise known as transference (Cohen et al., 2011).
Validity

For the outcomes of any research to be authentic and capable of being acted on the research is required to demonstrate its validity (Guba & Lincoln, 2005). Validity refers to the degree in which a data gathering instrument measures accurately what it is supposed to measure (Fowler, 2009). In quantitative data validity can be achieved through careful sampling, appropriate development of the instrument and appropriate data analysis (Cohen et al., 2011). Whereas, in qualitative research validity is strived for but there is always a natural degree of bias. This is due to research data being founded on the subjectivity of respondents, their opinions, attitudes and perspectives, these aspects together which all contribute to this natural degree of bias. This means that within qualitative research we strive to minimize invalidity and maximize validity.

To maximise validity in the first phase of research, the survey, the researcher ensured the survey instrument was carefully constructed with regular feedback from the research supervisor. The survey questions were checked to ensure provided accurate and appropriate responses to answer the research aims and questions (Fowler, 2009). The instrument was piloted. The piloting of each survey highlighted a few questions which needed to be re-worded to ensure clarity and therefore validity of the questions in relation to the research questions. The use of the terms ‘highly’ and ‘mostly’ were added to replace the terms ‘extremely’ and ‘very’ within the Likert scales. This was due to the feedback from piloted individuals highlighting that the difference between something being ‘extremely influential’ and ‘very influential’ was unclear. ‘Highly influential’ was decided to be clearly different from ‘mostly influential’ and thus these terms replaced ‘extremely and ‘very. It was decided that these provided a clearer Likert scale to rank their perceptions providing clearer responses to the questions and ensured clarity and validity of the survey. To further maximise validity the sampling methods were described in detail and carefully followed throughout the data collection process. And clear appropriate data analysis was carefully followed and thoroughly documented.

To ensure to maximise validity in the second phase of data collection, the interviews, validity was strived for through ensuring internal validity, content validity and through demonstrating concurrent validity through triangulation (Cohen et al., 2000). Internal validity seeks to
Triangulation

Triangulation is a way of demonstrating concurrent validity through studying the research questions from more than one point of view (Bryman, 2012; Davidson & Tolich, 2003). Cohen et al. (2011) concur describing triangulation as an attempt to explain the richness and complexity of human behaviour through studying it from more than one standpoint. Triangulation therefore, requires the use of multiple data collection methods and multiple perspectives to ensure that the findings maximise concurrent validity (Cohen et al., 2011). In this research two data collection methods are used to gather data from two groups of people relevant to the research questions. Parents and early childhood teachers were both identified as key groups of stakeholders with a vested interest in children’s development, especially children’s emergent literacy development.
Ethics

There is general agreement in the literature that the key concern of ethics in qualitative research revolves around the issues of informed consent and confidentiality (Cohen et al., 2011; Sue & Ritter, 2012). Bryman (2012) develops this further and breaks down the ethical principles of qualitative research into four main areas:

1. Ensuring no harm for participants;
2. Informed consent;
3. Confidentiality;
4. Deception.

The researcher was conscious of these ethical principles throughout the research.

Ensuring no harm

To ensure no harm becomes the participants the researcher was required to guard against consequences for the research participants through conscience consideration their emotion and physical wellbeing (Bryman, 2012). To do ensure no harm the following three principles need to be upheld and approval for the research needed to be achieved (Bryman, 2012). The researcher applied for ethical permission to research and ensured the ethics application to the Unitec Research Ethics Committee research was appropriate, clear and informative information and ethical approval was granted prior to the research beginning.

Informed consent

The underlying premise of informed consent is that the participant’s “have the right to be informed that they are being researched and also about the nature of the research” (Punch, 1994, p.90). Bryman (2012) describes informed consent as ensuring all participants” should be given as much information as might be needed to make an informed decision about whether or not they wish to participate in a study” (p. 138). Bryman (2012) continues to highlight the importance of all participants also being provided full and accurate information about the research process, their right to confidentiality, how the data is going to be stored, the dissemination of findings, as well as being aware of their entitlement to withdraw or refuse to continue at any point within the research. Therefore “any information that would be likely to
affect a subject’s willingness to participate should not be deliberately withheld since this would remove from subjects an important means of protecting their own interests” (Bryman, 2012, p. 138).

This research had two phases of data collection and each informed consent was ensured throughout both stages. In the first phase, the surveys, each survey included a quick brief explanation of the purpose, research process and dissemination of findings in a Facebook hook link. Once a participant clicked on this link further information was provided at the top of the survey. This included the general nature of the survey, how the data will be used, the average length of time to complete the survey, whether there are any risks involved in participating in the survey, their rights to withdraw at any time within the survey, if they would like to be contacted in the future alongside an assurance of their confidentiality (Sue & Ritter, 2007). This information was on the opening page, with the respondents asked to click ‘next’ after they have read, understood contents and agreed to participate (and for their data to be used for the study). The requirement for participants to click next if they wanted to participate allowed those not interested or unwilling to close their browser without responding to any questions or respondents feeling obliged to respond if they clicked on the link. This information is at the beginning of the survey document for parents (Appendix A) and for teachers (Appendix B).

In the second phase of data collection, the interviews, informed consent was ensured through the provision of all required information in an ‘information sheet’ to each participant. This information sheet is provided in appendix E. Furthermore, regular communication using email was used prior to clarify information and reassure participants of the intent and purpose of the research, provide participants with a copy of the interview schedule, have a discussion about how the research may be disseminated as well as their rights to confidentiality and to withdraw at any time (Punch, 1994). This was discussed both via email as well as at the beginning of every interview. At the beginning of each interview a consent form was completed by the interviewee. This ensured clear written as well as verbal consent. A copy of the consent form is Appendix F.
It was important to send the questions to the participants prior to the interview to ensure they understand what is going to be asked, reducing possible miscommunication or misunderstandings during the actual interview (Seidman, 1998). There was a chance this could skew the interview results, but as the focus was their own perspectives this risk was very minor. The benefits of asking participants to read the questions first allowed the interview to be more open, to delve into their experience and perspectives further and provided further depth in the collected data (Seidman, 1998). After the interview the participants were emailed a copy of the transcription. They were asked to read the transcript and to respond within 48 hours of receiving it if they had any concerns or would like anything to be changed or removed.

Confidentiality

It is important for researchers to ensure every participants’ rights to privacy, anonymity and confidentiality (Cohen, et al., 2011). Privacy relates to each participant’s rights to decide for themselves when and where and in what circumstances and to what extent their personal details are provided to the general public. This research ensured that it would not probe into the private aspects or affairs of participants. The private aspects or affairs were defined as “information relating to a person’s physical and mental condition, personal circumstances and social relationship which is not already in the public domain” (Cohen et al., 2011, p. 60). As the both the surveys and the interviews had identifying features this research was unable to guarantee totally anonymity, but it could promise non-traceability where an individual’s response within the findings was not identifiable (Cohen et al., 2011). This goes hand in hand with confidentiality. This means that although the researcher knew who had provided the information and was able to identify the participants from the information given, they would not, under any circumstances, make the connection publically known (Cohen et al., 2011). To ensure this, multiple steps were taken to safeguard all participants’ identities.

Within the initial phase of data collection asking for consent to contact for the second phase of interviews, participants were not anonymous. Their information and identity was kept confidential and their data stored securely at Unitec, on a web-based programme protected by username and password. Confidentiality for the second phase of data collection, the
interviews, all data, including consent forms, interview recordings and interview transcripts were stored separately in an online storage system which required usernames and passwords to gain access. To further ensure participants confidentiality each participant was given a coded name to ensure their privacy. The alias for parents were letters following the words parent participant. For example, parent participant A. For teachers, numbers were used. For example: teacher participant one. Furthermore, during the transcription process any identifying factors, such as the use of people’s names, place of work or other identifying factors were removed before being sent out to the interviewee for verification.

Summary

This chapter has provided a rational and justification for the use of a subjectivist epistemology, qualitative methodology, two phases of data collection and the use of two different data collection methods. This chapter has also described the participant selection processes, the development of survey questions and the interview schedule and, described the data analysis strategy for both the surveys and interviews. It then described how it has ensured research integrity through the ensuring reliability, validity and triangulation. It then discussed how the research confronted ethical issues through the assurance of no harm, providing informed consent, ensuring confidentiality and the assurance of no deception. The following chapter will present the results of the quantitative online surveys.
CHAPTER FOUR: SURVEY RESULTS

This chapter analysed the results from two online surveys, a survey of parents and a survey of early childhood teachers. The purpose of these surveys was to gather a broad baseline of information regarding the perspectives of parents and early childhood teachers on the use of e-picture books by young children. This was specifically focused on the influence of these books on young children’s emergent literacy skills. The results of the surveys informed the interview questions for the second phase of data collection. Firstly, the results from parents are presented and secondly, the results from early childhood teachers. The data within each section is presented in order of the questions asked in each survey.

Results from the online survey: parents

The online survey was posted to the Facebook pages of: Plunket Auckland, Space at Auckland Playcentres, Playcentre Association, Parents Online New Zealand, and, New Zealand Playcentre Federation. Each post was re-posted four times over the space of five days. After each post a flurry of responses was received, ceasing about two hours after the post. These posts resulted in 59 surveys being completed. The use of the definition ‘completed’ within these results refers to surveys where every page was viewed and the responses saved within the Survey Monkey depository. As there was an option to skip questions, many questions have a different number of answered responses and skipped responses. Throughout this chapter, where a percentage has been provided, this is the percentage of the participants who responded to that question, not the overall number who completed the survey.

Demographic information of parent participants

The demographic information was responded to by 58 parents (98%). Females dominated the participants with 55 responses or 94.83% of the total respondents. Only three men responded. Participants were mainly 31-35 years of age with 54% pertaining to this age group. One participant was under 25 and three were over the age of 40. The participants were from the north island of New Zealand, with 64% coming from Auckland. The other north island respondents were from Tauranga (12%) and Hamilton (6%). The South Island was represented by one participant who identified as currently living in Christchurch. All participants had children over the age of two, 70.1% had one child, 22.8% had two children
and one respondent (2%) had five children. It was important to recognise the experience of these parents was in regards to their own children. This data provided background demographic information about the research participants. It confirmed their status as parents of young children, living in New Zealand.

**Influence of picture books on children’s emergent literacy**

Information regarding parents’ perspectives on the value of paper-based picture books was gathered prior to asking about their perspectives on e-picture books. The survey participants were given a Likert scale to rank their perspectives on the value of picture books focusing on different elements of emergent literacy. The question asked was ‘how influential are picture books on your child/children’s developing: vocabulary, awareness of print, reading skills and phonic awareness.

![Figure 4.1: Influence of picture books on children’s emergent literacy](image)

The Likert scale ranked from highly influential to not influential. The graph above represents the responses of 55 individuals or 93% of survey respondents with 4 opting to miss or skip this question.
Figure 4.1 demonstrates how most participants (over 50% of the respondents to this question) ranked picture books as highly influential on children’s emergent literacy. Vocabulary was considered the skill mostly influenced by picture books with 64% of participants ranking this as highly influential. Print awareness was considered highly influential by 53%, phonic awareness was considered highly influential by 50% of respondents. Five respondents (9%) ranked picture books as only slightly influential on children’s developing phonic awareness. One respondent (2%) felt picture books were not influential on their child’s developing reading skills.

**Parents’ and children’s confidence using and reading from screen technology**

Results demonstrate the majority of parent participants were confident using technology. There were 54 responses to these Likert scale questions, this is 92% of participants who completed the survey. Figure 4.2 demonstrates the responses to this question. Parents were asked to rate from highly confident to not confident, using a Likert scale their own (and their children’s) confidence in relation to their use of screen technology.

The first two questions focused on parent’s confidence operating screen technology. The following three questions focused on children’s confidence using screens, navigating webpages and exploring images on a screen. The majority of parents, 68% indicated they were highly confident using screen technology such as iPhones or laptops. Additionally, 64% of participants ranked their confidence reading on a screen as highly confident. No participants ranked their confidence using or reading on screens as not confident.

The results found 29% of parents described their child’s confidence using screens as slightly confident. An equal number of parents, 24% in both categories, choose mostly confident and slightly confident for their children’s confidence exploring images on a screen. Only 11% felt their children were confident to navigate screen technology.
Use of Screen Technology

There were 54 respondents to these Likert scale questions, which focused on how often parents and their children use screen technology. Parents were asked how often they used technology on a daily basis. This was a multiple choice question with five options. The results are demonstrated in figure 4.3.

Results show participants use screen technology regularly with 46% using a screen for one to three hours per day. Screen use of more than six hours per day resulted in 14%. No participants never used screen technology. No children were described as using screen technology for more than six hours per day, but 70% of children used screen technology for less than one hour per day. The majority of parent participants read on a screen for more than one hour per day (53%). Additionally, 55% of parents watched images on a screen for more than one hour per day.
Parents perspectives on e-picture books and their children’s early literacy skills

This Likert scale question asked parents to rank their agreement with statements focused on e-picture books from strongly agree to strongly disagree. There were 51 responses to each of these questions. Results show 61% of parents agreed e-picture books are a supportive tool for children’s print awareness. Parents (59%) agreed e-picture books could support their child’s vocabulary and phonic awareness. One parent (2%) disagreed that e-picture books could support a child to develop their vocabulary. The results found 51% of parents agreed that e-picture books are valuable for children to experience. No parents strongly disagreed or disagreed that e-picture books could support emergent literacy skills of vocabulary, print awareness and phonic awareness. Albeit, 37% of parents either disagreed or strongly disagreed about wanting to provide their children with e-picture books for reading. In contrast, 25% of participants agreed or strongly agreed that they would like their children to read e-picture books more often. Results show 27% of participants were neutral or didn’t know if e-picture are the same as paper based picture books for literacy skills development. Whereas, 37% agreed or strongly agreed that they are same and 33% disagreed or strongly disagreed.
**Qualitative question asking parents for their first reaction to an early childhood centre providing e-picture books**

This qualitative question provided 37 responses, 62% of participants who completed this survey. There were 22 participants who did not answer. The majority of comments were either positive, neutral or negative. Therefore, the responses were all thematically analysed into positive, neutral or negative. The findings show 14 (38%) positive responses, 6 (16%) neutral responses and 17 (46%) negative responses.

Positive responses included:

*Fun option to encourage reading and literacy (PP1).*

*I think e-picture books are a great learning tool (PP33).*

Neutral response samples included:

*Not the same as a book where they can turn pages, but could be a valuable tool (PP34).*

*Pretty neutral to be honest, I think it’s probably a good idea, as it would be a good combination of technology and learning. (PP35).*

Negative responses included:

*Disagree with this, I do not believe children should have any screen time in early childhood (PP7).*

*I still feel that screen time is not good for my son (PP17).*

*Childcare/early childhood should be screen free (PP20).*

**Parents’ concerns with their children reading e-picture books as an emergent literacy tool**

This qualitative question asked parents to describe concerns about their children using e-picture books as an emergent literacy tool. This resulted in 39 responses (66% of completed surveys), with 20 participants skipping this section. Several concerns were mentioned repeatedly by parents, which were therefore significant. These were grouped using thematic analysis into three themes: concerns with screen devices and ‘screen time’, loss of traditional books, and eye strain. Screen time and concerns with devices was evident in 48.7% of
responses. Negative comparisons with traditional books was included in 23% of responses, and 7.6% mentioned eye strain.

Screen time concerns were evident in responses such as:

*Ability to lock the device down to just the e-reader app* (PP6).

*Dependence on a screen [...] wanting their own phone/tablet at an early age* (PP7).

* Becoming depending on screen devices making them unable or unwilling to interact with print media* (PP10).

Some respondents commented on the loss of traditional books or questioned why these were needed when we have books already. Responses included:

*What can e-books do that a print book can’t? [...] I feel that digital technology is partly to blame for the slipping literacy in NZ kids* (PP4).

*I am old fashioned, I don’t like reading e-books and prefer a paper book, the feel of it not having to have power to charge it makes it more accessible* (PP8).

Four participants mentioned eye strain as a concern, including:

*Blue light, too much screen time* (PP3).

*Eye issues* (PP5).

*I do wonder about how backlit screens can impact on my child’s eyes* (PP37).

**Key findings from survey and impact on interview development**

Key findings are defined as similar information evident within a large number of the participants’ responses across all survey questions. The key findings from the survey of parents were:

1. Picture books were considered valuable and influential on children’s emergent literacy skills.
2. Parents use technology regularly.
3. Children use technology less than their parents, but they do use it.
4. Parents do not know a lot about e-picture books.
5. Parents feel that e-picture books are valuable emergent literacy tools.
6. Parents prefer their children to not have access to e-picture books.
**Validity and triangulation**

For the results of this research to be authentic it is required to establish validity. To establish validity this research used triangulation. Triangulation is the use of multiple data sources and data collection methods. Therefore, to achieve triangulation, two groups of people were surveyed: parents and early childhood teachers.

**Results from the online survey: early childhood teachers**

The online survey was posted to six Facebook pages. Facebook uses acronyms as the names of each of these pages. I have explained after the acronym what they stand for. The survey was posted to NZECE Teachers Discussion Group (New Zealand early childhood education), ECE Teachers, Unitec BTECE (Bachelor of teaching, early childhood education), ECE Leaders and Managers, Puawai-Maori and Pasifika Homebased ECE. As with the parent surveys, each post was re-posted four times over the space of five days. After each post a flurry of responses were received, ceasing about two hours after the post. These posts resulted in 43 surveys being completed. The use of the definition ‘completed’ was the same as for the parent survey. All responses were saved within the Survey Monkey depository. As there was an option to skip questions, many questions have a different number of answered responses and non-responses.

**Demographic information of early childhood teachers**

The demographic information was provided by 43 early childhood teachers. Females dominated the responses with 41 responses or 95% of the total respondents. Two men responded (5%). The largest age group were in the 31-35 years old age group with 28% of the responses. Only one participant was under 20 (2.5%), seven (16%) were between 21 and 25 years of age with 18 (42%) over the age of 40. The majority of participants, 60%, were from Auckland. Seven respondents (16%) came from Wellington and 2 participants (5 %) came from Whangarei. The South Island was represented by two participants (5%) who identified as currently living in Christchurch. It was important to recognise the experience of the early childhood teachers. To do this they were asked if they were currently employed in the sector and if they were registered. The majority, 93%, of participants worked in early
childhood sector and 67% of the participants were registered teachers, registered with New Zealand’s Teachers Council.

**Influence of picture books on children’s emergent literacy**

<table>
<thead>
<tr>
<th></th>
<th>Highly influential</th>
<th>Mostly influential</th>
<th>Influential</th>
<th>Slightly influential</th>
</tr>
</thead>
<tbody>
<tr>
<td>... developing vocabulary?</td>
<td>20%</td>
<td>30%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>... developing awareness of print?</td>
<td>20%</td>
<td>30%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>... developing reading skills?</td>
<td>20%</td>
<td>30%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>... developing phonic awareness ?</td>
<td>20%</td>
<td>30%</td>
<td>5%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Figure 4.4: Influence of picture books on children’s emergent literacy

Information regarding early childhood teachers’ perspectives on the value of picture books was gathered. There were four questions and 43 responses to each question. The survey participants were asked to rate their perspectives of the value of picture books focusing on four different elements of emergent literacy: Vocabulary, awareness of print, reading skills and phonic awareness. The Likert scale ranked from highly influential to not influential.

Figure 4.4 represents the responses of 43 individuals or 100% of survey respondents. This figure demonstrates how most participants (over 50% in all categories) rated picture books as highly influential or mostly influential on children’s developing literacy skills. The results show participants felt that picture books were the either highly influential on children’s vocabulary development or mostly influential with 84% of parents choosing either highly influential or mostly influential. Teachers rated print awareness as being either highly or mostly influenced by picture books with 88% of teachers choosing these options. Phonic
awareness had the highest result for mostly influential with 46%. No teachers chose not influential for any question.

**Confidence using screen technology**

Results demonstrated the majority of early childhood teacher participants were confident reading on a screen and using screen technology. Figure 4.5 represents the results of the 43 responses (100% of participants who completed the survey) to five Likert scale questions focused on participants’ confidence, and their perspective of the children they work with confidence, using screen technology. The question asked teachers to rank their confidence from highly confident to not confident in relation to each question.

![Figure 4.5 Early childhood teachers’ confidence using screen technology](image)

The first two questions focused on teachers use of technology for using and operating screens and reading on a screen. The third, fourth and fifth question focused on how they would describe the children they work with confidence operating a screen, navigating web pages and exploring images on a screen. The majority of teachers indicated they are confident using and
operating screens with 91% ranking their confidence as either highly confident, mostly confident or confident. Teachers were also confident reading on screens with 97% of teachers ranking themselves as either highly confident, mostly confident or confident. Teachers perceived children to be highly confident (23%) and mostly confident (37%) operating screen technology. Teachers perceived children to be confident at navigating webpages with 39% ranking children’s confidence as ‘confident’. No teachers ranked children’s confidence exploring images on a screen as not confident and 7% ranked children’s confidence navigating webpages as not confident.

Figure 4.6 Early childhood teachers’ use of screen technology on a daily basis

**Use of screen technology**

Figure 4.6 presents the four questions and the responses of all 43 teacher participants. These questions required teachers to rate how often they use screen technology on a day to day basis. The majority of teachers used screen technology between one to three hours per day for both their work (39%) and screens at home (39%). The majority of teachers (56%) used screen technology to explore images for less than one hour per day and 14% of teachers never use
screens to look at images at work. There were four teachers (9%) who never use screen technology at all at work and only 7% of teachers used screens at work for more than six hours per day.

**Teachers’ perspectives on e-picture books and children’s early literacy development**

One participant skipped these questions, giving 42 responses. Participants were required to rate their agreement, using a Likert scale, with statements focused on e-picture books. The Likert scale went from Strongly agree to Strongly disagree. The middle section of the Likert scale was Neutral/don’t know. The majority of teachers (95%) identified that they either agreed or strongly agreed that picture books are a valuable tool for children’s emergent literacy. One participant disagreed with this statement. Teacher’s experience reading e-picture books was varied with 14% strongly agreeing they have experience, 23% agreeing, 9% neutral, 24% disagree and 28% strongly disagreeing. The majority of teachers (68%) either disagreed or strongly disagreed that the early childhood service they work in provided access to e-picture books. Participants (48%) agreed or strongly agreed that e-picture books should be available through the local library. Only 38% agreed or strongly agreed children should have access to e-picture book in early childhood education. Neutral, disagree or strongly disagree was chosen by 48% of teachers for the statement that e-picture books could support young children’s literacy skills development.

**Qualitative question asking early childhood teachers’ first reaction to their early childhood centre providing children access to e-picture books**

This qualitative question was answered by 29 participants (64%) with 14 giving no response. The majority of comments were either positive, neutral or negative. Therefore, they were thematically analysed into positive, neutral or negative responses. The findings show positive and negative responses were equal, with 11 comments by participants (38%). There were seven neutral comments or 24%.

Positive comments included:

*Great idea, many young children access their families phone so they are able to navigate and use devices easily* (TP6).
Not surprised, due to the way society and technology is heading, we need to keep up don’t we for our future learners?! (TP 11).

I would be really excited that we as a profession are looking for new innovative ways to teach our tamariki that is using techniques that follow the society we live in now (TP21).

Neutral comments included:

I have not come across an early childhood centre using e-books for reading (TP13).

We don’t actually have them on our iPads. I’m not sure if that’s just because no one knows how to download them or if books are more important (TP23).

Negative comments include:

No need for an e-picture book when you are rich in actual picture books. I believe technology should be minimal in ECE (TP 1).

Why are they bothering? There’s lots of research backing up the negative effects of screen time for young children (TP2).

Shock, far too many screens around children as it is. The light doesn’t agree with their circadian rhythms. Experts are continually exposing the dangers of young children being exposed to screen and there is nothing like a real book (TP12).

*Early childhood teachers’ concerns with children reading e-picture books as an emergent literacy tool.*

This qualitative question asked early childhood teachers to describe their concerns focused on children, in early childhood centres, reading e-picture books as an emergent literacy tool. This resulted in 30 (70%) responses with 13 participants skipping the question. Multiple participants included several concerns in their responses. Several concerns were also repeatedly documented across the teacher participants. Therefore, the repeated concerns were deemed significant. The findings for this question are provided in numerical form instead of percentage due to multiple participants providing multiple concerns. These were grouped using thematic analysis into four themes: increase in screen time (15 comments), lack of human interaction (9 comments), they are not the same as traditional picture books (7 comments) and health concerns (4 comments).
Screen time concerns were evident in responses such as:

*Don’t agree with finding even more ways to get children onto screens – they’re obsessed enough with then* (TP2).

*I believe too much screen time is unhealthy for children* (TP16).

*There is heaps of research coming out on the huge addiction children now have to technology and the negative behaviour that occurs* (TP29).

Nine participants commented on the lack of human interaction when reading e-picture books in responses such as:

*Less interaction with others and the teacher* (TP11).

*Devices don’t offer opportunities to share with other children unlike large books do – which create collaborative learning opportunities* (TP16).

*Lack of social competence that promotes literacy and oral skills* (TP25).

Responses focusing on saying that e-picture books are not the same as traditional books included:

*What benefit is there to picture books that actual picture books do not offer? Minimise technology in ECE* (TP1).

*It does not provide the same tactile experience as a book, Print conventions may be lost as well as the experience of using fine motor skills to navigate a book* (TP13).

A few responses were concerned with children’s health, for example:

*Their eyes don’t track properly when on screens so I would worry about their eye muscle development* (TP16).

*Eye sight issues, sedentary promotion* (TP25).
Key findings and impact on interview development

Key findings were defined as similar information provided by a large percentage of the participants in relation to each question, as well as contradictory statements. The key findings from the survey of early childhood teachers were:

1. Picture books are considered valuable and influential on children’s emergent literacy skills
2. Early childhood teachers have confidence using screen technology and use it daily
3. Very few childcare centres the teachers work in provide children access to e-picture books
4. Teachers do not know a lot about e-picture books
5. Teachers feel that e-picture books are valuable emergent literacy tools but are not as good as traditional picture books
6. There is a wide range of opinions on whether to provide children access to e-picture books in early childhood centres.
7. Teachers are concerned with children’s ‘screen time’ when in an early childhood centre

How multiple perspectives have contributed to a wider view of the issues.

Gathering survey results from multiple perspectives contributed to a wider view of the issues. The interweaving of these both parent and early childhood teacher perspectives provided four key findings: Parents and teachers use technology on a regular basis, but children do not. Picture books are highly valued as an emergent literacy tool; e-picture books were considered valuable as an emergent literacy tool but there is a wide range of perspectives on whether children should have access to e-picture books or not.

The impact of key findings on developing the interview schedules

The interview questions reflected a focus on the issues raised in the key findings from both surveys’. The interview schedules (Appendix C is the interview schedule for parents and Appendix D is the interview schedule for teachers) were designed to provide further in-depth, personalised data based on four key survey findings. The four findings provided three broad areas on which the interviews were based. These were: The use of general screen technology, the use of picture books and the use of e-picture books by children for emergent literacy development.
CHAPTER FIVE: INTERVIEW FINDINGS

Introduction

This chapter presents the findings from the semi-structured interviews with five parents and five early childhood teachers. The purpose of these interviews was to gather in-depth data informed by the key findings from the electronic survey. Findings for the interviews are provided thematically and each theme is divided into sub-themes. In my analysis I have made a judgement that sub-themes were evident when at least four participants mentioned or described the same idea or thought. Each sub-theme is supported by a summary of the participants’ perspectives and supported by two or three verbatim quotes. It is important to note that throughout the interview transcripts I added punctuation. Long pauses, changes of direction or a change in focus was assumed to be the end of a sentence. Commas and punctuation were added where necessary to ensure the participants meaning was clear in written form. When the interview transcriptions were returned to participants to check accuracy, they were specifically asked to check this to ensure the punctuation was correctly used. No changes were requested by the participants.

This chapter is structured into three main themes, which match the three themes from the results of the electronic surveys. These themes are: use of screen technology, use of traditional picture books and use of e-picture books. For each theme the findings from parents are presented first followed by the findings from the early childhood teachers. To demonstrate a triangulation of the two perspectives from which data were collected a summary of perspectives is presented in tabular form.

The interview schedule

The development of the interview schedule was informed by key findings from the surveys. The schedule starts by gathering demographic information. The interview then proceeds to focus on the participants’ experiences using screen technology, then looks at their children’s use of general screen technology. Then participants were asked about their use of picture
books, both as a child and with children. To conclude, the interview focused on the use of e-picture books. The interview schedules are appendix E and F.

The parents
Parent participants were selected from those in the survey who requested to be contacted further to participate. Eight parents were contacted and five were interviewed. Three participants were unable to be interviewed due to availability. All interviewed parents were from Auckland, were female and were between the ages of 22-42 years. Each parent was given a letter to represent their name based on the order they were interviewed. For example, the parent who was interviewed first is documented as parent participant A (PPA). Three parents had two children (parent participant A (PPA), B (PPB) and D (PPD)), one had three (parent participant C (PPC)) and one parent had one child (parent participant E (PPE)). Parent participant B and E are both are teachers and used examples from their experience throughout the interviews. Parent participant C is a paediatrician and this is discussed in her interview. Parent participant A worked from home in an online business, and parent participant D was a stay at home mum who had asked her child’s childcare centre about e-picture books as preparation for the interview. Her own opinion based on these conversations with her child’s teachers are evident in her responses.

The early childhood teachers
Five qualified early childhood teachers were interviewed from Auckland. All five completed the survey and requested to be contacted further. They were all employed in early childhood centres and aged from 26 years to the eldest in her mid-fifties. Four out of five of the teacher participants also had children. Participants were numbered in order in which they were interviewed and are referenced as teacher participant one to five. Teacher participant one (TP1) was a centre manager, and has a child. Her responses relate more to her own child as well as her expectations of other teachers. The other four participants were teachers working with children in full time roles.
Interview finding themes

Theme one: general screen technology

*General screen technology: Parents*

The findings for the parent interviews demonstrated all participants had a range of perspectives on the use of general screen technology. There was a wide range of data which is divided into four sub-themes. The sub-themes are:

1. Parents confidence and use of screen technology;
2. Parents perspectives on the use of screen technology by society;
3. Parents describing how children use screen technology at home and how often
4. Parents’ perspectives on their children using technology.

*Parents confidence and use of technology*

All five parent participants used screens on a regular basis. Responses to the question “How would you describe your confidence using screen technology” included a variety of comments such as those below that confirmed generally high confidence levels:

*Medium confidence* (PPD).

*Highly confident* (PPB).

*Yes, so my business is entirely on my phone and computer* (PPA).

Deeper probing into the ways in which parents used screen technology found it was a regular feature in their lives, and, confirmed both high use of screens and a high level of confidence. For example, parent participant A discussed her own use and her confidence using screen technology as “confident” (PPA). Parent participant A worked online, and used her phone and tablet technology throughout the day, every day. She also described using screen technology for regular conversations with peers and sports teams. Similarly, parent participant B started with a discussion about technology and how screens dominated her life. She described her average day as “85% screen use, I am capable with the things I need to use, new stuff I need to research or watch a video to learn to use it” (PPB). Similarly, regular and confident screen use was evident from the interview with parent participant C:
I read a lot of stuff on the screen rather than books now, including Kindles, same content but have moved to using the screen for things I would have previously done on paper (PPC).

Parents perspectives on screen use in society
Further probing more into parent’s use of general screen technology found they were concerned more about the increased reliance on screens in society than their own use of screens. Participants followed their explanation of how often they use screen technology with a focus on society’s use. This was evident in the following statement from parent participant B:

I think it is a bit disappointing that society has got to the point where everything is screen based, predominantly phone based. That interaction, face to face conversation doesn’t seem to happen (PPB).

Parent participant C described the people she has worked with use of screens:

In my job I see a lot of people using technology in a way that is very intrusive in their lives, a lot of young people are up far too late at night, and it is impacting on their days, impacting on their mood. I definitely see the bad side of screens in our society (PPC).

How children use screen technology, and how often, at home.
All parent participants’ described how their children used screen technology at home. Further probing found all parents allowed their children access to technology, although the type of technology and time children had access, varied. Parent participant E described her child as having the least confidence of the participants, describing his confidence as “zero” (PPE). She describes how she does not allow him access to screens apart from:

he watches TV once every two or so weeks, if he is really grumpy, for ten minutes. (PPE).

In contrast, parent participant A described her children’s use of screen technology as being confident. They were able to use phones and tablets, find the YouTube APP, search, and play shows as illustrated by her comment that, “she can press the microphone on the iPad and say
what she wants, scroll through and find the video that she wants and put it on” (PPA). Parent participant D described her child’s ability to use screens as low, restricted to turning on the television. But she then described an event which had occurred a week prior to the interview which had surprised her:

She [her child] had access to my phone to look at photos. It is amazing how she knows how to use it. She worked out how to ring her father, and I didn’t even know how she did it! Without unlocking my phone! (PPD)

Parents perspectives about their children using screen technology

Parent participants had both positive and negative views regarding their children using technology. Opposing views were not only between participants but also within the same interview. Four parent participants gave both positive and negative perspectives on their children using technology. Parent participant A demonstrates this:

She [child] has learnt a lot from using it [iPad]. Like the other day she said ‘look mum, it’s my shadow’. And we haven’t talked about that before, so she had obviously seen that in an episode [of a television show] (PPA).

This was followed by:

Some days I look at her, when I am really busy and I have lost track of how long she has been watching... [hesitant pause] I look at her and she is really completely zoned out, staring at the screen, and I hate that. And I can see those afternoons really affect her behaviour (PPA).

Further questioning provided more details about what she meant by ‘affecting her behaviour’:

She is just really stroppy and demanding, she gets really needy, so if the computer is not on and she is entertaining herself, then she is a lot more responsive when I ask her a question, whereas, when the screen has been on or is on, she just zones out blankly (PPA).

Parent participant B also had opposing opinions. Here she described her children’s use of a computer:
She’s [her child’s name] is more confident using it, especially Google docs and Google Drive [...] her ability to navigate that stuff [Google] has really increased (PPB).

Followed by:

I guess it is in relation to their default setting, to choose technology whether it is addictive or not. And like when you say, turn it off, if there is a negative reaction, a significant response, if there is big heightened emotional response to it [...] Something that has crossed my mind a few times, is the amount of dependency on it she has (PPB).

Key findings for parents use of general screen technology

The key findings for parents’ perspectives on the use of general screen technology were:

1. Parents feel they are confident using screens and this type of technology features regularly in their daily lives.
2. Parents were concerned about societies use of screen technology more than their own use.
3. Parents allowed their children to use screen technology at home.
4. Parents felt both proud of their children’s in abilities using screens and cautious about the time spent and reliance they developed for screen technology.

General screen technology: Early childhood teachers

All interviews with teachers demonstrated some use of general screen technology. There was a range of perspectives and key ideas throughout. Therefore, this theme for the early childhood teacher participants is divided into two sub-themes:

1. Teachers confidence and use of screen technology
2. Teachers’ perspectives on children using technology.

Teachers confidence and use of screen technology

Throughout all teacher interviews it was evident that teachers lacked confidence using general screen technology. Three teachers described their confidence as low and teacher participant three described her confidence as “not very good” (TP3).
All teacher participants used technology on a daily basis, both professionally and personally. Four of the five teachers described their use of technology in their personal lives in a negative way. This is evident in teacher participant one’s response:

I use technology for like three hours a day? [...] you realise your life is your phone too often during the day. Often I need to put it away and stop looking at it (TP1).

This is also evident in teacher participant two’s response about her own use of technology “not good! It keeps me up all night” (TP2). As well as teacher participant four’s response:

I also think it takes a lot of quality time from you as a family, sometimes all you want to do is sit in front of the TV and have dinner, but sometimes it is good to turn the TV off and have dinner, and have conversation (TP4).

All teacher participants appreciated general screen technology and the opportunities it has provided for documentation and administration in their professional lives. This is evident in the transcript from teacher participant three:

My last centre had iPads. They were good, you could put music on it, all learning stories were on it, we took photos on it, it was quite cool, it is easier to do learning stories on [...] you could do everything on it, it was our camera, learning stories, all charts, everything (TP3).

Similarly, teacher participant two stated “we use technology but not directly with children. We use it for us, and we would play something on the iPad, not with the kids, we take photos with them” (TP2)

Teachers perspectives on children using screen technology
Teacher participants described how balance is needed in regards to children using technology. Four teachers described that ensuring children use technology in a balanced way was important. Further discussion probed teachers to describe what they meant by balance:

There are days that I see them working with screens in preschool, and I personally feel why not? They need to teach them what we are doing every day. But I also don’t believe in them sitting in front of a TV all the time. But I guess there has to be
discipline, again positive and negative. I do think it is important to let kids know and for them to have screen time (TP4).

This idea of balance was also demonstrated by teacher participant two:

I think it is ok to a certain extent, but not when kids are constantly on their iPad’s for hours and hours, there is a limit, [...]. It is important to know about technology. It is good to be introduced to it [...] I’m not against it but I am not for it, but there is a limit (TP2).

All teacher participants provided a negative view on children using technology. Teacher participant three highlighted her concerns with children using iPads, “it takes out the nurturing side of reading with them, the iPad becomes the third teacher” (TP3). Teacher participant two was concerned about children’s physical development and the influence screen technology could have on this: was similar to the comments by teacher participant two:

We don’t expose them to screen time [...] I don’t know if it’s a myth, but you know when it comes to their eyes and everything, that would be our concern. And they’re social skills, that is a big one for me. If they are constantly on the iPad if affects their social skills, I have seen it (TP2).

Key findings for teachers’ perspectives on general screen technology

Key findings for teachers’ perspectives on the use of general screen technology are:

1. Teachers described having low confidence using screen technology, albeit most of the teachers used screens in both their professional and personal lives
2. Teachers described the use of screen technology by children through focusing on wanting balance between access to technology and other aspects of early childhood education.
Theme two: picture books

Both parents and teachers described a range of different aspects of picture books which they valued. Both parents and teachers have three sub-themes evident in the findings. The findings are presented for parents first, then the findings for early childhood teachers.

Picture books: Parents

Traditional picture books were highly regarded by all five parents. The findings demonstrated three key sub-themes:

1. Picture books are valued as tools which support children’s development.
2. Parents valued quality picture books.
3. Parent participants enjoyed providing anecdotes about their experiences reading picture books, both as children, as well as with their children.

Picture books valued for their influence on children’s development

The findings demonstrated all parents valued children’s picture books as an important tool which influenced their children’s emergent literacy development. Parent participant A stated, “I think they are really important for new words and concepts” (PPA). Similarly parent participant D described “I love them, they are perfect and awesome for kids, it teaches the extra vocab we don’t use in everyday life” (PPD). As well as:

I think it is the concept of what a book looks like, and that the story is the same each time, and that becomes a concept about words and understanding and how a book is giving messages. If you could do one thing about children’s literacy when they are little, reading picture books is the thing (PPC).

Parent participant E also focused on the link between the pictures and the words when discussing how they influence children’s literacy development:

So I think that, in terms of literacy, looking at words there is really nothing better because there is nothing that in day to day life where a word and a picture connect the two ideas together and when you read it there is another sound as well (PPE).
Parents also described valuing picture books as a supportive tool in other areas of development. This included their influence in supporting children to make connections with others and learning more about their world. Parent participant A describes this when she said “When I was pregnant we got one of the You Are Going To Be A Big Sister [book title] books. And I think it was really good for introducing the concept” (PPA). After further discussion this participant also described her child making links between stories and her world: 

she knows she likes the story The tiger who comes to Tea [book title]. Last night she was pointing to the boy who is on a bike bringing the groceries in the story and said “but our groceries come in a truck”. She is making those connections (PPA).

This anecdote from parent participant D also demonstrates how she valued picture books for supporting her child to make connections with her world:

I love them [picture books]. Not only do they teach the extra vocabulary we don’t use in everyday life but teaches them lots of examples of other people. We have a book that I was reading to [child’s name] earlier, called Dinosaur Dad [book title]. [Reading from the book] “Some of them are prickly, some are tall, some a squat, some are not, and this is my dad and I like him as he is so kind”. It is relative to anyone’s dad, but it’s about dinosaurs. [Child’s name] said to me the other day, we were looking at a picture of something, mummy look, there are some big tall sky scrapers, and some squat ones! She learnt that from the dinosaur book! (PPD).

Quality picture books
Parents described how the books they preferred as a child dominated their decisions when reading or purchasing picture books for their children. Therefore, they considered these books as high quality. Discussions with parents found that they purchased what they felt were high quality picture books or received these books by parents who had experienced these books in a positive manner as a child. Parent participant A valued picture books she remembered as a child as well as those who friends and family had enjoyed as children, “for her first birthday we asked everyone to buy books and people have bought us the books they like. I remember that mum and dad read Hairy Maclary and Peepo [book titles] so we have them” (PPA). This was similar to a statement from parent participant C “when I went to the book shop up the road one person said, it is amazing how many parents come in for a particular book from
their childhood" (PPC). Similarly parent participant E said “you go to the library when you have kids and oh my goodness I remember those ones, like The Best Loved Bear [book title] and The Velveteen Rabbit [book title]. And like it’s funny, it’s such a nostalgic thing isn’t it, picture books” (PPE)

Further discussion resulted in three parent participants discussing aspects of picture books which they regarded as making the books low quality, which therefore, they would choose not to read or purchase. Parent participant C stated “I hate those picture books. Like the Wiggles [book series], you can tell that their [picture books] are crap. I like a bit of interaction with kids when you read a book. Not feeling like you’re going brain dead when you’re reading it” (PPC). Similarly parent participant E described her struggle with picture books:

Probably if kids were left to their own devices there would be more of what I would call crappy children’s books, but actually the reality is to win an award or to get cultural value it has to be something that adults are going to enjoy reading or feel like there is value in. I get books that have rhyming in them or words that are meaningful because otherwise I don’t feel like it gets us anywhere. I think in terms on what we buy and value as a family I would still make judgements. To me a book is superior because it gives them [children] vocabulary or an understanding of meter or rhythm (PPE).

One parent described her concern about picture books being low quality when they stereotype men and woman. She stated:

I don’t like picture books that stereo-type male and females. Such as mum is hanging out the washing and dads sitting by BBQ. Or dads painting the garage and mums doing washing. I talk to [child’s name] about what else does mums do, and she says they clean and I’m like oh no! (PPB).

Anecdotes about reading picture books
All parents responded to questions focused on specific picture books they liked to read by telling anecdotes. Three parents described a memory focused on reading picture books as a child. The discussion focused on what each parent participant valued in picture books based
on their childhood memories. All three valued a specific picture book or books and the positive feelings they had looking back at these. In discussion parent participant C explained that she remembered reading:

*I remember *Are You My Mother* [book title], my mother always talked about that this was the first book that I read back to her. Clearly it must have been fun to read. If I think back, I must be remembering the interaction, it was fun to read. *Mrs Wishy Washy* [book title]. I remember going when I was an adult with [child’s name] to the story lines festival and meeting Joy Cowley [children’s book author]. There were all these small children and me, and I said this was one of my favourite books as a kid. She wrote in my book to [participant’s name] who learnt to read with this grumpy washer woman. Isn’t that interesting, the books I remember are ones where there has been interaction around them stories around them (PPC).

Similarly, parent participant E described her love for the picture books:

*I can still visualise it* [The book called ‘The Giant Jam Sandwich’], I’ve read it as an adult, but I can still visualise some of the images. I was at my parent’s house the other week and found a few I’d forgotten about. *Annie and Moon* [book title] by a NZ author and *The Taniwha* [book title]. Anyway it’s funny, I have a weird feeling about this book, some books just give you this feeling (PPE).

Four parent participants described picture books in relation to the ones they enjoyed when reading with their children. Parent participant A described her nightly routine with her eldest child:

*Each night we choose three books, she doesn’t know the words but she will know the pictures and the name of the book and bring them over. The other night I got told off for skipping a page, we finally got there, it used to be fine, but now she knows them off by heart (PPA).*

Similarly, parent participant D also described her child’s favourite books:

*Her first favourite book was Bob the Fish. From like three months old if not younger. The wheels on the bus* [book title], by Donavan. I buy that for all of my friends and its cool for adults so I buy it for everyone. Its wheels on the bus but this one is NZ
illustrated and its awesome. It’s good for the adults, it’s cool and really well done. Kids love that book (PPD).

Key findings for parents and their perspectives on traditional picture books
The key findings for parents and their perspectives on the value of traditional picture books are:

1. All parents highly valued traditional picture books as tools to support children’s emergent literacy development.
2. Parents valued picture books as tools which support children to make connections with others and to learn about their world.
3. Parents judged the quality of picture books based on their own childhood memories.
4. All parents joyfully described childhood memories reading picture books. Remembering book titles, content and the experience of reading.

Picture books: Early childhood teachers
Similar to the findings for parents, all teachers valued traditional picture books. The findings from early childhood teacher participants demonstrated three key sub-themes:

1. Teachers valued picture books as early literacy tools.
2. Teachers feel picture books are a supportive tool for children’s social, cultural and imagination development.
3. Three teacher participants enjoyed providing anecdotes about their experiences reading picture books, both as children, as well as in their teaching roles.

Picture books valued as early literacy tools
Three teachers highly valued picture books as early literacy tools. Teacher participants focused on a range of emergent literacy skills in their responses. Two teachers were unsure about the link between early literacy and picture books. Teacher participant two was very positive in her perspective regarding the influence picture books have on children’s developing literacy:

Ohh I love them! Early literacy, font recognition, repetition, communication, early communication skills, sensory experiences, linking stories, analysing children stories
in their own way, imagination and obviously language development, what else? Obviously the font and the letters, we think they may not be recognising it but they are (TP2).

Similarly, teacher participant five also was very clear she felt picture books were a valuable early literacy tool:

They need [picture books] to encourage their vocabulary. Sometimes you get children who don’t want to talk. But with a picture book their vocabulary can flow. It also gives them a chance to listen to others as well. Picture books are just an amazing tool, in any child care centre or house (TP5).

Teacher participant one was one of the two teachers who were unsure. She explained her point of view on using picture books to support children’s developing literacy as:

It’s hard to know, I think they [picture books] would be, they create conversation, especially if they do not have any words, or it’s not a full on story so you are forced to discuss the pictures, so from that perspectives it is good (TP1).

Similarly, teacher participant four explained her perspective on picture books as a literacy tool:

I don’t know if it is important, I have read a lot about it, they say it gives so much concentration and fine and gross motor skills. I don’t know, I don’t have a set answer for it, I don’t know if it 100% working. I mean yes what every you read in books would increase vocabulary, but you can also develop vocab in your daily conversation. It depends on the child as well, if a child is interested in sitting for a long time reading books, cool, if he is not interested you need to add these to your conversation to so yes and no, both (TP4).

**Picture books influence on children’s development**

In discussion with teachers about children’s literacy three teachers described the influence picture books have on children’s development. Picture books were described as tools which support children to understand and develop social skills and imagination. This is evident in teacher participant two’s description:
I think [picture books] helps with their social skills, when you are sitting down reading with them, it is social, it is interactive, I think that is the main thing! They are quite relaxing (TP2).

Teacher participant five described her perspective that picture books supported children’s imagination, “once you give a child a picture book, they can make up a story. It is that imagination that works with those picture books” (TP5).

Further probing supported this participant to also describe how she uses picture books to support young children with autism when she is working in early childhood centres. She described:

We know about the Thomas trains and the good things about Thomas books [Thomas the Tank Engine series of stories]. The faces are big. They help children with autism. It’s the face and the face is big and in your face and an autistic child can read that face. They can’t read many faces but they can read that one. You can find children with autism can read those ones (TP5).

Teachers anecdotes about reading picture books

Four out of five teacher participants used anecdotes to describe their perspectives about the value of picture books. Teacher participant two described her favourite book from childhood as an example of how she valued this resource. She focused on the story and her memory of reading these, “the one I loved was Rainbow fish [book title]. It was my favourite and it still up there, it is one I really really remember. It was just a good story” (TP2).

Further probing let to teacher participant two also describing her experiences as a teacher. She talked about reading to children at least once a day. She would often choose to read them the Rainbow Fish book mentioned earlier. Teacher participant five also used an anecdote. She focused on her favourite book series Jack and Jill:

I had the Jack and Jill books. I used to love them. They used to have words but you could still make up your own story from them. They had children in the story and you could relate what you did as a child and what they were doing as a child. You could relate to them and what they did (TP5).
Three teachers used anecdotes focused on the experience of reading to describe their perspectives. Teacher participant one described her perspective on picture books as the feelings she remembered of reading with her mother:

*I think it was the feeling of sitting down with mum and having a cuddle and reading a book, I don't think I remember mum reading a specific book, but is just the feeling of sitting down with mum or on dad’s lap and reading a book and just flicking through the pages, those things were important* (TP1).

**Key findings for teachers and their perspectives on traditional picture books**

Key findings for teachers and their perspectives on the use of, and the value of traditional picture books are:

1. Teachers valued picture books as tools which support children’s emergent literacy development. Albeit, two teachers were unsure on the importance of these tools for children.
2. Teachers felt picture books also supported children to develop social skills as well as their imaginations.
3. Teachers enjoyed providing anecdotes about their favourite stories from childhood.
4. Teachers valued their childhood memories focused on the experience of reading with others.

**Theme three: e-picture books**

This section will present the findings for the third and final theme from the interviews. It will present the findings from parents followed by the findings from early childhood teachers. Over half of all participants, six out of ten, had experience with e-picture books prior to the interview. This theme is presented in six sub-themes for parents and five sub-themes for early childhood teachers.

**E-picture books: Parents**

Parents provided a wide range of information focused on their perspectives. This included a range of issues or concerns with children reading e-picture books as a literacy tool. The findings for this theme are presented in six sub-themes:

1. Parents’ experiences with e-picture books.
2. Parents’ concerns about the use of e-books as a literacy tool.

3. Parents highlighted concerns regarding how e-picture books may decrease the interactions children have with others while reading.

4. Issues with language and accents.

5. Issues with physical devices required to read e-picture books on.

6. Positive aspects of e-picture books as a literacy tool.

Parents’ experiences with e-picture books

Three parents had previous experience reading e-picture books and two had not. Three parents had experience reading e-picture books through their local educational facility, one early childhood centre and two primary schools. Parent participant C and E both had negative experiences reading e-picture books due to the low quality of books provided within the app. Parent participant E had experience with e-picture books as both a parent and as a teacher. She described her experience in relation to the reduction in quality of these picture books when they moved from the printed version to the digital version. Parent participant D had experienced e-picture books in her child’s early childhood centre. She was impressed and had actively engaged in conversation with the teachers regarding this literacy resource. Both parents A and B had not experienced any e-picture books. Parent participant C’s description of her experience with Reading Eggs, an e-picture book app which holds a range of e-picture books for downloading and reading:

_I had a relatively negative experience with e-picture books. When [child’s name] started school, they signed him up to Reading Eggs. I really couldn’t see any value, over and above reading a book. I don’t they had very good books. Maybe if they had been the same books we were currently reading it may have been a better option (PPC)._  

Parent participant D had asked her children’s childcare centre about my research before being interviewed. She learnt that the centre uses e-picture books regularly and they spent time showing her their iPads and offering her some downloads to have at home. She described her experience with these e-picture books, and the descriptions from the teachers as very positive:

_I haven’t but they do it at [child care centre’s name] quite often in the afternoon. I can’t remember now what it was, but she said how we can just download myself at home (PPD)._
Loss of emergent literacy skills

All parents were concerned about the difference between reading a printed picture book compared to an e-picture book in regards to children’s emergent literacy. Parent participant B focused on skim reading and the inability to skim read an e-book like you can a printed book:

What about their ability to skim read? That is one thing that I have noticed when I am having to look at digitised screens. When reading, I will have a look at that section, flick through the section title. In an e-book you have to go page by page. You can’t quickly look for a picture you are after (PPB).

Parent participant E focused on emergent literacy skill of making judgements about books and their content before reading them. She talked about:

What about judging what you want to read based a title based on a picture on the front? If you don’t have those to base judgements on you could either be a put off or you could be reading things that are not that appealing to you. If you are a good judge of books and titles you are going to be able to decided not just books and titles but other information you can see on the front and the side, like how thick it is. I think a child can make those judgements, especially an older child of three or four. I think those are important literacy skills, and you do lose those literacy skills with e-books (PPE).

Parent participant E was also concerned with aspects of traditional picture books which are lost when traditional picture books are digitised. She had experienced this working with children as a teacher as well as trying to download some for her child:

Quality is more than good quality words. Often the page is the cliff hanger. This never happens in adult’s books but it always happens in children’s books. The actual page is the cliff hanger and waiting for the page to turn is the important bit. Not all books have the same dimensions. A digital device has set dimensions. But if I think about some of the high quality child’s books, like Animalia [book title], part of the joy of Animalia is each page has the different background and that cannot be replicated on a different size and dimensions as you would have to change how the pictures were. The joy of tiny books and the joy of big books, I think you lose something in the detail
when the size is standardised. I don’t know if you have seen the book Planes Go [book title]. It is published long and thin, 25cm long 10cm high. With a plane on each page, and each page tells you how planes go using noises. Onomatopoeia words. How would you put that into a digital format? Another issue for the most part, the books are in single page format. A lot of picture books have images and words go across two pages which a graphic designer has thought about and purposely done. And that is the difference between quality book and not a quality book, someone has thought about the effect of the words, pictures and the whole thing, the size and images are thought about. Devices are not made for children so what we need is not only high quality e-books or high quality good books that are e-books but high quality devices so they don’t lose those aspects (PPE).

Loss of interaction

All five parents discussed their concerns about the ability of e-picture books to read stories aloud to children. All parents described how they value sitting and reading with their children. They all considered the ability of e-picture books to read the story to a child as a way of offering a tool which allows them to leave children to read on their own. Parent participant A and B felt e-picture books could become a baby sitter. In discussion, both parents A and B felt an e-picture books which could be read aloud allows parents to walk away. They were concerned this option will reduce the time spent reading with children:

*What I think the problem would be is you can just give this to your child and put it on and walk away, and then you lose the interaction of sitting and reading to your child. It just makes the technology as a baby sitter even worse (PPA).*

*There would be the temptation of giving it to the child and use it as a way of doing the washing or something, whereas with a book and you snuggle (PPB).*

Parent participant C agreed with A and B:

*The one danger I think is screens are probably easier to be lazy with, in all regards, as a parent it is easy to be lazy with screens (PPC).*

Whereas, parent participant E explained her perspective on the ability of e-picture books to read stories allowed as:
If I am unable to read to him then having a digital book read to him is fine. Not that I want it to be his only source of literacy. But I think that we are all busy, teachers are busy. I’m having another baby so I won’t be able to read to him every few minutes. Even at the best ratio in ECE it is not one to one (PPE).

Language and accent concerns

A concern by three of the participants focused on language and accents. They were concerned the APP which reads the story does so in either another language or in another accent. Parent participant A describes her thoughts on this:

One thing we have noticed, with YouTube, a lot of the videos that [her child’s name] watches are read by someone who does not have English as a first language. And so there is a problem, if you have watched something and they [YouTube] keep suggesting it again, it starts to influence how your child speaks! [Child’s name] watches Peppa Pig [YouTube show for children] and she says Richaaaard Rabbit rather than Richard. And now she says daddy in an English accent. So if you read to them you get our awesome kiwi accent (PPA).

Parent participant D had a similar experience with a television show. She was concerned about her children learning to speak in a foreign accent when she was watching television:

One of [child’s name] favourite shows is Doc McStuffins [television show]. It’s about an American girl whose mum is a Doctor and she is a Doctor to stuffed toys. But now she [her child] says ‘daaaance’ in an American accent and then I need to say it clearly in an NZ accent. I think the same is probably true for these reading books. If they have certain accent or way of saying things kids will pick up on that, as its not you reading to them, and they copy (PPD).

Parents issues with the physical digital device

Four participants raised concerns with digital devices focused on the loss of the tactile nature of traditional books and a concern about the screen lights and brain activity. This quote from participant A demonstrates the parent’s concerns about the loss of the tactile element of traditional picture books: “there is no paper, that’s like my thing, its tactile, it stimulates more senses, sounds of page turning. Maybe they should add page turning noises” (PPA). Parents
also raised concerns about the back lighting and brain activity, for example: “there is that thing about light, blue light and activity of the brain that happens and tactile-ness of swiping on a screen rather than that totally different feeling of reading a book” (PPB).

Parent participant E was concerned with the physical device in relation to both children’s understanding of the purpose of the device, as it was not only for picture books:

*A device has so many uses, it’s a camera it’s a TV its so many different things. What does he [her child] think when I pick up an iPad, does he think I want to read him a story, or does he think I want to play game or does he think I want to take a picture. Like he’s got no concept of what purpose I am using it for. That difficulty I think is that the device is multipurpose, where a book is not (PPE).*

*Good resource, as well as, not instead of, picture books*

Four of the five parents concluded that e-picture books could be a valuable resource in addition to picture books; Not a replacement for traditional picture books. This was highlighted by parent participant C “*I suspect it is a valuable tool, without knowing the research behind it, it would be an as well of not instead of*” (PPC). Similarly, parent participant D’s commented “*I think if they wanted to have them [e-picture books] there [in her child’s childcare centre] it wouldn’t matter, as long as they didn’t replace books*” (PPD).

Further probing of parent participant A engaged her to provide an example of how else she could see e-picture books being used:

*If I was going somewhere, like a plane ride, and I didn’t want to take a whole bunch of books, I think is a really cool thing. You could choose the book and choose things they like, have control and make sure you know what is in there (PPA).*

Two parents focused on the opportunity of having digital e-picture books as well as traditional books. They felt offering e-picture books could support children to learn more about technology. Parent participant A commented “*well, it is the way the world is going, people do have to learn how to do all of this*” (PPA). Similarly parent participant E described:
I think that’s fine [providing e-picture books for children to read], if anything it is actually quite positive. A book is a great way to learn some digital skills without having to know all of them. You would get some great digital literacy alongside the book literacy from having a book like that, I think that’s really valuable (PPE).

Key findings for parents’ perspectives on e-picture books

The key findings for parents’ perspectives on e-picture books for use by children are:

1. Most parents had experienced e-picture books, although there were concerns about the quality of the digital books.
2. Parents are concerned about e-picture books lacking the ability to provide children opportunities to learn important emergent literacy skills.
3. Parents are concerned about the ability of e-picture books with read aloud functions to become baby-sitters and reduce the time spent by parents and teachers reading with children.
4. Parents are concerned about the language and accent of the person reading the e-picture book within the APP.
5. Parents are concerned about the digital devices which e-picture books are available on due to the back lights, safety concerns and loss of tactile experiences.
6. Parents felt e-picture books were valuable and should be used for reading with children but only in addition to traditional printed picture books.

E-picture books: Early childhood teachers

The interviews with early childhood teachers provided their perspectives on the use of e-picture books as an emergent literacy tool in early childhood settings. The findings for this theme are presented in five sub-themes:

1. Teachers experiences using e-picture books.
2. Teachers concerns about digital devices.
3. Teachers’ perspectives on the use of screens and their influence on children’s emergent literacy skills.
4. Teacher’s feelings that e-picture books are more for at home use.
5. Teachers request for more research to provide support in decision making.
Teachers experience using e-picture books

Three teacher participants out of five had experienced e-picture books in an early childhood centre. All five teachers had an opinion on e-picture books and supported their opinion based on their own use of general technology and their experience with traditional picture books. Teacher participant one uses e-picture books on her phone:

I do have one on my phone, Rumble in the jungle [e-picture book title]. I have had that on my phone for a couple of years now. They are great, they turn the page automatically. I would consider [providing more e-picture books in her centre], I probably wouldn’t have many, I would prefer normal books but I don’t see why not for having a few digital versions (TP1).

Similarly, teacher participant four had also experienced using e-picture books with children in an early childhood setting:

When I worked in [name of centre] I went on the Ministry of Education website and read a few books to the children. It was a usual tool we used. Kids like it, it was convenient. You knew it was from Ministry website so you know the content is good where as if you use something from YouTube you are not sure what else may come up on the screen (TP4).

Two teachers had not experienced e-picture books. Both teachers provided a range of reasons why they felt they should not be used by children in an early childhood setting. Teacher participant two stated “I’m not a huge fan to be honest, not with the age group I work with, I’ll stick to the old fashioned books” (TP2). Teacher participant five described her perspective:

There are so many different things you need to think about. I personally don’t like e-books, but you do have those parents who do, and then when do I use it? What if some children’s parents say yes you can use it and a lot of mums of say no you can’t (TP5).

Concerns about the devices and children’s eyes and brain activity

Teachers were concerned about children’s use of digital devices focused and how screens may impact children’s eyes and brain activity. Teacher participant one stated “I know they [e-picture books] are not good for your eyes” (TP1). Participant two agreed stating “the screen could affect there’re eyes” (TP2). This was also commented on by teacher participant three “Also, what about funny eyes after reading a screen for too long!” (TP3). Participant five
described the importance of reading books to children before they have a nap as a tool to support children to move into a state of rest. If these were replaced with e-picture books she was concerned:

> I feel that there is so many things around the e-books that cause problems. For example, you give a child ‘e time’ [time on a screen] five minutes before they go to bed, then their brain is still going to be going and will not be in that resting stage (TP5).

**Screens and their influence on children learning emergent literacy skills**

Teachers felt e-picture books could support children’s emergent literacy skills development. Albeit, all teachers preferred traditionally printed picture books. Teacher participant one described her perspective on e-picture books as an emergent literacy tool:

> I don’t think there will be a difference at all, the learning will be the same, like a real picture book is more interactive as you are physically turning the pages, but that is griping at straws (TP1).

Similarly, teacher participant two also felt screens could support children’s emergent literacy skills development, but as part of a bigger picture:

> I think yes, literacy definitely could be introduced through screens, but limited, not just screen literacy, there should be other forms. Literacy should be as a whole, not just on screens or books but in different areas (TP2).

Two teachers were concerned and vehemently disagreed with children having access to screen technology as an emergent literacy tool. Teacher participant three was primarily concerned with the decrease in interaction between a child and an adult when using as screen, “it takes out the nurturing side of reading with them. The iPad becomes the third teacher” (TP3). Similarly, teacher participant five had multiple concerns focused on different aspects of emergent literacy:

> A child needs to know how to use a book, not an e-book. A child can swipe a screen at any age, we know that. With an e-book are the illustrations the same? Do you get the same illustrations as from the book? There is so many different things, if an e-book talks to you, is it in an English accent, in an American language, is it the right
language for the child? But for teachers we want to be able to offer them books so they can hold a book. They need to learn that a book has a front cover. On a screen there is no front or back cover. Do they know where to start? (TP5).

Two teachers provided some positives about children reading e-picture books in relation to learning literacy skills. Both parent participant two and four described how these books could support children to learn e-literacy and screen technology skills they will need when they are older. Teacher participant two stated: “I think it is good to a certain extent for early literacy. Such as sign language or tapping on a word that would say it” (TP2).

Similarly, teacher participant four was very positive in her use of e-picture books, but specifically iPads:

I am sure kids are interested in both platforms [e-picture books and printed picture books]. It is important to have both of them; I wouldn’t say just iPads because we are going towards technology. It is important, but I would be happy, the best thing would just be seeing children read books (TP4).

E-picture books are more appropriate for parents to use at home

Teacher participants’ perspectives focused on the use of e-picture books by teachers in an early childhood centre. They focused their discussions around how they felt teachers reading a book on a screen is lazy. Three teachers commented on how e-picture books are inappropriate for an early childhood centre and should be something parents engage with at home. Teacher participant two described:

Why an e-book? Why not a proper e-book? Why are you doing it to that a child? Are you being lazy? Or are you just playing it because you can’t be bothered. That would be my instant reaction (TP2).

Three teachers also commented that e-picture books are not suitable for an early childhood centre as these are more appropriate for parents to use at home:

I think in ECE a child should be able to have an actual book. To me that link [the e-picture book] is more for parents and should be sent to parents, it is a parent’s choice if they want to let their child read on a screen (TP5).
I personally think that parents are paying a lot of money for you to put a child in front of an iPad (TP3).

More information is needed to help teachers make more informed decisions

Three teachers asked questions about e-picture books. These three teachers were interested and engaged in discussion about the use of screen technology in early childhood centres and current research. All three teachers wanted more information so they could make a more informed decision. Teacher participant one was interested in learning more about what was on the screen and if this would change the recommendations on how often children can use screens:

When we lump screen time together, are reading books the same as playing a game? Is this also the same as watching paw patrol on the iPad? They are still staring at a screen, but is it all the same? Or are some types better than others? Is screen time just screen time, no matter what you are doing on it (TP1).

Teacher participant two was also interested in time spent using a screen, “on average how long should children be spending reading an e-book? Should there be a maximum time? What would that maximum be as it is a screen” (TP2)? Further probing gave this participant time to talk about how she would like more research focused on comparing e-picture books to traditional books. This would provide her with more information to make more informed decision:

Maybe compare, compare both books to e-books, pros and cons for both. Just so parents, and me, can see both perspectives. As I do think it is good for educators and parents to know about pros and cons for both types. And the limit, that is one thing I really want to know (TP2).

Key findings for early childhood teacher perspectives on the use of e-picture books by children as an emergent literacy tool

The key findings for early childhood perspectives on the use of e-picture books by children as an emergent literacy tool are:
1. Some teachers had experience using e-picture books in early childhood centres, but all teachers had an opinion on this.

2. Teachers were concerned about the impact on children’s eyes and brain activity when they are reading from screen devices.

3. Teachers felt e-picture books could support emergent literacy skills in addition to traditional picture books.

4. Some teachers felt e-picture books would negatively impact children’s experiences when reading.

5. Teachers felt reading e-picture books in an early childhood setting is considered lazy, they are more for parents at home.

6. Teachers would like more research to support them to make more informed decisions.

**Consolidated views of parents and teachers**

Triangulation of the data has been achieved by the presentation of responses to the interview questions from two perspectives; those of parents and those of early childhood teachers. Several issues that arose in common have been summarised in Table 5.1 to illustrate similarities and differences between the perspectives.

**General screen technology consolidation**

All ten interviewees identified that they used some form of screen technology on a daily basis. Parents were a lot more confident of their abilities using screens than teachers. Parents regularly referred to either their own use or the use of technology by ‘others’ in their responses. Whereas, teachers were clear between discussing their own use of technology away from children in comparison to using technology with children. All interviewees valued technology in their lives, although teachers had more concerns about children using screen technology than parents. Parents felt their children were competent and confident users of technology. In comparison, most teachers described children using technology, but did not mention whether they felt children were confident or competent users. Parents were more confident and positive about children using general screen technology in a balanced and supported manner compared to teachers.
**Picture book findings consolidation**

Traditional printed picture books were valued and highly regarded by most interview participants. Most parents and teachers described their love of picture books and valued these as important tools which support young children in their development. Both parents and teachers discussed how traditional picture books are influential on young children’s emergent literacy development as well as on other areas of their development, including social skills and making links with their wider worlds. Both parents and teachers enjoyed reminiscing about their favourite picture books as children and told anecdotes as examples to explain their perspectives, focused on how influential picture books are on children’s development. Parents discussed what they felt were quality picture books which was not touched on by teachers. Teachers focused more on their childhood memories of the experience of reading picture books, rather than on the picture books themselves. Overall, all participants felt traditional printed children’s picture books are valuable tools which positively influence young children’s development.

**E-picture books findings consolidation**

The majority of participants had some experience with e-picture books although most did not value these experiences as positive. Both parents and teachers were concerned that e-picture books could negative influence a child’s development, especially in relation to the child’s brain activity, eye-sight development as well as their language development. Parents had many concerns about the changes to the picture books themselves when they were digitised, and the difference between a digital book and the original traditional picture book. Teachers in comparison did not mention the quality of the books at all. Parents were concerned about the ability of e-picture books to read aloud to children as this could become a babysitting device. Similarly, teachers were concerned that the use of a digital e-picture book was lazy due to the decrease in reliance on the teacher to read the book. Overall, parents and teachers felt e-picture books could be a valuable emergent literacy resource in addition to the use of traditional picture books, parents were more concerned about the quality of the digitised picture books whereas, teachers felt the use of e-picture books could be seen as lazy in early childhood education but would like further research to support them to make a more informed decision.
Table 5.1: Summary of perspectives of parents and early childhood teachers

<table>
<thead>
<tr>
<th>Key concerns</th>
<th>Parents perspectives</th>
<th>Teachers perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to screen technology</td>
<td>All parents and most teachers used screen technology regularly and provided children some access to these tools. Albeit most participants were concerned about the impact this was having on eye-sight and brain development</td>
<td></td>
</tr>
<tr>
<td>Picture books as an emergent literacy tool</td>
<td>All participants valued picture books as an emergent literacy tool, they valued memories of being read to as a child and read regularly to children.</td>
<td></td>
</tr>
<tr>
<td>e-picture books as an emergent literacy tool</td>
<td>All participants felt e-picture books could support children to develop some emergent literacy skills, but not all.</td>
<td></td>
</tr>
<tr>
<td>Digital screen technology resources impact</td>
<td>Most participants were concerned about the influence of digital resources on children’s language development, specifically focused on the development of accents.</td>
<td></td>
</tr>
<tr>
<td>language development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child/adult relationship when reading</td>
<td>Most participants were concerned e-picture books could decrease the amount of time adults spend reading to children, as the digitised book could read the story aloud without an adult.</td>
<td></td>
</tr>
<tr>
<td>Digital e-picture book versus traditional</td>
<td>Parents were concerned the quality of picture books were reduced when digitised.</td>
<td>Teachers felt e-picture books were not appropriate for ECE.</td>
</tr>
<tr>
<td>picture book</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perspectives on the use of e-picture books as</td>
<td>Parents felt e-picture books were valuable and could be used for reading with children but only with caution, and, only in addition to traditional printed picture books.</td>
<td>Teachers felt more research was needed before they were willing to provided children access to e-picture books regularly in early childhood centres</td>
</tr>
</tbody>
</table>
CHAPTER SIX: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The consolidated key findings of the previous chapters demonstrate that both parents and early childhood teachers use screen technology themselves but have a range of concerns about young children using e-picture books as an emergent literacy tool. They both highly value traditional books as an emergent literacy tool for young children.

This chapter systematically discusses findings related to the three research questions of this study. They were:

1. What are critical issues related to young children’s literacy skills development when they read e-picture books?
2. What are parents’ perspectives of the value of e-picture books for young children’s literacy skills development?
3. What are early childhood teachers’ perspectives of the value of e-picture books for young children’s literacy skills development?

Findings for each of the research questions are discussed in subsections. The first question has two key subsections: critical issues for parents and teachers with children’s access to screen technology and the literacy differences between traditional picture books and e-picture books. The following two sections discuss views on young children reading e-picture books for literacy development; first the parents’ and then early childhood teachers’ perspectives. Following the discussion of findings, conclusions drawn from the study are described and recommendations for future research proposed.

Critical issues regarding young children reading e-picture books on digital devices

In all of the interviews, critical issues emerged focused on whether e-picture books were an emergent literacy tool for young children. Two key focus issues arose from these discussions. Firstly, all participants had concerns regarding whether children should have access to general
screen technology that influenced their opinion on e-picture books. Secondly, they were concerned about the possible effect of general screen technology on children’s behaviour, brain and language development.

It is important to note that although this research investigated the participants’ attitudes to screen technology, their use of screen technology themselves is implied through the selection process, which occurred through the completed online surveys on Facebook. This informs the assumption that they use screen technology during the day, as they were online when they conducted and completed that survey.

**Screen technology: key influences on providing children access.**

The key consolidated findings focused on the use of screen technology by young children and found this provision is influenced by two key aspects. Firstly, the participants’ confidence with the technology, followed by their concerns about the use of screens. Following this, a discussion on the perspectives of both parents and teachers in relation to whether young children should have access to screen technology.

One key aspect influencing the participants’ perspectives was their own confidence using it. All participants used screen technology in their personal lives, although parents were more confident and more positive with four of the five parents being confident in their ability to use this type of technology. In contrast only one early childhood teacher stated she was confident. Hartherly et al. (2009) highlight the importance of parents and teachers’ abilities to confidently work with screen technology and how this influences their ability and willingness to provide this technology to young children.

Four of the parents were more concerned about societal use of screen technology than their own use. This demonstrates their concerns about other peoples use of digital screens and how they are wary of this impacting on their lives. Importantly, this influenced their own perspectives on whether or not e-picture books are a valuable emergent literacy resource. They were concerned about others use of screens, and these concerns about others also included their children. Brownlee and Crisp (2015) highlight the importance of ensuring children do not use screen
technology and are supported by Gibbons (2015) who also expressed concerns with society’s use with it.

Interestingly, even though four of the five parent participants were concerned about society’s and others’ use, of screen technology they were not overly concerned about their own use. Hou et al. (2016) discuss how our expectations of tools such as digital screen technology is influenced by our experiences with them. Furthermore, they studied adult readers, comparing the ease of reading on a screen versus traditional paper. They concluded those who had experience reading on screens were more confident and able to use digital technology for reading (Hou et. Al., 2016).

In comparison, four of the five early childhood teacher participants were more concerned about their own use of screen technology and were interested in finding ways to decrease this. When discussing their own use of screen technology, the early childhood teacher participants described their concerns about screens being always available, albeit useful for documentation and administration. The parents’ concerns with their own use of technology is reflected in Whyte’s opinion piece highlighting new disorders such as ‘internet-use disorder’, which is the result of people’s overuse of technology and developing an addiction to the internet (2012). This is supported by Khoo et al. (2015) who describes a range of opinions describing our overuse of computers.

Interestingly, comparing the use of technology by the early childhood teacher participants in their careers with that of parents, reveals that it is evident the early childhood teacher participants did not require it as much as the parent participants. Early childhood teachers rarely used screen technology when teaching, describing it as primarily reserved for administration and documentation. In contrast, one parent was a stay at home mum and used screens as part of her personal life. Whereas the four mothers working outside of the home all relied on screen technology as an integral part of their professions. This difference in reliance on screen technology within careers resonates with Hatherly et al. (2009) research. They recommended that teachers further their professional learning in digital technology as they recognised the gap in their knowledge compared with other career paths. Similarly, Coriro (2003) describes how early childhood teachers’ current comprehension of digital literacy is seriously confined and urges an
urgent expansion of their understanding. Further evidence of teachers using screen technology for administration but not with children is also highlighted by researchers who focused their studies on providing centres with access to iPads (Ihmediah, 2014; Bebell & Bedulla, 2015; Khoo, et al., 2015). Therefore, evidence suggests that there are many early childhood teachers who do not regularly use screen technology in their teaching, albeit they do for documentation whereas, the parent participants relied on screen technology as an integral aspect of their job requirements.

My findings found both the parents, teachers and children in this study had regular access to screen technology in their daily lives which resonates with the literature indicating the increase in the use of screen technology in our society. The Colmar Brunton (2015) study of people living in New Zealand found 72% of children had access to some form of screen technology such as a tablet and 58% of children had access to a smartphone. Adding to this, Bebell and Pedulla (2015) and Hou, et al. (2016) discuss the importance of children developing an aptitude for using screen technology in response to the growing demand for these tools in their everyday life, education and careers. This research reveals the possibility that parents are more interested than teachers in providing children with access to screen technology as a tool for learning and education.

Interestingly, the findings indicated that parents were more confident than the teachers in allowing their children access to technology. All parents allowed children some access to technology, and four out of five described their children as confident in using it. Whereas three of the five teachers were not interested in allowing children access and one teacher was clearly felt deeply about this and felt children knew how to use screen technology more than they should. Interestingly, parents with higher use and confidence with screen technology were also more positive about their children using it. Parent participants B and C both described themselves as “highly confident”, use technology for most of their daily work and described their children as confident using screen technology in a wide range of ways. Four of the early childhood teacher participants felt that children should not have access to screen technology. This is supported by Brownlee and Crisp (2015), Flewitt et al. (2015) and Gibbons (2015) who all argue against children having access to electronic devices in their early years. Similarly, Oldridge’s (2010) New Zealand research found all early childhood teachers interviewed saw little importance integrating screen technology into their early childhood centres and Anderson and
Subrahmanyam (2017) highlight how screen technology for young children has been associated with negative cognitive development and anti-social behaviour.

Interestingly, teacher participant four is also the only teacher who was highly confident using technology and had experienced positive aspects of using screen technology with and alongside children in her early childhood centre. Similarly, Hartherly et al. (2009) highlighted the importance of children having access to screen technology and Geist (2012) concluded that it should be a staple of the early childhood environment.

Deciding whether a child has access to screen technology was a key issue in the findings and it was evident that participants’ perspectives regarding this were influenced by their own confidence and the extent to which their lives and their careers depended on it. It is clear that the parent participants were confident and relied on screens as important in their careers and personal lives and therefore they were more willing to provide their children with access to screen technology. In contrast, the early childhood teacher participants had lower confidence in their ability using screen technology, described less of a need to use it in their career, and most did not use screen technology with children. Tellingly, the majority of teacher participants actively prevented children’s access to screen technology in their early childhood education settings.

**Screen technology and its impact on children’s development**

Findings from this research demonstrate both parents and teachers were concerned about the possible impact of screen technology on children’s development. There were three main areas of concern: it’s the impact on children’s behaviour, their brain development and their language development.

Both teachers and parents were concerned about the impact of the use of screen technology on children’s behaviour. This concern about how children’s behaviour changes after using screen technology was also evident in the findings from teacher participant two. This resonates with Anderson and Subrahmanyam’s (2017) research which concluded that anti-social behaviour develops when young children have access to screen technology, which they describe as digital media. Similarly, Khoo, et al. discuss social and learning complications when young children
spend time on a computer. They concluded that the use of screen technology by young children as harmful (2015).

Khoo et al. (2015) also highlight concerns regarding young children’s cognitive development using screen technology which is reflected in teacher participants’ attitudes in this study. This is clearly evident in teacher participant five’s description of an example of when she feels using screen technology would have harmful effects on a child’s brain development. Similarly, Anderson and Subrahmanyam (2017) highlight how exposure and access to digital media for children under the age of two is associated with negative cognitive development and Brownlee and Crisp (2015) describe how early exposure to screen time steals brain-development time from play and substitutes it with non-brain development time.

Participants’ third major concern was the impact of screen technology on children’s language development. This was a large concern for four of the five parents who participated. These concerns resonate with Flewitt, et al. (2015) research who highlight the importance of discussion about how children develop their emergent literacy skills and their language identity through use of screen technology. They argue children who are using digital media are moulded by that media rather than the conventions of the social and cultural worlds they live in.

From the findings of this research I conclude that parents and early childhood teacher participants were concerned with whether children should have access to digital devices (to enable them to read e-picture books,) and were concerned about the possible impact on their behaviour, brain and language development. They felt that these concerns were critical issues which would affect their perspectives on whether or not children should have access to screen technology to read e-picture books as an emergent literacy tool.

**Parents’ perspectives on using e-picture books as an early literacy tool for young children**

Parent participants had a range of perspectives on the value of e-picture books for young children’s literacy skills development. Three of the participants had prior experience with e-picture books” Parent participant D had experienced e-picture books through her child’s early
education provider whereas parent participant’s C and E had negative experiences, describing the e-picture books as low quality and regarding them their apps as a waste of time. The key findings highlighted two areas of concern which influenced parent participant’s perspectives: the quality of the e-picture books and the difference between traditional picture books and e-picture books in relation to the books being used as an emergent literacy tool.

Quality picture books
Parents felt that not all picture books are equal, some being better than others, describing a range of features they deemed ensured a quality book, especially in regards to children’s emergent literacy. Booth (2005) highlights one key aspect of developing print and phonological awareness skills when picture book reading that supports children’s emergent literacy skills. This key aspect is the importance of ensuring picture books are read aloud. Similarly, Bull and Anstey (2002) discuss how the images in quality picture books are designed with specific learning in mind and ensure children have the best opportunity to understand and explore their meaning through engaging in conversation about them.

The difference between traditional picture books and e-picture books
All parent participants were concerned about physical elements of e-picture books that are different to traditional books. They felt the key aspects of children’s early literacy learning in traditional picture books are not available within the e-picture book. Parents felt these differences are significant and would therefore negatively influence children’s literacy learning. None of the early childhood teacher participants mentioned the quality of picture books in their interviews.

Three parents were concerned about the inability of e-picture books to support children to develop a range of reading skills including that of skim reading. Picture books are physical and children can flip through the pages, looking at pictures and reading different aspects of the story. Skim reading also allows for children to develop research skills and searching for information (Al-Yaqout & Nikolajeva, 2015). Booth (2005) discusses the importance of children learning and observing those around them exploring traditional books so they can learn about the mechanical aspects of texts. This learning of how to use books supports children to develop the physical motions and understanding of literacy and reading (Booth, 2005).
Parent participant E was concerned about the inability of e-books to support children’s decision making skills based on their physical nature, and its relationship to the type of story inside. She described how e-picture books do not demonstrate to children how thick the books are and thus the length of the story. She continued to describe this concern with discussion about the physical differences of the cover of e-picture books and traditional picture books. Al-Yaqout and Nikolajeva (2015) also highlight how the different physical size and shapes available in print models are unavailable in the digital e-picture book versions. They also point out that the spine of the text is lost as well as the colour, title, thickness and presentation of the cover when digitally produced (Al-Yaqout & Nikolajeva, 2015). Booth (2005) agrees and she expresses concern at the influence on children’s acquisition of literacy knowledge if they are not guided and shown how to analyse and make decisions about stories and books.

Parent participant E was also concerned about the difference between the structure of e-picture books and traditional picture books. Traditional picture books open at a spine and have a two-page spread. She describes how the spread of words, images and the flow of the story is created across this structure and the anticipation of turning the page. E-picture books do not have this same process. Digital devices are generally set up with a single page, a single screen and do not allow for the same story tension or build up across the page as a traditional picture book. These concerns mirror Li (2005) and Bus et al. (2014) whose research highlighted concerns regarding the inability of digital devices to replace the side by side, two-page spread of information. Bus, et al. (2014) also concluded that this negatively interfered with optimal literacy learning conditions for children.

Moreover, another difference between e-picture books and traditional books expressed by the parents was the physical differences between screen devices and paper. Four participants mentioned the tactile differences between using screens and reading a traditional picture book. Parent participant B’s was also concerned about the different type of tactile nature of screens versus paper stating. Hou, et al. (2017) And Mangen (2010) who researched the difference between screen and paper in relation to ease of reading found digital screens made it harder to read due it’s intangibility when compared to paper printed books.
In addition to these differences, parents were also concerned about their ability to read e-picture books. All five parents mentioned reading aloud, with four of the parents concerned that this would lead to a decrease in time parents spend reading to their children. Parent participant B was worried the read aloud function in e-picture books would allow these tools to be used as “babysitters” (PPB) and Parent participant A agreed. Booth (2005) discusses the importance of the relationship between children and adults when reading to young children. She describes how it is not just the words being read aloud but the quality of the conversation and the ability of adults to support children to make meaning of what is being read which is important. In contrast, the only parent who appreciated the read aloud function was parent participant E who described how this aspect could be really supportive for busy mothers and busy teachers.

At the end of each interview all parents were asked to describe their perspective on the use of e-picture books as an emergent literacy tool for young children. In contrast to all the concerns they had highlighted, four of the five parents stated they felt e-picture books could be a useful tool for young children that could support emergent literacy skills, as long as they were in addition to traditional picture books. This resonated with the literature as research has shown that digital screen technology, and reading tools such as e-picture books can support children to develop their early literacy skills when they are used meaningfully (Bepell & Pedulla, 2015; Ihmeideh, 2014; Lauicell, Varr & Clvert (2014); Myrberg & Wiberg, 2015). These findings were interesting as it seems the parent participants in this research had concerns about individual functions of e-picture books but overall, see some benefits of this type of emergent literacy resource.

This research found that parent participants expressed concerns regarding the lack of specific emergent literacy skills for children which are either not evident or different when reading e-picture books. They felt e-picture books were lower quality and lacked specific features that they deemed important for young children’s emergent literacy compared with traditional picture books. Albeit, all parents agreed that e-picture books could support some emergent literacy development, and therefore could be useful emergent literacy tools as long as they were in addition to traditional picture books.
Early childhood teachers’ perspectives on using e-picture books as an emergent literacy tool for young children

Five early childhood teachers were interviewed, only three of whom had experience reading e-picture books, albeit four were interested in possibilities they offer for supporting literacy learning. Teacher participant five was adamant she would never use them. The key findings for early childhood teachers’ perspectives of the value of e-picture books for young children’s emergent literacy development is therefore discussed in three sections: the positive perspectives, the negative perspectives and the need for more research and information for teachers to guide decision making.

Positive perspectives

Three of the early childhood teachers were positive about the possibilities and opportunities that e-picture books provide for young children’s literacy learning and were interested in their having access to both printed and e-picture books for this. Gibbons (2015) highlights the importance of providing children with access to digital resources as they are growing up in a “digital age” (p. 119). In addition, Hatherly, et al. (2015) explore how support children to learn language appropriate for using and understanding digital and screen technology.

This opinion resonates with the research that concludes that children’s use of e-picture books as part of their learning experiences enhances elements of their emergent literacy learning (Bepell & Pedulla, 2015; Guernsy, 2011; Ihmedieh, 2014;).

Additionally, one teacher participant described her own confidence using screens as high. Interestingly, in addition to her high confidence using screen technology, she also used screen technology with children in her teaching. This resonates with Ihmediehs (2014) research that concluded that providing five year olds with e-picture books achieved higher print and vocabulary awareness when compared to children who had only traditional picture books. Likewise, Bepell and Pedulla (2015) found a consistent increase in phonic awareness of five year olds who used iPads over a nine-week period.
Negative perspectives

Teachers two and five were concerned and vehemently disagreed with children having access to screen technology as an emergent literacy tool. Fewitt, et al. (2015) reported that the teachers interviewed in their research had similar beliefs, describing iPads as having the potential to cause young children harm and that there is no place for screen or digital technology in an early learning environment. Similarly, Aldahfereri, et al. (2015) found that 57% of teachers interviewed did not want preschool children playing with digital devices in the classroom.

Interestingly, both teacher participant two and five described their own confidence using technology as low, had no experience using e-picture books and did not use screen technology with children in their early childhood settings. Their negative perspectives, may have been influenced by their low confidence in using the technology themselves, combined with not actually needing to use the technology in their career. These influences are discussed by Kretzchemar et. al (2013) who also found their teacher participants assumed that reading on paper is easier than reading on screens and were very negative about their own abilities to read on a digital screen. In contrast to their participants’ perspectives, their findings showed that e-reading improved the speed in which they read. This demonstrates that the perspectives of the participants who had very little experience with screens informed a negative view of their own ability to successfully read on one.

When further discussing why teacher participant three and teacher participant five felt screen technology was inappropriate in an early childhood centre, both expressed their concerns that teachers should prioritise traditional books as parents would prefer them. Interestingly, these teachers’ concerns about parents not wanting children to have access to e-picture books was not substantiated by this research. Although the parents interviewed in this study thought e-picture books were of lower quality as long as they were provided in addition to traditional picture books they could see their benefits for children’s emergent literacy. Interestingly, Terras and Ramsey’s (2016) research highlighted the importance of children using screen and digital technology in their homes as these tools are an important part of their, and their parents’ lives.
Pohio’s (2009) research concluded that teachers’ perspectives implicitly and explicitly influenced the processes and quality of digital technology in their teaching environments. In addition, both Corio (2008) and Ham and Evans (2009) research recommended that teachers undergo training to expand their understanding of digital screen technology as there is a gap in their knowledge that is confining its incorporation into the teaching environment. Their conclusions are reflected in the findings from this research as indicated above.

More research requested.

The interview findings from early childhood teachers highlighted a need for further research and information so that they could develop their own understanding and perspective. Four of the five teachers interviewed either specifically asked the researcher guidance and more information on the topic, or if this research would answer their questions. The questions raised by these participants highlights their interest in learning more, but is also evidence of their own lack of knowledge about the use of screens by children, specifically the as an emergent literacy tool. The need for more research was also highlighted by the New Zealand research by Pohio (2009) and Corio (2008) who highlighted the need for teachers to expand their own knowledge base on the use of screen technology as an early learning tool.

The findings from this research found that early childhood teacher participants had two distinct perspectives, those who were interested and overtly positive about screen technology as a literacy resources and those who were not. Interestingly, those participants who valued digital screen technology felt confident in their own ability using these tools. Two participants who had low confidence using screens and no experience using e-picture books were adamant that children should not use e-picture books in their early childhood environment. Their arguments were that they felt parents would not like them or would view the teachers as lazy for this practice. A common theme from four out of the five teacher participants was a request for more research or information and they requested further research on whether or not they should be including e-picture books in their early childhood learning environments.
Conclusions and recommendations

This study investigated the perspectives of parents and early childhood teachers regarding the use of e-picture books as an emergent literacy tool. Five parents of young children and five registered, qualified early childhood teachers were interviewed following an online survey that gathered a broad perspective of parents and early childhood teachers from across New Zealand. The results of the online survey guided the formation of the interview schedule as well as providing the interview participants described above. The two data collection methods and two groups of participants provided a rich data set and opportunities for data triangulation.

Conclusions

To research this, I investigated New Zealand early childhood teachers and parents’ perspectives on the value of e-picture books as an emergent literacy tool for young children. I believe this research will be adding new knowledge about the perspectives of two influential groups who make decisions on which emergent literacy tools to provide for young children. These perspectives will be of benefit to early childhood teachers and parents who are interested in researching whether or not to provide children access to e-picture books at the pre-school age. I hope the findings provide early childhood teachers and parents with a sound base from which to evaluate their own use, and their provision of e-picture books, to young children in New Zealand. Children’s access to screen technology, including digital tools such as e-picture books, were guarded and decided by parents and teachers.

Critical issues highlighted for children reading e-picture books were concerns with the impact the language used in the book may have on children’s developing language skills, impact of brain development, loss of traditional emergent literacy skills and the experience and value placed on the technology by the adult.

Parents valued digital technology, were confident in their own use of digital screen based technology and valued it as an integral part of their career. They highlighted concerns about how general screen technology can impact their children’s brain and language development. Parents were also concerned that e-picture books lack the quality of their traditional, paper printed counterparts and lack many of the emergent literacy learning opportunities provided by
traditional paper printed picture books. Albeit, they felt e-picture books were a positive addition to their children’s emergent literacy tools, as long as they were in addition to traditional picture books and children’s use of these e-picture books was closely moderated.

Whereas, in comparison to parents, teachers were less confident and did not place the same emphasis on the importance of digital screen technology in their careers. Teachers confidence and experience were key indicators of whether or not they were interested and willing to provide children access to e-picture books. They were also concerned about parents’ opinions and being judged negatively by parents if they provided e-picture books in their early childhood environments. The teachers based their concerns about children reading e-picture books on their concerns about the impact digital devices may have on children’s brain and language development. In regards to e-picture books specifically the teachers were divided. The majority felt they had some value, as long as the e-picture books were in addition to other sources of literacy learning. The minority were adamant screen use does not have a place in the early childhood teaching and learning environment. Teachers felt more research is needed to provide guidance and further support for their decision making, specifically on whether or not young children should have access to e-picture books, in their early childhood environment.

**Recommendations**

The conclusions from this research has presented new perspectives of parents and early childhood teachers on the use of e-picture books as an emergent literacy tool for children’s emergent literacy development. The findings from this study may benefit parents and early childhood teachers who are interested in researching and evaluating their own provision of e-picture books for young children to use as an emergent literacy tool. This research has led to the development of three recommendations:

1. Early childhood teachers should consider developing their own confidence using screen technology alongside children.
2. E-picture books could be considered a useful emergent literacy tool alongside traditional picture books.
3. Parents were more likely to value the use of digital screen technology with their children than early childhood teachers realise.
This study has highlighted further research is needed focused on:

- The physical effect reading e-picture books has on young children’s brain development.
- The effect of reading e-picture books may have on children’s developing oral language.
- The effect of reading e-pictures books may have on children’s behaviour.
- Children’s opinions on what makes a quality picture book, and what makes a quality e-picture books
- Children’s opinions on the use of e-picture books alongside traditional picture books as an emergent literacy tool

The conclusions and recommendations are provided as an evaluation tool, for each context, child, family and early childhood centre as we are all different and there is no ‘one size fits all’ conclusion.
REFERENCES


APPENDICES

Appendix A: Information sheet for parent digital survey and the survey instrument

Welcome to this survey exploring the value of young children reading e-picture books for literacy skills development. The main purpose of this study is to gather information from parents and early childhood teachers about their perceptions of the value of e-pictures and their influence on young children’s literacy development. This information is for use by Lisa Helmling towards her Master of Education Thesis at Unitec Institute of Technology.

Currently there is little information available about this topic in a New Zealand context and your participation will provide valuable new knowledge which could strengthen practice.

This survey will take 3-5 minutes to complete. All responses collected will remain confidential, no reports will identify any individual or early childhood centre. By completing this survey, it provides consent to use the responses in my research.

At the end of this survey, it will ask you if you are interested in being further involved in this research, but you do not have to provide this information or be further involved if you do not want to.

Thank you for your time, Lisa Helmling

What is your age group?
What is your gender?

What is the closest city to where you live?

How many children do you have over the age of 2?

**PICTURE BOOKS AND LITERACY DEVELOPMENT:**

<table>
<thead>
<tr>
<th>Highly influential</th>
<th>Mostly influential</th>
<th>Influential</th>
<th>Slightly influential</th>
<th>Not influential</th>
</tr>
</thead>
<tbody>
<tr>
<td>How influential do you feel picture books are on your child’s developing vocabulary?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How influential do you feel picture books are on your child’s developing print awareness?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How influential do you feel picture books are on your child’s developing reading skills?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How influential do you feel picture books are on your child’s developing phonic awareness?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SCREEN TECHNOLOGY**

<table>
<thead>
<tr>
<th>Highly confident</th>
<th>Mostly confident</th>
<th>Confident</th>
<th>Slightly confident</th>
<th>Not confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you describe your confidence using or operating screen technology (for example iPhones, tablets and computers)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you describe your confidence reading on a screen (for examples reading e-books, news apps, emails etc.)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you describe your child/ren’s confidence operating screen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How would you describe your child/ren’s confidence in navigating webpages and/or apps on screen technology (iPhone, tablet and computers)?

How would you describe your child/ren’s confidence in exploring images on a screen (iPhone, tablet and computers)?

How often you use technology – please average out how often you use. For example, if you check your phone for 1 minute every hour you are awake, then you would use your phone for 12 minutes per day.

<table>
<thead>
<tr>
<th>More than 6 hours per day</th>
<th>Approximately 3-6 hours per day</th>
<th>Approximately 1-3 hours per day</th>
<th>Less than 1 hour per day</th>
<th>Never</th>
</tr>
</thead>
</table>

How often do you use screen technology (such as an iPhone, tablet or computer)?

How often does your child or children use screen technology (such as an iPhone, tablet or computer)?

How often do you read on a screen (for example: e-book, news app, messages, emails)?

How often do you watch images (still and/or moving) on a screen (for example iPhone, tablet or computer)?

Parents perspectives of picture books and e-picture books

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral/don’t know</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

Picture books are a valued tool for your child/ren’s literacy development
<table>
<thead>
<tr>
<th>Picture books are resource in your child/ren’s play</th>
</tr>
</thead>
<tbody>
<tr>
<td>You have experience reading e-picture books</td>
</tr>
<tr>
<td>E-picture books are easy to navigate</td>
</tr>
<tr>
<td>E-picture books are an enjoyable option for reading with your child/ren</td>
</tr>
<tr>
<td>E-picture books could support your child/ren’s literacy skills development</td>
</tr>
<tr>
<td>E-picture books could support your child/ren to develop their vocabulary</td>
</tr>
<tr>
<td>E-picture books could support your child/ren to develop an awareness of print (letters and words)</td>
</tr>
<tr>
<td>E-picture books could support your child/ren to develop phonic awareness (spoken language and sounds)</td>
</tr>
<tr>
<td>E-picture books are the same as paper based picture books for literacy skills development</td>
</tr>
<tr>
<td>E-picture books are valuable for your child/ren to have experience with</td>
</tr>
<tr>
<td>If the e-picture books were published by New Zealand’s Ministry of Education you would feel excited for your child to read and enjoy them</td>
</tr>
<tr>
<td>You would like your child/ren to read e-picture books more often</td>
</tr>
<tr>
<td>You would like your child/ren to have access to e-picture books in their early childhood education centre (if they attend one)</td>
</tr>
</tbody>
</table>
Can you describe your first reaction to either yourself or your child/ren’s early childhood centre providing e-picture books for reading?


Could you list any issues/concerns you have with your child/ren reading e-picture books for their literacy skills development:


If you are interested in this research topic and would like to be (and are available) to be interviewed please fill out the contact details below. Lisa will contact you and organise an interview at a time and place which is convenient for you.

Please be assured that by adding your contact details your survey will still be confidential.

The interviews will be up to a maximum of 60 minutes long, focus on this same topic and will be conducted October 2017- April 2018.

UREC REGISTRATION NUMBER: (2017-1019)

This study has been approved by the Unitec Research Ethics Committee from (2017) to (2019). If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Name

City

Email

Phone

Thank you for your contributions, your perspective is an important part of this research

If you have any questions or comments regarding either this survey or the research project please contact Lisa Helmling lhelmling@unitec.ac.nz 09 8154321 ext 8153
Appendix B: Information sheet for early childhood teachers digital survey and the survey instrument

Early Childhood Teachers Perspectives: e-Picture Books for Literacy Skills Development

Welcome to this survey exploring the value of young children reading e-picture books for literacy skills development. The main purpose of this study is to gather information from parents and early childhood teachers about their perceptions of the value of e-pictures and their influence on young children’s literacy development. This information is for use by Lisa Helmling towards her Master of Education Thesis at Unitec Institute of Technology.

Currently there is little information available about this topic in a New Zealand context and your participation will provide valuable new knowledge which could strengthen practice.

This survey will take 3-5 minutes to complete. All responses collected will remain confidential, no reports will identify any individual or early childhood centre. By completing this survey, it provides consent to use Responses in my research.

At the end of this survey, it will ask you if you are interested in being further involved in this research, but you do not have to provide this information or be further involved if you do not want to.

Thank you for your time, Lisa Helmling

A few questions about you to contextualise the survey

What is your age group?
What is your gender?

What is the closest city to where you work?
Are you currently working in an early childhood service in New Zealand?

Are you a registered teacher in New Zealand?

Which type of early childhood service are you working in?

**How influential are picture books on your child/ren's literacy skills development.**

<table>
<thead>
<tr>
<th>How influential do you feel picture books are on children's developing vocabulary?</th>
<th>Highly influential</th>
<th>Mostly influential</th>
<th>Influential</th>
<th>Slightly influential</th>
<th>Not influential</th>
</tr>
</thead>
<tbody>
<tr>
<td>How influential do you feel picture books are on children's developing print awareness?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How influential do you feel picture books are on children's developing reading skills?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How influential do you feel picture books are on children's developing phonic awareness?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Screen technology**

<table>
<thead>
<tr>
<th>How would you describe your confidence using or operating screen technology (for example iPhones, tablets and computers)?</th>
<th>Highly confident</th>
<th>Mostly confident</th>
<th>Confident</th>
<th>Slightly confident</th>
<th>Not confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you describe your confidence reading on a screen (for examples reading e-books, news apps, emails etc.)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How would you describe young children’s confidence operating screen technology (iPhone, tables and computers)?

How would you describe young children’s confidence in navigating webpages and/or apps on screen technology (iPhone, tablet and computers)?

How would you describe young children’s confidence in exploring images on a screen (iPhone, tablet and computers)?

**How often you use technology – please average out how often you use.** For example, is you check your phone for 1 minute every hour you are awake, then you would use your phone for 12 minutes per day.

<table>
<thead>
<tr>
<th>More than 6 hours per day</th>
<th>Approximately 3-6 hours per day</th>
<th>Approximately 1-3 hours per day</th>
<th>Less than 1 hour per day</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you use screen technology when you are at work (such as an iPhone, tablet or computer)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often do you use screen technology when you are at home (such as an iPhone, tablet or computer)?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>How often do you read on a screen (for example: e-book, news app, messages, emails)?</th>
</tr>
</thead>
</table>

| How often do you watch images (still and/or moving) on a screen (for example iPhone, tablet or computer)? |
Can you describe your first reaction to an early childhood centre providing e-picture books for reading?

Could you list any issues/concerns you have with young children reading e-picture books for their literacy skills development:

* 13. If you are interested in this research topic and would like to be (and are available) to be interviewed, please fill out the contact details below. Lisa will contact you and organise an interview at a time and place which is convenient for you.

Please be assured that by adding your contact details your survey will still be confidential.

The interviews will be up to a maximum of 60 minutes long, focus on this same topic and will be conducted October 2017 - February 2018.

UREC REGISTRATION NUMBER: (2017-1019)

This study has been approved by the Unitec Research Ethics Committee from (2017) to (2019). If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Name

City

Email

Phone

Thank you for your contributions, your perspective is an important part of this research. If you have any questions or comments regarding either this survey or the research project please contact Lisa Helmling @unitec.ac.nz, 09 815 4321 ext 8153

Thank you
Appendix C: Parents interview schedule

INTERVIEW SCHEDULE FOR PARENTS

Name _______________________________ Date________

Interviewed by___________________________________________

Ensure the participant has been provided with the Information sheet and has signed the consent form

Young children reading e-picture books for literacy skills development

To begin with I would like to ask a few background questions

1. Which age group are you?
   a. Under 20  20-30  31-40  41-50  51+
2. How many children do you have over the age of 2?

Looking at experience with screen technology,

3. How would you describe your confidence using screen technology (including your confidence to read on screens)?
   1 being low confidence and 5 being highly confident
4. how do you feel about the increase in the use of screens in our society?
   a. Do you feel it is important to learn how to confidently read and use screens?
5. How would you describe your children’s confidence in using, operating, navigating and reading on screen technology?

Let’s focus now on your own use of screen technology

6. How would you describe the impact of screen technology, and its importance in your day to day lives?
7. What sort of screen technology do you currently use?
8. How often (daily) would you use screen technology?
9. Is there anything else about your use of screen technology you would like to add?

Focusing now on your child/ren’s use of screen technology

10. Do your child/ren have experience using screen technology?
11. Could you describe this technology and how they use it?
12. How often would your child/ren use screens on average per day?
13. Is there anything else about your child using technology you would like to add?

Let’s talk for the moment about picture books.

14. what do you value the most about picture books?
15. Could you describe how influential you feel picture books are on your child/ren’s developing literacy skills
16. Can you think back to any picture books you remember as a child?
17. How often did you read with your child/ren as they were growing up? Did they have any specific favourites?

Picture books have started to be developed and produced digitally. The Ministry of Education has followed in this trend and developed a range of e-picture books released on Google Play.
18. What is your first reaction to your child/ren reading picture books on a screen (e-picture books)?
19. Have you had experience reading e-picture books?
   If yes continue, if No jump to ***;
20. What sort of e-picture books have you had experience with? How did you feel about them?
21. What was your child/ren’s reactions to them?
22. Would you like to add anything else about-picture books?
   *** I have a few examples here to look at, have a flick through or watch one read to you.
23. What is your first reaction to the picture book I showed you?
24. Would you consider this an option alongside paper printed picture books for your child/ren to read? Why?
25. Either from your experience with e-picture books or from the examples shown could you describe how you feel e-picture books could support young children’s literacy skills development?
26. Could you describe any critical issues you feel are important in relation to young children reading e-picture books for literacy development?
27. Do you feel there should be a relationship between literacy skills development and screen technology?
28. Is there anything else about your child reading e-picture books you would like to add?

IN CONCLUSION

29. If you could describe your perspective on the value of e-picture books for your child/ren’s literacy skills development what would you say?
Appendix D: Early childhood teachers interview schedule

INTERVIEW SCHEDULE FOR EARLY CHILDHOOD TEACHERS

Name _______________________________ Date_______

Interviewed by___________________________________________

Ensure the participant has been provided with the Information sheet and has signed the consent form

To begin with I would like to ask a few background questions

1. Which age group are you?
   a. Under 20  20-30  31-40  41-50  51+

2. Are you a registered early childhood teacher?   Yes   No

Looking at experience with screen technology,

3. How would you describe your confidence using screen technology in your personal life (including your confidence to read on screens)?
   a. How about in your work as an early childhood teacher?

4. How do you feel about the increase in the use of screens in our society?

5. Do you feel it is important to learn how to confidently read and use screens for academic and personal reasons?

Let’s focus now on your own use of screen technology

6. How would you describe the impact of screen technology, and its importance in your day to day lives?

7. What sort of screen technology do you currently use personally?
   a. How about in your work as an early childhood teacher?

8. How often (daily) would you use screen technology for personal use?
   a. For use as an early childhood teacher?

9. Is there anything else about your use of screen technology for personal use or as a teacher you would like to add?

Focusing now on children’s use of screen technology

10. Do children have experience using screen technology in the early childhood setting you work in?

11. Could you describe this technology and how they use it?

12. How often would children use screens on average per day?

13. Is there anything else about children in the early childhood setting using technology you would like to add?

Let’s talk for the moment about picture books.

14. what do you value the most about picture books?

15. Could you describe how influential you feel picture books are on children’s developing literacy skills

16. Can you think back to any picture books you remember as a child?

17. How often did you/do you read with children when working in an early childhood setting?

Picture books have started to be developed and produced digitally. The Ministry of Education has followed in this trend and developed a range of e-picture books released on Google Play.
18. What is your first reaction to children reading picture books on a screen (e-picture books)?
19. Have you had experience reading e-picture books?
   If yes continue, if No jump to ***;
20. What sort of e-picture books have you had experience with? How did you feel about them?
21. What was the children’s reactions to them?
22. Would you like to add anything else about-picture books?
   I have a few examples here to look at, have a flick through or watch one read to you.
23. What is your first reaction to the picture book I showed you?
24. Would you consider this an option alongside paper printed picture books for children to read? Why?
25. Either from your experience with e-picture books or from the examples shown could you describe how you feel e-picture books could support young children’s literacy skills development?
26. Could you describe any critical issues you feel are important in relation to young children reading e-picture books for literacy development?
27. Do you feel there should be a relationship between literacy skills development and screen technology?
28. Is there anything else about children reading e-picture books you would like to add?
   IN CONCLUSION
29. If you could describe your perspective on the value of e-picture books for children’s literacy skills development what would you say?
INFORMATION SHEET FOR INTERVIEW PARTICIPANTS

Title of Thesis: Exploring the value of young children reading e-picture books for literacy skills development

My name is Lisa Helmling. I am currently enrolled in the Master of Education degree in the Te Miro Post Graduate Practice Pathway at Unitec Institute of Technology and seek your help in meeting the requirements of research for a Thesis course which forms a substantial part of this degree.

The aim of my project is to investigate perspectives of parents and early childhood teachers regarding the value of young children reading e-picture books to support their literacy development.

There are complex and contradictory research findings examining the use of digital devices by young children. In New Zealand, there has been opposing views on providing young children with digital technology, demonstrating one of the many complexities facing early childhood teachers and parents when making decisions around providing young children with access to digital technology, such as reading e-picture books.

Through my own experience as an early childhood educator I have experienced the critiques, questions and perceptions of the community regarding providing young children with access to e-picture books. In contradiction as a lecturer in the Bachelor of Teaching (Early Childhood Education) programme at Unitec I have experienced the importance of under-graduate students needing to be able to read on a screen. Therefore, should early childhood teachers and parents view e-picture books as a valuable resource to support young children’s developing literacy? This question has prompted me to investigate perspectives of parents and teachers regarding the value of young children’s reading e-picture books to support their literacy development.

I request your participation in the following way.

I will be collecting data using an interview schedule and would appreciate being able to interview you at a time that is mutually suitable. I will also be asking you to sign a consent form regarding this event. The interview venue will be decided between us at a mutually convenient location, or at Unitec if preferred and the duration of the interview will be 60 minutes.

Neither you nor your organisation will be identified in the thesis. I will be recording your contribution and will provide a transcript (or summary of findings if appropriate) for you to check before data
analysis is undertaken. You will be able to withdraw from the study for up to two weeks after receiving
the transcript of your interview. I do hope that you will agree to take part and that you will find this
participation of interest. If you have any queries about the project, you may contact my supervisor at
Unitec Institute of Technology.

My supervisor is Carol Cardno and may be contacted by email or phone.
Phone: (09) 815 4321 ext 8406 Email ccardno@unitec.ac.nz

Yours sincerely
Lisa Helmling

UREC REGISTRATION NUMBER: (2017-1019)
This study has been approved by the Unitec Research Ethics Committee from (2017) to (2019).
If you have any complaints or reservations about the ethical conduct of this research, you may
contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you
raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
CONSENT FORM – ADULT PARTICIPANTS

RE: Master of Education

THESIS TITLE: Exploring the value of young children reading e-picture books for literacy skills development

RESEARCHER: Lisa Helmling

Participant’s consent

I have been given and have understood an explanation of this research and I have had an opportunity to ask questions and have had them answered. I understand that neither my name nor the name of my organisation will be used in any public reports. I also understand that I will be provided with a transcript of the interview for verification and that I may withdraw myself or any information that has been provided for this project up to two weeks after receiving a copy of my verified transcript.

I agree to take part in this project.

Signed: _________________________________
Name: _________________________________
Date: _________________________________

UREC REGISTRATION NUMBER: (2017-1019)

This study has been approved by the Unitec Research Ethics Committee from (2017) to (2019). If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Full name of author: Lisa Sheridan Helmling.

ORCID number (Optional): ..................................................

Full title of thesis/dissertation/research project ('the work'):
E-picture books: The perspectives of New Zealand parents and early childhood teachers on young children's use of e-picture books as an emergent literacy tool.

Practice Pathway: Education
Degree: Masters in Educaiton
Year of presentation: 2019
Principal Supervisor: Maureen Perkins
Associate Supervisor: Carol Cardno

Permission to make open access
I agree to a digital copy of my final thesis/work being uploaded to the Unitec institutional repository and being made viewable worldwide.

Copyright Rights:
Unless otherwise stated this work is protected by copyright with all rights reserved.
I provide this copy in the expectation that due acknowledgement of its use is made.

AND

Copyright Compliance:
I confirm that I either used no substantial portions of third party copyright material, including charts, diagrams, graphs, photographs or maps in my thesis/work or I have obtained permission for such material to be made accessible worldwide via the Internet.

Signature of author: ..........................................................
Date: 27/10/2019

______________________________

______________________________