Routledge
Taylor & Francis Group

Research Papers in Education

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/rred20

# The shared reading of digital storybooks with young children: Parents' perspectives

Maria Nicholas & Louise Paatsch

**To cite this article:** Maria Nicholas & Louise Paatsch (2024) The shared reading of digital storybooks with young children: Parents' perspectives, Research Papers in Education, 39:4, 650-667, DOI: 10.1080/02671522.2023.2205411

**To link to this article:** https://doi.org/10.1080/02671522.2023.2205411



Published online: 28 Apr 2023.

RESEARCH PAPERS IN EDUCATION
2024, VOL. 39, NO. 4, 650–667
https://doi.org/10.1080/02671522.2023.2205411

Routledge
Taylor & Francis Group



# The shared reading of digital storybooks with young children: Parents' perspectives

Maria Nicholas and Louise Paatsch

School of Education, Deakin University, Geelong, Australia

**ABSTRACT**

The possibilities and challenges of digital technologies for young children are widely documented. However, parental guidelines place greater emphasis upon potential harms, advocating that parents limit their children's screen time, or advise that parents simply read digital texts as they would a printed text. Our study investigated 22 Australian parents' perspectives of their 2–3-year-old child's experiences with digital devices and their views of reading digital storybooks to understand whether parents were cognisant of or engaged in practices that appeared to limit their child's screen time, and whether parents noted any differences when shared reading printed and digital texts with their child. Results showed that many parents (1) limit screen time and therefore do not engage in shared digital text reading, consigning children's screen time to unsupervised use; and (2) were aware that the reading of digital texts often is, and at times should differ to the reading of printed texts. These findings suggest that advising parents to limit screen time may result in parents avoiding the use of digital texts when shared reading with their child. Furthermore, recommending that parents read digital texts as they would printed texts may encourage parents to have unrealistic and/or frustrating expectations.

**ARTICLE HISTORY**
Received 29 July 2022
Accepted 14 April 2023

**KEYWORDS**
Screen time; child; digital; shared reading; parents' perspectives; guidelines

## Introduction

Decades of research has found that adult-child shared book reading positively influences young children's language, emotional, social and cognitive development (For example, Bus, van Ijzendoorn and Pellegrini 1995; Dowdall et al. 2020; Phillips, Norris, and Anderson 2008; Rollo and Sulla 2016), all while access to storybooks has expanded to included multimedia formats (Takacs, Swart, and Bus 2015) alongside the more traditional print-based text. Research into shared reading practices has served to reinforced the influence of the home environment (2006) and a child's socially mediated engagement with tools, experiences and activities (2012) - such as the shared reading of storybooks – in supporting child development. As family access to multimedia has expanded, significant media

**CONTACT** Maria Nicholas maria.n@deakin.edu.au School of Education, Deakin University, Waurn Ponds Campus, Locked Bag 20000, Geelong VIC 3220, Australia

attention, policy regulations, and recent research has reported on both the possibilities and challenges for young children as they learn and connect with digital technologies (Straker et al. 2018), however, in direct contrast to the positive findings associated with printed storybook reading, greater emphasis has been placed upon the potential harms of the digital, which has been found to provide the most notable influence over parents' mediation practices and child behaviours. This has presented parents with two seemingly straightforward roles: limiting the time their children spend interacting with digital texts, while also ensuring they play an active role in the shared reading practices they engage in with their young children.

The international campaign advocating for a limit on young children's use of screen-based technologies, for example, influenced by parental guidelines and advice provided by health, education, media, and industry authorities (Straker et al. 2018), has resulted in many parents limiting their children's engagement with such technologies (Blum-Ross and Livingstone 2018). In Australia, Early Childhood Australia's ((ECA) 2018, 10) guidelines on young children's digital technology use advises parents and educators against long periods of sitting for children aged two years and older, specifically when engaging with screen-based digital technologies. The ECA guidelines report the recommendations made by the American Academy of Pediatrics (AAP) media use guidelines (Council on Communications and Media 2016), suggesting 'a limit of one hour of sedentary screen time per day' (Early Childhood Australia (ECA) 2018, 19). Current Australian guidelines on exercise and physical activity for young children (birth to 5 years), also reflect the 2016 American Academy of Pediatrics (AAP) media use guidelines, advising parents to 'avoid sedentary screen-based activities' in order to help 'children grow healthy and develop good habits for life' (Australian Government Department of Health 2021). The AAP recommend no screen time for children under two years, and no more than one hour per day for children aged two to five years, reporting that long periods of sedentary behaviours and unsupervised use of screens can result in children having delayed language, experiencing challenges with learning to read, and being less ready for school.

This paper draws on a small-scale qualitative study to problematise the advocacy of generalised media use guidelines such as those listed above, to explore how generalised media use guidelines may potentially influence the shared reading behaviours of parents who routinely read with their 2–3-year-old children. This study was motivated by the concern that the overgeneralisation and broad application of media use recommendations is not without its shortcomings. The assumption that screen time is generally speaking both sedentary *and* passive (Straker et al. 2018), for example, and will result in delayed language and reading development (Australian Government Department of Health 2021), fails to take into consideration the varied content and form of the digital, such as nuances in the type, format, content and genre of digital books, and how some technology-enhanced storybooks have been found to benefit children's story comprehension and expressive vocabulary (Takacs, Swart, and Bus 2015). Advocating for a general principle that limits screen time encourages the view that the digital is

a uniform entity and highlights the potentially harmful consequences of such generalisations, given that

> The very discourse of screen time distracts parents into counting minutes rather than making judgements about the nature of their children's media use or reflecting on how they interact with their children through media (Blum-Ross and Livingstone 2018, 185).

In addition, while the AAP and the Australian guidelines recommend that parents should engage with their child while using screen-based technologies, discouraging unsupervised use, there is little advice on what parents should do when engaging in shared activities, such as the shared reading/viewing of digital texts. Parents are simply advised 'to interact with children during eBook reading, as they would a print book' (Council on Communications and Media 2016), even though, in practice, the shared reading of digital texts can differ to that of printed texts (Chiong et al. 2012; Lauricella, Barr, and Calvert 2014; Strouse and Ganea 2017).

In this paper we highlight that advising parents to limit screen time as a general principle or that they read digital texts as they would printed texts are problematic recommendations. Our study revealed that parents are not entirely unaware that the shared reading of digital texts can, often does, and at times *should* differ to that of printed texts. Furthermore, we found that when parents limit screen time – no matter its content or form – such a practice can result in young children meeting their daily quota during unsupervised use, an outcome that runs counter to AAP and Australian guidelines. As such, we contend that advising parents to read the digital as they would printed texts, or to simply limit screen time as a general principle, are recommendations that merit further investigation in order to avoid unrealistic or problematic parental expectations and practices that may further perpetuate negative attitudes towards the digital among the adult community, and potentially harmful practices for young children.

## Parental mediation of digital storybook reading

Using the methodology for critically engaging with and offering 'conceptual clarity' on an emerging issue (Abebe 2019, 2), this article begins by presenting select examples that illustrate the various debates found in literature regarding children's mediated use of digital technologies, serving to situate and clarify the motivation for our study. The review begins with an exploration of children's mediated digital storybook reading and ends with an exploration of children's mediated use of digital technologies in general. Adult-child shared book reading is a practice that many young children experience – collaboratively exploring and interacting with the same reading material, typically using printed texts (Zucker et al. 2013). A large body of research highlights the importance of shared book reading, as it has been found to support young children's cognition, language skills, readiness for school, and early reading behaviours (Flack, Field, and Horst 2018; Mol et al. 2008; Read and Quirke 2018; Sénéchal 2011). Findings from such research has led to the development of recommendations that encourage parents to participate in shared book reading experiences, particularly in supporting talk around the text (Australian Government Department of Health 2021, 2022; National Literacy Trust 2017; Nelson n.d.). Such research has also contributed

to the view that shared book reading be prioritised and considered 'high-quality sedentary behaviour' when compared to 'sedentary screen time' (Australian Government Department of Health 2022, 1–2), which to date, has received far less research compared to the historically available printed storybook. Furthermore, when engaging with digital texts, bodies such as the Council on Communications and Media (2016) advise that 'parents should … be instructed to interact with children during eBook reading, as they would a print book.' Yet, the evidence that has informed such recommendations is unclear given that there is limited research investigating eBook reading experiences and the benefits of such digital forms in supporting young children's learning. Furthermore, much of the research that does exist focuses on comparing the shared reading of digital texts with the shared reading of printed texts, with a somewhat implied assumption, much like the recommendation from the Council on Communications and Media (2016), that they should be read similarly and achieve similar outcomes, rather than focusing on the unique affordances that the digital text may provide.

To date, the research on the shared reading of digital texts has presented with contradictory findings. McNab and Fielding-Barnsley (2013) found that the six Australian parents from their study engaged in little dialogic talk when reading digital texts with their children. In contrast, Fisch et al. (2002) found that the seven American adult-child dyads from their study engaged in the same kind of talk when reading digital texts, as parents reading print texts. Similar findings were reported in the research of Cheng and Tsai (2014) who found that adults engage in a variety of dialogic and non-dialogic reading behaviours when shared reading a digital text with their child. They noted that the types of behaviours were often dependent on the parents' personal disposition and/or that of their child. For example, parents and children took turns at being the *dominator* when shared reading – to varying degrees between participant pairs – while at other times the dyads engaged in reciprocal dialogic talk, with differences between dyads appearing to influence children's comprehension outcomes. Differences in findings suggest that parental and/or child disposition more so than the text itself may have a greater influence on the type of engagement and adult-child interactions children will experience when shared reading, whether engaging with the digital or print (Mol et al. 2008; Cheng and Tsai 2014). Collectively, these findings highlight that a variety of variables may influence parents' mediation strategies during shared reading, including disposition, parent/child interactions and behaviours, and/or the content or form of the text.

Digital texts have potential for many more features and functionality than printed texts and can vary greatly from one text to another, making it challenging to develop clear guidelines for parents, when compared to the parental recommendations that have been developed for printed texts. For example, Cheng and Tsai's (2014) study used an augmented reality text that required the user to hold the digital device over the printed pages of a book. McNab and Fielding-Barnsley's (2013) study used digital texts displayed on an iPad with hotspots that would read words aloud, provide definitions, or record the user's voice. Strouse and Ganea (2017) used a digital text that had the capacity to play music, animations, sound effects, and automated narration when the page was turned with a swipe. In contrast, Fisch et al. (2002) used computer-based digital texts with print

and images similar to a printed picture storybook, and an interactive function that allowed the user to tap and turn the page.

### *Parental mediation of children's digital technology use*

Research has identified some of the benefits that the shared use of the digital may promote when parents employ collaborative practices and mediate young children's digital usage. These benefits include allowing for collaborative interactions that follow children's interests (Danby et al. 2013); enabling collaborative interactions from within the home with other family members and wider networks of friends and family (Marsh et al. 2017); and providing opportunities for children to explore and develop dispositions that foster learning, such as problem-solving skills and sustained attention (Plowman, Stephen, and McPake 2010). Concurrently, however, research has also found that many parents lack a 'key reference to inform their ethnotheories' of how technologies can be used by their children and for what purposes (Plowman 2014, 42). As such, parents base their beliefs and practices on an amalgamation of their own experiences of technology at school, home or work, and the varied and often conflicting advice from health, education, media, and industry authorities (Straker et al. 2018).

Research findings from two international studies, collectively spanning nine countries, found that parental decision-making on children's access to digital technologies focused on the times, places, and context of their use, but not necessarily on content (Dias et al. 2016; Chaudron et al. 2018). Specifically, access was often used as a reward or punishment, with different rules across family contexts (e.g. grandparents were more permissive). Restrictions on children's access was somewhat motivated by parents' concerns about their children's bad-habit formation, including anti-social and addictive behaviours, and health issues. Similar findings were reported by Danby et al. (2013) who found that the parents in their study also acted as gatekeepers, facilitating or constraining their children's access to the digital. Similar concerns were described by parents of school-aged children in France (Danet 2020), where parents reported an awareness of the educational affordances of the digital, but rarely used devices for educational purposes. Likewise, Dardanou et al. (2020) found that parents across Norway, Japan and Portugal expressed similar tensions regarding their children's (0–3-year-olds) use of touch screen technology. Parents acknowledged their role as mediators of technology but were concerned that their children would not develop empathy, imaginative play, creativity, or social skills. Yet, despite those concerns, most parents allowed their children access to the digital, stating that the technologies acted as an effective babysitter – often used by their children during independent activity.

Use of digital devices as a 'babysitter', used to entertain children, quieten, distract or engage children when their parents are otherwise occupied, has been reflected in a number of studies (Nicholas and Paatsch 2021; Radesky et al. 2016; Sergi et al. 2017). Parental guilt in using technologies in this way has also been reported (Kumpulainen and Gillen 2019; Seo and Lee 2017). In addition, there is a 'taken for granted' assumption that children have the capacity to use devices independently (Danby et al. 2013) – an assumption that was also reported by Dias et al. (2016), and Chaudron et al. (2018) who noted that children were not 'purposefully guided and often only remotely supervised during digital activities' (Dias et al. 2016, 424). As such, research has found that

while some parents may acknowledge and recognise the benefits of using digital technologies with their children, there remains a heavy focus on the potential harms of the digital for child development, to the detriment of their potential benefits via mediated use.

Some researchers, while advocating for the digital (e.g. Kucirkova, Littleton, and Kyparissiadis 2018) suggest that striking a balance between digital and non-digital experiences will address the challenge of knowing how best to mediate children's digital media use in this uncertain landscape in a way that will mitigate potential harms. Parents have been found to agree, with van Kruistum and van Steensel (2017) finding that the quest for balance was a core value driving their parent participants' decision-making as they strive to strike a balance between digital media use, family needs, and other leisure time activities. However, these findings raise a similar dilemma whereby advocating for balance continues to 'distract' parents into 'counting minutes rather than making judgements' (Blum-Ross and Livingstone 2018, 185), with the assumption that quantity, rather than quality, is the key.

### *The current study*

This study was influenced by sociocultural theories that acknowledge the influence of the home environment (Samuelsson et al. 2006) and a child's socially mediated engagement with tools, experiences and activities (Vygotsky 2012) as being critical to child development. Guided by this framework, the aim of this study was to investigate parents' views of (1) their young children's (aged 2–3-years) digital technologies usage and (2) their understandings of shared eBook reading experiences to explore whether parents who read regularly with their children appear to be influenced by media use guidelines. In doing so, we sought to explore whether there appeared to be any connection between parents' views and understandings, their mediation practices, and the media use recommendations highlighted in guidelines to parents. In particular, we sought to explore whether parents showed behaviours that appeared to (1) limit screen time for their children, (2) ensured supervised use of the digital when their young children engaged with digital technologies, and (3) whether parents noted any differences in practices between the shared reading of digital and printed storybooks. To support these aims, the following research questions were explored:

(1) What are toddlers' experiences with digital devices, as reported by their parents?
(2) How do parents view the shared reading of digital texts with their toddlers, compared to the shared reading of printed texts?

## Materials and methods

### *Participants*

Participants included 23 parent-child dyads selected from a regional town in Western Victoria, Australia – a location that had a higher-than-average socio-economic background (Australian Bureau of Statistics 2016). Participants were recruited via the dissemination of posters at the local library and on noticeboards at the researchers'

**Table 1.** Participants' age, gender and country of birth.

| | Number of dyads | Mean Age of parent (years) | Parent's gender | | Child's gender | | Parent country of birth | Toddler country of birth |
|---|---|---|---|---|---|---|---|---|
| | | | Male | Female | Male | Female | | |
| 2-year-old parent-child dyads | 16* | 35.7 | 1 | 14 | 10 | 6 | 13 Australia<br>1 Germany<br>1 China | 14 Australia<br>2 Ethiopia |
| 3-year-old parent-child dyads | 7 | 35.4 | | 7 | 4 | 3 | 3 Australia<br>1 China<br>1 Malaysia<br>1 Venezuela<br>1 Romania | 6 Australia<br>China |

*One parent had two adopted children (not twins) and participated with each toddler separately.

**Table 2.** Parent participants' highest level of education; occupation, and main language/s used in the home.

| | Parent highest level of education | Parent occupation | Main language spoken at home | Main language used when reading with their child |
|---|---|---|---|---|
| 2-year-old parent-child dyads (*n*=16 dyads; 15 parents) | 13 University<br>2 Year 11 and 12 | 4 Administration<br>4 Teachers<br>2 Health profession<br>2 Academics<br>1 Flight Attendant<br>1 Firefighter<br>1 Stay at home | 13 English<br>2 English and another language | 13 English<br>2 English and another language |
| 3-year-old parent-child dyads (*n* = 7) | 5 University<br>2 Year 11 and 12 | 4 Business & Administration<br>1 Academic<br>1 Student<br>1 Stay at home | 6 English<br>1 Mandarin | 5 English<br>1 Mandarin<br>1 English & another language |

university. Inclusion criteria included parents of two- or three-year-old children who routinely read to their child and were willing to read digital and printed texts with their child during data collection.

The 23 parent-child dyads included 16 dyads with two-year-old children, and seven dyads with three-year-old children. Table 1 shows that the 16 two-year-old dyads included 15 parents (one father, and 14 mothers) and 16 children (10 Males, 6 Females). One parent was born in Australia with two children born in Ethiopia. A further 12 parents were born in Australia, one parent was born in Germany and another in China, all with two-year-old children born in Australia. The seven three-year-old dyads included three mothers born in Australia and four mothers born in countries outside of Australia including China, Malaysia, Venezuela, and Romania. Six of the seven children were born in Australia, and one was born in China. The mean age of parents in both groups were similar, 35.7 years and 35.4 years respectively.

Table 2 presents details of the 22 parents. Results show that most parents held university degrees (82%), with over two-thirds employed in administration, business, and finance (36%), and teaching or higher education (32%). The main language spoken at home and used when reading with their child was English (86% and 82% respectively), while two parents spoke English and another

language in the home, and four parents read to their child in a language other than English.

### *Data collection tools, procedures and analysis*

Two data collection tools were used in the reporting of results for this paper: (1) a questionnaire; and (2) semi-structured interviews.

## Questionnaire

The questionnaire collected data in the following four areas: (1) parents' demographic details including their age, place of birth, highest level of qualification, occupation, and language/s spoken at home; (2) child's age, gender, and place of birth; (3) parents' familiarity with the study's shared reading texts; and (4) the frequency with which parents read printed and digital texts with their child. Parents completed the questionnaire prior to reading two digital and two printed texts with their child at the data collection site.

All data were analysed and presented in the form of descriptive statistics.

### *Semi-structured interviews*

Following each shared book reading experience, two with printed and two with digital texts, and later, within two months of the fourth shared reading experience, parents were invited to participate in semi-structured interviews (5 interviews each). The main aims of these interviews were to explore parents' lived experiences of the shared reading of printed and digital texts, their children's use of digital technologies, and their thoughts on the ways in which printed and digital texts should be read with their child. The two printed texts were 'Where is the Green Sheep?' (Fox and Horacek 2004) and 'Shrieking Violet' (Quay 2010). The two digital texts were 'But not the Hippopotamus' (Boynton 2013) and 'The Wrong Book' (Bland 2012) – electronically re-contextualised versions of the print-based originals (Bland 2009; Boynton 1982). The illustrations and narratives in the digital texts were a direct copy of the printed originals, with some enhancements. For example, tapping on hotspots caused illustrations to animate, produce sounds and move. Tapping on words activated narration, and swiping caused the page to turn. Bland (2012) also had an additional function that caused some objects to move with a tilt of the device, and a recording option that allowed the user to record and play their own voice in place of the pre-recorded narration.

Interviews were video recorded and transcribed verbatim for later analysis. Data was coded using Thematic Coding (Schreier 2013, 173) by both researchers. The open nature of the semi-structured interview data allowed for the adoption of Henri's inductive approach to analysis (Herrington and Oliver 1999) where the meaning associated with the unit of data (i.e. a word, sentence, or phrase) was included in the code, noting patterns in the data. Themes were identified during first-cycle open coding until 'saturation' was reached (Schreier 2013, 176) (i.e. no new themes were identified). The researchers compared their findings and merged similar themes during second-cycle

coding. In instances where codes differed, the researchers recoded until agreement was reached.

### Ethics approval

Ethics approval was obtained from the Deakin University Human Research Ethics Committee (DUHREC). The review included consideration for: (1) minimising any risk of harm for the participants and the researcher (Bahn 2012); (2) obtaining informed consent; (3) confidentiality and participant anonymity; and (4) providing adult participants the right/agency to withdraw and/or pause/reschedule data collection when needed. All parents were provided with a Plain Language Statement that explained the aims and activities of the research prior to consenting to participate.

## Results

### Parent reports of toddlers' digital usage

At the commencement of the study, parents were invited to indicate how often they read printed and digital texts with their child. Results showed that 21 of the 22 parents read printed texts daily, while one parent (of a two-year-old child) read a few times a week. In contrast, nine of the 15 parents (60%) of two-year-old children never read digital texts with the children, three parents read them every now and then, one parent read a few times a week, and one parent read digital texts daily. Two parents of three-year-old children never read digital texts, while three parents read them every now and then, one parent read digital texts a few times a week, and one parent read digital texts daily.

Parents were also invited to comment on whether their child used digital devices and if so, to explain their use. Results showed that 22 of the 23 children used digital devices – one two-year-old child did not. Findings showed that the parents played a significant role in mediating their child's use of digital devices. Specifically, 15 of the 22 parents (68%) spoke of controlling access to their child's usage with parents using language that indicated either permission or restriction. Typical responses that showed permissive use included: '*she can use the iPad a little bit then*' (Parent-1), '*let her have a bit of a play*' (Parent-2), '*she's allowed to*' (Parent-10); '*you can have it after dinner*' (Parent-13); '*I'll let her*' (Parent-16); '*he's allowed to have it*' (Parent-17); and '*let them play*' (Parent-21). Examples of language indicating restrictive usage included: '*I really try to limit it*' (Parent-11); *'I try not to let him use it too often'*; and '*then it gets taken off and put away*' (Parent-21).

Further scrutiny of the responses from the 15 parents who limited or controlled their child's digital usage showed that approximately half the parents made reference to specific time constraints including: '*she can use the iPad a little bit*' (Parent-1); '*for a couple of minutes*' (Parent-2); '*From 6 o'clock onwards no TV, no iPad, no nothing*" (Parent-7); '*avoid electronic devices towards bedtime*' (Parent-8); '*after dinner for 15 minutes*' (Parent-13);; and '*for an hour and a half. . . during that sort of time he's allowed to have the iPad*' (Parent-17).

### *Parent views of the shared reading of digital texts with their toddlers*

After completing the four shared reading experiences with their two- or three-year-old child, parents were invited to compare their shared reading of the two digital texts with their shared reading of the two printed texts. All 22 parents stated that the digital experience was quite different to the printed experience. Most parents expanded on their response, noting that their own or their child's focus was on discovering what the digital text could do, rather than focusing exclusively on the story. Parent-6 described this revelation in the following way:

> In printed-text-2 I was pointing to some of the pictures but my purpose for pointing was different. I wanted to draw attention to what was happening in the story as I was reading. Whereas in digital-text-2, it was still looking at the pictures to draw attention to them, but it [was] probably more of a novelty thing, as in, 'Oh what's this one going to do?' rather than, 'This is really having a big impact on the plot.'

Parents also noted that the interactive functions of the digital text meant that '*there's different things you can do. … there's multiple things happening at the same time*' (Parent-3), resulting in them doing '*a little bit more on the pages than what I would have with a straight book*' (Parent-7). Parents also reported that many of these interactive features were not immediately obvious: '*if we don't click on certain things, you wouldn't know there's something that you're missing*' (Parent-3) suggesting that the reader need be open to and allocate time to '*discovery*' (Parent-10) in ways that differ to the shared reading of printed storybooks.

Time for discovery was as much for the parent as it was for the child, with Parent-20 stating that she was aware of '*not knowing what was going to happen when she* [child] *touched something*'. Along the same vein, parents also noted that they devoted more time to '*teaching them* about *the technology*' (Parent-13) when shared reading digital texts. While engaging in digital discovery, however, parents felt less in control, finding that their child took the lead, '*distracted*' by (Parents 2;14; & 23) or showing interest in the interactive features of the text, in effect '*guiding the tactile experience*' (Parent-10) when the parent was inclined to focus on other parts of the text. A similar view was articulated by Parent-3 who commented that

> who's taking control of how long you stay on each page is very different to the printed book. In a printed situation, sometimes he wants to talk about things but, you are in control of how much time and what question you want to ask. But in this situation <gestures at device> because it's quite a lot of noise and other things, you're not really in control - he's pretty much in control of doing things.

In addition, three parents noted similarities between their shared reading of at least one of the digital texts and their shared reading of the printed texts. Parent-19 showed awareness that, while overall her shared reading of digital texts was somewhat different to her shared reading of the printed texts, there were some similarities:

> Whenever I read a book with her we're always talking about what's going on – we don't just read the words - it's about the story. So same thing [with the digital text] but there was more to do. I'd find if I was to read these at bedtime it would take longer. You read a short book because you want them to go to sleep, but it's definitely awesome for attention in the day.

Parent-22 also noted similarities and differences between text media, though in her experience the shared reading of the digital was rushed:

> You don't get the same flow because he just wants to flick the pages really quick and find out what's going to happen. So, it's reading differently in that sense, but I don't think I read it any differently than I would if it was a printed text – it just changes because the medium's different – I'm competing.

Parent-14, on the other hand, showed awareness of a difference in approach between the two digital texts. She shared the following after reading the first digital text:

> I probably wasn't as focused on it [reading digital-text-1] because she was so distracted by what she was doing – with seeing what the things do, rather than me saying, 'Can you find this?' and, 'Can you find that?' . . . I was also focused on her not going into other applications that she shouldn't, rather than actually focusing on just reading the book. With print-book-1 I was asking her to find things and I wasn't so much doing that on this because she was already tapping to see what things did.

She shared the following, after reading the second digital text:

> I think I read it the same way as I would read the printed book – trying to get her to look at the different animals and stuff in digital-text-2. I mean, I know digital-text-2 does a bit more because it's got some animation behind it, but I've still got to do the same sort of stuff.

The differences noted in Parent-14's reflections appear to suggest that a difference in reading style may be evident when a child is first becoming familiar with the shared reading of a digital text – that is, when first learning how a digital text is to be read during a shared reading experience. This behaviour was particularly pertinent for Parent-14 who had never read digital texts with her child prior to engaging in this research.

### *Parent views: A question of 'should'*

At the conclusion of the final interview, parents were invited to comment on whether printed texts *should* be read differently with a child compared to digital texts. While results showed that only five of the 22 parents (23%) said that they should be read differently, none gave an emphatic 'no' – that is, no parent strongly believed that digital texts should be and/or could be read with children the same as with printed texts. Furthermore, when explaining why they should be read differently, the five who gave an emphatic 'yes' commented more on the use of the digital, rather than the *reading* thereof. For example, Parent-8 stated that they should be read differently '*for the sake of healthy sleep hygiene*', stating that '*you should avoid electronic devices towards bedtime*'. When asked to compare their use more specifically, Parent-8 reaffirmed her belief that they should be used differently, because digital texts do not require parental involvement, viewing their use as a way for children to '*entertain themselves . . . because there's that room for interactivity*'. Similarly, Parent-22, in juxtaposing the '*human interaction*' she associated with printed texts against the '*engagement interaction*' of the digital, appeared to imply that the digital text is more suited to independent activity: '*printed texts allow for . . . that human interaction . . . I think that with eBooks there's a lot more interaction but it's almost like an engagement interaction*'.

Five of the 22 parents were unsure of whether the digital and printed texts should be read the same way. For example, Parent-19 stated that '*I'm thinking they shouldn't be* [read differently], *but they probably are*', while Parent-14 commented that '*I would like to say no, but I think it does*'. In contrast, Parent-20 extrapolated upon this paradox directly stating, '*I don't think it should be* [read differently] – *I think the child changes its use with their experiences*', further explaining that

> they want to play with the movement more than the text and the story and it can be a distraction for them and a game rather than a shared reading. It's just a shared doing rather than a reading.

Findings showed that over half of the parents (55%) stated that it's not a question of '*should*' the texts be read differently, but rather that digital texts *are* different and therefore they are '*naturally*' (Parent-4) read and used differently to printed texts. For example, one parent stated that '*It is used differently . . . the reading experience is always very different*', while another parent stated that '*it doesn't matter how you read it, it's just different*.' Another parent noted that '*with the printed text you have to entertain them a little bit . . . instead of just giving them the electronic device and them just pushing buttons and be entertained by it*.' Parents noted that it was the interactive functionality of the digital that made the experience different, commenting that

> they can actually interact and move things around and make sounds, so it does make the experience a bit different. (Parent-10)

## Discussion

Guidelines for promoting children's health and wellbeing have strongly focused on counteracting sedentary behaviours. Concurrently, in the case of shared reading experiences – a practice that could equally be classified as a sedentary behaviour – the affordances of such practices on children's development and learning are well documented. A simplistic view to countering the risks and harms of sedentary behaviours, while advocating for the practice of shared reading, is to suggest time limits, while prioritising 'high-quality sedentary behaviour' as opposed to 'sedentary screen time' (Australian Government Department of Health 2022, 1–2), and to call for balance (e.g. Kucirkova, Littleton, and Kyparissiadis 2018). This places heavy emphasis on quantity, however, with little consideration for quality, that is, how and why technologies are used.

The findings from our study have shown that parents of young children often limit screen time for their children, however, this practice often appears to coincide with unsupervised use, with some indications to suggest that this may in part be due to time quotas being met outside of shared reading time. When parents are free to engage in shared reading, the device is often put aside given that the screen time limit has been reached. Our findings showed that while 21 of the 22 parents read printed texts daily and 22 of the 23 children used digital devices in their everyday lives, 11 parents (50%) never read digital texts with their child, allowing their children to engage with digital devices unsupervised or unfettered by parent mediation. Fifteen parents (68%) limited or restricted their children's use of digital technologies, including all 11 of the parents

who never read digital texts with their child, with 7 parents making reference to time constraints (32%).

Parental ethnotheories on how to read with children draw on past experiences *with printed texts*, since the mobile digital texts available to parents today were not available when parents were children themselves (Plowman 2014). Parents of young children are therefore in need of guidelines and advice on how to engage in shared reading with digital texts, to fill a gap in their personal histories and experiences. However, guideline recommendations that advise parents 'be instructed to interact with children during eBook reading, as they would a print book' (Council on Communications and Media 2016) appear to be contradictory to our findings. What parents know about shared reading in general, from their own past practices with printed texts, suggest that 'books' should be read in a certain way. Parents' personal experiences with the digital, however, as shown through our study, is that the digital text '*is*' different or '*should be*' read differently to the printed text even if feeling conflicted by their belief that '*they shouldn't be* [read differently], *but they probably are*' (Parent-19). These tensions and contradictions were most apparent when comparing parents' immediate impressions following the shared reading of digital texts, where all 22 parents stated that the digital experience was quite different to the printed experience. This was further reinforced at the conclusion of the study when parents were asked for their definitive opinion, with only five of the 22 parents (23%) stating that printed and digital texts *should* be read differently (all of whom indicated this was because the digital was not as suitable for shared reading as printed texts), and the remainder showing signs of uncertainty.

None of the parents interviewed in our study stated that a digital text should be read the same as a printed text, based on an acknowledgement that digital texts are intrinsically different and therefore are '*naturally*' read and used differently to printed texts. As detailed in Nicholas (2020) parents can experience frustration when they try to read a digital text as they would a printed text, due to the differences inherent in the change of medium or their child's behaviours. Our study has provided some evidence to suggest that, at times, these differences may be due to the fact that the first reading of a digital text will be different to the first reading of a printed text; the former requiring more time for '*discovery*' of what can be done with the text (for both parent and child) – a difference that would minimise with repeated readings of the text. The findings also showed that the shared reading of a digital text will require time to teach children 'concepts about digital texts' or about technology more broadly, just as parents devote time to teaching children 'concepts about print'. These findings suggest that perhaps, as Edwards et al. (2017) state in their study, and Plowman, Stephen, and McPake (2010, 107) advocate for in theirs, we should encourage 'mindful interactions that are sensitive to the context' – which in our case, would include sensitivity for the medium of the text – in addition to the needs and potentials of the individual. We should avoid showing concern when printed and digital texts are used in different ways or referring to such differences as a 'disconnect'. Rather, we should look at how their differences can be used as affordances, so parents have a plethora of resources to draw upon to support children's development in different ways.

## Conclusion

Our findings support the view that 'sedentary behaviour guidelines should be separated from digital technology use guidelines' (Straker et al. 2018, 302). Advice, guidelines, and policies that place a strong emphasis on the harms rather than the affordances of the digital have led to uncertainties, tensions and conflicts since parents continue to use devices to meet functional needs but feel embarrassed or guilt when doing so. Parents often respond to this guilt by adhering to time limits and seeking arbitrary 'balance'. Yet, doing so, as we found with our study, can often lead to potentially harmful practices such as limiting children's screen time to unsupervised use. We therefore argue that the focus of parental guidelines should not be on quantity but on quality and that quality should be re-conceptualised, so parents become aware of the different affordances of shared ebook reading, rather than seeking to use digital texts in the same way and for the same purposes as print texts. Using the digital purposefully and meaningfully rather than blindly or tacitly requires a concerted effort from those who give advice, to educate parents on the affordances of the digital and how it differs, complements, and adds to the affordances that shared reading of printed texts is known to present. Education on the harms of the digital has been quite successful, if we look at how parents seek to limit and are aware of the concept of 'screen time'. We propose that an equally concerted effort needs to be applied to educating parents on the affordances of shared reading with digital texts, in addition to the affordances of print texts.

The rapidly changing functions of digital technologies is a great example of the 'dynamic and shifting conditions' (Orland 2009, 118) in which policymakers must operate. Coupled with the paucity of research exploring the various affordances of shared reading using digital texts, policymakers are faced with a great challenge when seeking to identify concrete, consistent findings across studies that can inform the recommendations that they provide parents of young children. The advice to read digital texts as one would print texts serves to highlight the 'assumptive worlds of policy-makers' (Lingard 2013, 114) and how policymakers come to translate research into policy on topics that are subject to rapid change, constructing a particular 'policy narrative' (Rickinson et al. 2019, 242) around young children's digital media usage that borrows from familiar, historically accepted parenting recommendations. Our research, however, has highlighted the failings of such an approach. Clearly, further research is warranted to investigate the benefits and practices of reading digital texts in-and-of themselves, rather than blindly advocating that one engages with digital texts as one would a printed text. It is important that we understand parents' understandings of the mediating strategies required to effectively engage with young children during shared eBook reading experiences. More specifically, explorations are needed that investigate how parents negotiate the paradoxes of 'screen time as bad' (Straker et al. 2018, 302) that may encourage limited digital technology usage, and advice that encourages supervised use, with considered and evidence-based advice that shows understanding of effective adult-child interactions during the shared reading of a digital storybook. Such evidence would highlight the affordances of using digital technologies that lead to positive outcomes for children, challenging the binary view of digital being 'good' or 'bad', or that digital texts are better, worse or comparable to printed texts when engaging in shared reading.

## Acknowledgments

The authors would like to thank the *Australian Research Council Centre of Excellence for the Digital Child* for their support during the preparation of this paper. The views expressed are those of the authors.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Notes on contributors

*Maria Nicholas* is a Senior Lecturer in Education at Deakin University and an Associate Investigator at the Australian Research Council's Centre of Excellence for the Digital Child. Maria has an interest in literacy development in the pre-school years and early years of schooling, specialising in the learning and teaching reading. Maria's interests also include digital literacies, teaching approaches, and the role of mediation in child/student development and learning.

*Louise Paatsch* is a Professor in Education at Deakin University. Professor Louise Paatsch is also the Deputy Director of Deakin University's Strategic Research Centre in Education - Research for Educational Impact (REDI), and a Chief Investigator at the Australian Research Council's Centre of Excellence for the Digital Child. Her research focuses on children's and young people's communication, language, pretend play, and literacy development. She also works with teachers and educators to explore their own practices as reflective researchers to support positive outcomes for children, young people, and their families.

## ORCID

Maria Nicholas http://orcid.org/0000-0001-5979-4288
Louise Paatsch http://orcid.org/0000-0003-3978-9603

## References

Abebe, T. 2019. "Reconceptualising Children's Agency as Continuum and Interdependence." *Social Sciences* 8 (3): 81. doi:10.3390/socsci8030081.

Australian Bureau of Statistics. 2016. City of Greater Geelong: Community Profile. Retrieved November 27, 2017, from.id the population experts http://profile.id.com.au/geelong/equivalised-household-income-quartiles?WebID=390

Australian Government Department of Health. 2021. *Exercise and physical activity: Guidelines for all Australians: For infants, toddlers and preschoolers (birth to 5 years)*, https://www.health.gov.au/health-topics/physical-activity-and-exercise/physical-activity-and-exercise-guidelines-for-all-australians/for-infants-toddlers-and-preschoolers-birth-to-5-years

Australian Government Department of Health. 2022. GUIDELINES for HEALTHY GROWTH and DEVELOPMENT for YOUR CHILD: The Early Years (Birth to 5 Years), https://www.health.gov.au/sites/default/files/documents/2021/05/24-hour-movement-guidelines-birth-to-5-years-fact-sheet.pdf

Bahn, S. 2012. "Keeping Academic Field Researchers Safe: Ethical Safeguards." *Journal of Academic Ethics* 10 (2): 83–91. doi:10.1007/s10805-012-9159-2.

Bland, N. 2009. *The Wrong Book*. Gosford, NSW: Scholastic Australia.

Bland, N. 2012. *The Wrong Book*. App Store, online: We Are Wheelbarrow Pty. Ltd.

Blum-Ross, Alicia, and Sonia Livingstone. 2018. "The Trouble with 'Screen Time' Rules." In *Digital Parenting. The Challenges for Families in the Digital Age*, edited by Giovanna Mascheroni, Cristina Ponte, and Ana Jorge, 179–187. Göteborg: Nordicom.

Boynton, S. 1982. *But Not the Hippopotamus*. New York, US: Little Simon.

Boynton, S. 2013. *But Not the Hippopotamus*. App Store, online. Vancouver, BC Canada: Loud Crow Interactive Inc.

Bus, Adriana G., Marinus H. van Ijzendoorn, and Anthony D. Pellegrini. 1995. "Joint Book Reading Makes for Success in Learning to Read: A Meta-Analysis on Intergenerational Transmission of Literacy." *Review of Educational Research* 65 (1): 1–21. doi:10.3102/00346543065001001.

Chaudron, S., J. Marsh, V. Donoso Navarette, W. Ribbens, G. Mascheroni, D. Smahel, M. Cernikova, et al. 2018. "Rules of Engagement: Family Rules on Young Children's Access to and Use of Technologies." In *Digital Childhoods*, edited by Susan J Danby, Marilyn Fleer, Christina Davidson, Maria Hatzigianni, 131–145. Singapore: Springer.

Cheng, K. H., and C. C. Tsai. 2014. "Children and parents' Reading of an Augmented Reality Picture Book: Analyses of Behavioral Patterns and Cognitive Attainment." *Computers & Education* 72: 302–312. doi:10.1016/j.compedu.2013.12.003.

Chiong, C., J. Ree, L. Takeuchi, and I. Erickson. 2012. "Print Books Vs. E-Books: Comparing Parent-Child Co-Reading on Print, Basic, and Enhanced E-Book Platforms." *The Joan Ganz Cooney Center* 1–5. http://www.joanganzcooneycenter.org/wp-content/uploads/2012/07/jgcc_ebooks_quickreport.pdf .

Council on Communications and Media. 2016. "Media and Young Minds." *Pediatrics* 138 (5). doi:10.1542/peds.2016-2591.

Danby, Susan, Christina Davidson, Maryanne Theobald, Brooke Scriven, Charlotte Cobb-Moore, Sandy Houen, Grant Sandra, Given Lisa, Thorpe Karen, et al. 2013. "Talk in Activity During Young Children's Use of Digital Technologies at Home." *Australian Journal of Communication* 40 (2): 83–99.

Danet, Marie. 2020. "Parental Concerns About Their School-Aged Children's Use of Digital Devices." *Journal of Child and Family Studies* 29 (10): 2890–2904. doi:10.1007/s10826-020-01760-y.

Dardanou, M., T. Unstad, R. Brito, P. Dias, O. Fotakopoulou, Y. Sakata, and J. O'Connor. 2020. "Use of Touchscreen Technology by 0–3-Year-Old Children: Parents' Practices and Perspectives in Norway, Portugal and Japan." *Journal of Early Childhood Literacy* 20 (3): 551–573. doi:10.1177/1468798420938445.

Dias, P., R. Brito, W. Ribbens, L. Daniela, Z. Rubene, M. Dreier, M. Gemo, et al. 2016. "The Role of Parents in the Engagement of Young Children with Digital Technologies: Exploring Tensions Between Rights of Access and Protection, from 'Gatekeepers' to 'Scaffolders'." *Global Studies of Childhood* 6 (4): 414–427. doi:10.1177/2043610616676024.

Dowdall, Nicholas, G. J. Melendez-Torres, Lynne Murray, Frances Gardner, Leila Hartford, Peter J. Cooper. 2020. "Shared Picture Book Reading Interventions for Child Language Development: A Systematic Review and Meta-Analysis." *Child Development* 91 (2): e383–99. doi:10.1111/cdev.13225.

Early Childhood Australia (ECA). 2018. *Statement on Young Children and Digital Technologies*. Canberra, ACT: ECA. doi: 10.23965/ECA.001.

Edwards, Susan, Michael Henderson, Donna Gronn, Anne Scott, and Moska Mirkhil. 2017. "Digital Disconnect or Digital Difference? A Socio-Ecological Perspective on Young Children's Technology Use in the Home and the Early Childhood Centre." *Technology, Pedagogy and Education* 26 (1): 1–17. doi:10.1080/1475939X.2016.1152291.

Fisch, S. M., J. S. Shulman, A. Akerman, and G. A. Levin. 2002. "Reading Between the Pixels: Parent-Child Interaction While Reading Online Storybooks." *Early Education and Development* 13 (4): 435–451. doi:10.1207/s15566935eed1304_7.

Flack, Z. M., A. P. Field, and J. S. Horst. 2018. "The Effects of Shared Storybook Reading on Word Learning: A Meta-Analysis." *Developmental Psychology* 54 (7): 1334–1346. doi:10.1037/dev0000512.

Fox, M., and J. Horacek. 2004. *Where is the Green Sheep?*. Melbourne, Australia: Penguin Group.
Herrington, J., and R. Oliver. 1999. "Using Situated Learning and Multimedia to Investigate Higher-Order Thinking." *Journal of Educational Multimedia and Hypermedia* 8 (4): 401–422.
Kucirkova, N., K. Littleton, and A. Kyparissiadis. 2018. "The Influence of Children's Gender and Age on Children's Use of Digital Media at Home." *British Journal of Educational Technology* 49 (3): 545–559. doi:10.1111/bjet.12543.
Kumpulainen, P. K., and J. Gillen. 2019. "Young Children's Digital Literacy Practices in Homes: Past, Present and Future Research Directions." In *Routledge Handbook of Digital Literacies in Early Childhood*, edited by R. Flewitt, O. Erstad, B. Kuemmerling-Melbauer, and I. Pereira, 95–108. London: Routledge.
Lauricella, A. R., R. Barr, and S. L. Calvert. 2014. "Parent–Child Interactions During Traditional and Computer Storybook Reading for Children's Comprehension: Implications for Electronic Storybook Design." *International Journal of Child-Computer Interaction* 2 (1): 17–25. doi:10.1016/j.ijcci.2014.07.001.
Lingard, B. 2013. "The Impact of Research on Education Policy in an Era of Evidence-Based Policy." *Critical Studies in Education* 54 (2): 113–131. doi:10.1080/17508487.2013.781515.
Marsh, J., P. Hannon, M. Lewis, and L. Ritchie. 2017. "Young Children's Initiation into Family Literacy Practices in the Digital Age." *Journal of Early Childhood Research* 15 (1): 47–60. doi:10.1177/1476718X15582095.
McNab, K., and R. Fielding-Barnsley. 2013. "Digital Texts, iPads, and Families: An Examination of families' Shared Reading Behaviours." *International Journal of Learning* 20 (1): 53–62.
Mol, S. E., A. G. Bus, M. T. de Jong, and D. J. H. Smeets. 2008. "Added Value of Dialogic Parent-Child Book Readings: A Meta-Analysis." *Early Education and Development* 19 (1): 7–26. doi:10.1080/10409280701838603.
National Literacy Trust. 2017. *Sharing stories together. Words for Life*. Accessed 13 June, 2022, https://wordsforlife.org.uk/activities/sharing-stories-together/
Nelson, C. n.d. *5 ways to help set your child up for future success: From embracing baby talk to taking play seriously – easy, effective and science-backed tips for every parent*. UNISEF Parenting. Accessed 13 June 2022, https://www.unicef.org/parenting/child-development/5-ways-to-help-set-your-child-up-for-success
Nicholas, M. 2020. *Mothers' interactions with two-year-olds when reading printed and electronic texts*. (Doctoral dissertation, Deakin University). Deakin Research Online. https://dro.deakin.edu.au/articles/thesis/Mothers_interactions_with_two-year-olds_when_reading_printed_and_electronic_texts/21116479
Nicholas, M., and L. Paatsch. 2021. "Mothers' Views on Shared Reading with Their Two-Year Olds Using Printed and Electronic Texts: Purpose, Confidence and Practice." *Journal of Early Childhood Literacy* 21 (1): 3–26. doi:10.1177/1468798418792614.
Orland, M. 2009. "Separate Orbits: The Distinctive Worlds of Educational Research and Policymaking." In *Handbook of Education Policy Research*, edited by G. Sykes, B. Schneider, D. Plank, and T. Ford, 113–128. New York: Routledge.
Phillips, L. M., S. P. Norris, and J. Anderson. 2008. "Unlocking the Door: Is parents' Reading to Children the Key to Early Literacy Development?" *Canadian Psychology* 49 (2): 82–88. doi:10.1037/0708-5591.49.2.82.
Plowman, L. 2014. "Researching Young Children's Everyday Uses of Technology in the Family Home." *Interacting with Computers* 27 (1): 36–46. doi:10.1093/iwc/iwu031.
Plowman, L., C. Stephen, and J. McPake. 2010. "Supporting Young Children's Learning with Technology at Home and in Preschool." *Research Papers in Education* 25 (1): 93–113. doi:10.1080/02671520802584061.
Quay, E. 2010. *Shrieking Violet*. Lindfield, Australia: Scholastic Press.
Radesky, J. S., S. Eisenberg, J. C. Kistin, J. Gross, G. Block, B. Zuckerman, and M. Silverstein. 2016. "Overstimulated Consumers or Next-Generation Learners? Parent Tensions About Child Mobile Technology Use." *Annals of Family Medicine* 14 (6): 503–508. doi:10.1370/afm.1976.

Read, K., and J. Quirke. 2018. "Rhyme and Word Placement in Storybooks Support High-Level Verb Mapping in 3-To 5-Year-Olds." *Frontiers in Psychology* 9 (889): 1–15. doi:10.3389/fpsyg.2018.00889.

Rickinson, M., L. Walsh, K. De Bruin, and M. Hall. 2019. "Understanding Evidence Use Within Education Policy: A Policy Narrative Perspective." *Evidence & Policy: A Journal of Research, Debate and Practice* 15 (2): 235–252. doi:10.1332/174426418X15172393826277.

Rollo, D., and F. Sulla. 2016. "Maternal Talk in Cognitive Development: Relations Between Psychological Lexicon, Semantic Development, Empathy, and Temperament." *Frontiers in Psychology* 7: 1–10. doi:10.3389/fpsyg.2016.00394.

Samuelsson S, Olson R, Wadsworth S, Corley R, DeFries J C, Willcutt E, Hulslander J, and Byrne B. (2006). Genetic and environmental influences on prereading skills and early reading and spelling development in the United States, Australia, and Scandinavia. Read Writ, 20(1–2), 51–75. doi:10.1007/s11145-006-9018-x.

Schreier, M. 2013. "Qualitative Content Analysis." In *The SAGE Handbook of Qualitative Data Analysis*, edited by U. Flick, 170–183. London, England: SAGE Publications.

Sénéchal, M. 2011. "A Model of the Concurrent and Longitudinal Relations Between Home Literacy and Child Outcomes." In *Handbook of Early Literacy Research*, edited by S. B. Neuman and D. K. Dickinson, 520–560. Vol. 3. New York: Guilford Publications.

Seo, H., and C. S. Lee. 2017. "Emotion Matters: What Happens Between Young Children and Parents in a Touch Screen World." *International Journal of Communication* 11: 561–580.

Sergi, K., R. Gatewood, A. Elder, and J. Xu. 2017. "Parental Perspectives on Children's Use of Portable Digital Devices." *Behaviour & Information Technology* 36 (11): 1148–1161. doi:10.1080/0144929X.2017.1360941.

Straker, L., J. Zabatiero, S. Danby, K. Thorpe, and S. Edwards. 2018. "Conflicting Guidelines on Young Children's Screen Time and Use of Digital Technology Create Policy and Practice Dilemmas." *The Journal of Pediatrics* 202: 300–303. doi:10.1016/j.jpeds.2018.07.019.

Strouse, G. A., and P. A. Ganea. 2017. "Parent-Toddler Behavior and Language Differ When Reading Electronic and Print Picture Books." *Frontiers in Psychology* 8 (677): 1–14. doi:10.3389/fpsyg.2017.00677.

Takacs, Z. K., E. K. Swart, and A. G. Bus. 2015. "Benefits and Pitfalls of Multimedia and Interactive Features in Technology-Enhanced Storybooks: A Meta-Analysis." *Review of Educational Research* 85 (4): 698–739. doi:10.3102/0034654314566989.

van Kruistum, C., and R. van Steensel. 2017. "The Tacit Dimension of Parental Mediation." *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 11 (3). doi:10.5817/CP2017-3-3.

Vygotsky, L.S. 2012. Hanfmann, Eugenia, Vakar, Gertrude, Kozulin, Alex Thought and language - Revised and expanded edition. London, England: MIT Press.

Zucker, T. A., S. Q. Cabell, L. M. Justice, J. M. Pentimonti, and J. N. Kaderavek. 2013. "The Role of Frequent, Interactive Prekindergarten Shared Reading in the Longitudinal Development of Language and Literacy Skills." *Developmental Psychology* 49 (8): 1425–1439. doi:10.1037/a0030347.