Personalised print books and family literacy outcomes

A literature review

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Overview

The importance of early reading in the home for developing reading enjoyment and positive reading attitudes in children is well established. Young children's reading attitudes and confidence have been shown to predict their later reading success (e.g. Sénéchal & LeFevre, 2002; McGeown et al., 2015). Early reading supports children's language development (Dickinson, Griffith, Golinkoff, & Hirsh-Pasek, 2012), which in turn supports later literacy outcomes (Dockrell & Connelly, 2009) and wider educational attainment (Sullivan and Brown, 2013). Shared book reading, in particular, offers many advantages for children's emergent literacy, as parents and carers can scaffold and extend children's learning (e.g. Blewitt, Rump, Shealy & Cook, 2009; Bus, van IJzendoorn, & Pellegrini, 1995; Farrant and Zubrik, 2013).

Recent technological advances have allowed publishers to create illustrated books featuring personalised elements, such as a child's name and gender, within a storybook at a commercially viable cost. Marketers have long advocated the benefits of personalisation for customer engagement[1]; however, it is more difficult to find research looking at the potential benefits of personalisation on family literacy outcomes. This literature review aims to provide a brief overview of research relating to the importance of sharing books in the early years and the potential impact of personalised elements on the cognitive and affective aspects of shared reading, including reading skills, interest, motivation and engagement.

Personalisation in printed children's books

The review will focus on personalised children's picture books in print format. These books may feature a child as protagonist or another central character, or use their name as the source of the narrative. The names and images of other family members and friends may also feature in a personalised story, as may the child's characteristics, familiar places, favourite toys or hobbies. Some personalised books illustrate the text with photographs of the child, family or friends (provided by the adult ordering the book), while others incorporate specified details about the child (such as skin tone, hair and eye colour) into illustrations.

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[1] https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/consumer-business/ch-en-consumer-business-made-to-order-consumer-review.pdf

Key findings

- A supportive home learning environment, including reading to or with a child, helps young children to develop positive attitudes towards reading and encourages reading for enjoyment, which in turn improves vocabulary, comprehension and reading proficiency.
- Longitudinal studies have demonstrated connections between early reading for enjoyment and interest in books and reading habits and achievement later in life
- Parental support in the form of early, shared reading for enjoyment is associated with greater frequency of reading for enjoyment in older children. In addition, talk during shared reading has been shown to have a positive impact on children's reading motivation on starting school.
- Children's learning during shared reading has been found to be somewhat dependent on how well parents are able to "bridge the child's world and the world of the book" (Bus, 2003). This 'bridging' may be facilitated by personalised books, which, by featuring the child within the text itself, bring the world of the book and the child's world together.
- In turn, children's level of engagement with discussions during book reading depends to some extent on "…the knowledge the child brings to the exchange" (Hindman et al., 2008). Again, this may be facilitated by personalised books featuring children within the story due to the child's knowledge of personal experiences and feelings.
- Indeed, a 2014 study of 35 pre-school children found that children spoke more, and for longer, when sharing personalised texts (Kucirkova et al., 2014b), suggesting that these texts supported children's ability to engage in book talk.
- Studies have also indicated that personalisation can have a positive impact on children's learning engagement, confidence and ambition. One US study found "manifest and immediate" effects and "dramatic increases …in the amount [children] learned… and [their]…perceived competence and levels of aspiration" when learning contexts included personal information (Cordova and Lepper, 1996).
- Other research has shown that vocabulary recall improves when questions relate a word to an individual (Rogers, Kuiper & Kirker, 1977) and that memory is enhanced when people are able to categorise stimuli in relation to themselves (Sui and Humphries, 2015). A study of word acquisition in pre-school children found they "…showed significantly better knowledge" about words featuring in personalised sections of books compared to words appearing in non-personalised sections (Kucirkova, et al., 2014a).
- Interest has also been found to increase word recall and processing (Naceur and Schiefele, 2005, cited in Clark and Phythian-Sence, 2008). A US study found improved reading comprehension in students given reading books with personalised elements. The study's author suggested that personalised stories might have been more engaging for some students due to a sense of greater personal relevance (Bracken, 1982).

- Commentators have suggested that seeing oneself in a book can have a powerful effect on children, making "explicit the idea that they are welcome … in the world of the written word" (Williams, 2004). Furthermore, researchers have suggested, "Ownership of text, both in the literal and metaphorical sense, is a significant element in the process of becoming and perceiving oneself as a reader" (Dymore and Griffiths, 2010).
- The option of reflecting gender, ethnicity and cultural background in personalised books gives children the opportunity to see a person just like them represented in a published book, at a time when children's publishing is far from representative of the variety of ethnicities in most societies. As inclusion consultant Beth Cox states, "All children have the right to be included in books, to see faces that they can relate to on the covers, to meet characters with similar families, lives and experiences."
- As noted in a 2015 review, "reading is closely linked to increasing understanding of our own identities and can also play a large part in relating to others, understanding their world-views" (BOP consulting and The Reading Agency). Personalised stories may offer useful opportunities for the consideration of multiple causes and motivations for unfamiliar characters' behaviours by placing these directly alongside the featured child's motivations.
- Printed personalised books, in particular, may be seen to enhance positive shared reading experiences, as the print format has been shown to support more shared activity between parent-child dyads (Yuill and Martin, 2016).

Importance of sharing books in the early years

A supportive home learning environment, including reading to or with a child, helps young children to develop positive attitudes towards reading and encourages reading for enjoyment (Sylva et al., 2014), which in turn improves vocabulary, comprehension and reading proficiency (e.g. Bus, van IJzendoorn, & Pellegrini, 1995; Cunningham & Stanovic, 2001; Farrant & Zubrik, 2013; Sullivan & Brown, 2013).

Parental attitudes, behaviours and beliefs play an important role in influencing reading motivation and achievement in young children, helping them to develop positive reading habits (Baker, 2003) and attitudes towards reading (Bonci, 2008). Parents' own reading attitudes and behaviours are also associated with the opportunities provided for children to read. Children of parents who consider reading a source of entertainment were found to have more positive views about reading than those whose parents emphasised the skills aspect of reading development, and shared reading time provides children with good reading role models, indicating that reading is valued and considered a pleasurable activity (Baker et al., 1997). Sonnenschein et al. (2009) also noted that parents who saw reading as a source of entertainment were more likely to offer opportunities for children to engage with activities such as reading stories, and to focus on making reading enjoyable for their child.

Longitudinal studies show that such early reading opportunities are strongly linked with the development of reading skills as children get older. A five-year study of 168 Canadian children found:

"…exposure to books was related to the development of vocabulary and listening comprehension skills, and …these language skills were directly related to children's reading in grade 3."

(Sénéchal & LeFevre, 2002)

A 2008 study of 106 four-year-olds found positive associations between shared reading and children's expressive vocabulary, morphological comprehension and (depending on parents' own literacy) awareness of complex sentence patterns (Sénéchal, Pagan, Lever, & Ouellette, 2008). Other studies have found links between parent-child book reading and vocabulary development. Researchers suggest that activities involved in typical shared reading sessions (such as joint attention, verbal labelling and pointing) provide children with opportunities to learn word-object mapping, and the meanings of new words (Farrant, 2013).

There is further evidence that positive early reading experiences can have a long-lasting impact not just on language development and reading outcomes but on children's educational attainment in general. Large-scale, international research observed a strong relationship between whether children were read to in their early school years and their reading scores at the age of 15 (OECD, 2012). Longitudinal UK research found that a home reading culture that included parents reading to the child influenced children's later test scores in vocabulary, spelling and mathematics (Sullivan and Brown, 2015).

Impact of personalisation on the reading skills and experience of children and their parents

Although studies exploring the impact of personalisation on reading are limited at this time, several suggest that personalisation may have potential benefits for developing early communication, language and literacy.

For example, one US study examining strategies for enhancing students' learning motivation explored the effects of contextualisation, personalisation and choice on 72 elementary school[2] students (Cordova and Lepper, 1996). Researchers invited children to take part in educational computer activities that included material presented in either a generic, or in an individually, personalised format. In the latter format, generic references were replaced with those personal to the child (such as birthdays, friends' names, favourite foods and hobbies) which had been gathered in advance via a questionnaire.

The study was designed to associate the educational activity with "characters and objects of inherent interest to the students". This strategy was based on existing research looking at the role of "topical or content variables in determining children's curiosity and interest" which had shown that materials were "better learned and remembered when presented in connection with topics, characters, or ideas of high interest value," and on cognitive studies (e.g., Anand & Ross, 1987; Ross, 1983, cited in Cordova and Lepper, 1996) indicating that "learning can be enhanced when problems are presented in familiar concrete contexts that could allow learners to draw on their experiential knowledge from those contexts" (Cordova and Lepper, 1996).

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[2] Equivalent to early primary school

Researchers described how "…the motivational effects …were both manifest and immediate," and overall results showed:

> "…Students for whom the learning contexts had been personalized, through the incorporation of incidental individualized information about their backgrounds and interests, displayed larger gains in motivation, involvement, and learning than their counterparts for whom the contexts had not been personalized."

Furthermore, the study found:

> "…Contextualisation, personalization, and choice all produced dramatic increases, not only in students' motivation but also their depth of engagement in learning, the amount they learned in a fixed time-period, and their perceived competence and levels of aspiration."

(Cordova and Lepper, 1996)

While researchers cautioned that these strategies might be less beneficial for children who were "already highly motivated and task-oriented," findings relating to the power of personalisation to increase children's learning motivation, engagement and confidence were clearly promising.

Personalisation and literacy skills

Vocabulary

Turning now to the potential for personalisation to influence specific literacy skills, small-scale studies have indicated associations between personalisation and children's ability to learn and recall new vocabulary.

There is substantial research showing that vocabulary recall is enhanced when questions are posed that relate a word to an individual, for example, by asking: "Does this word describe you?" (Rogers, Kuiper & Kirker, 1977). This suggests that the ability to recall vocabulary may be improved by being asked questions which make words relevant to the individual, prompting them to process it in relation to themselves, which may be facilitated by personalised books. Sui and Humphries (2015) further note that evidence suggests memory is enhanced as people categorise stimuli in relation to themselves (e.g. Cunningham, Turk, Macdonald and Macrae, 2008; Turk, van Bussel, Waiter and Macrae, 2011). This may suggest that aspects of personalised books that naturally help children to relate words to themselves and their own experiences may support word processing and recall.

Indeed, a 2014 study exploring the impact of personalised story content on word acquisition on 18 pre-school age children found children showed "…significantly better knowledge about the words that were in the personalized sections of the books than the words in the non-personalized sections" (Kucirkova et al., 2014a). Researchers concluded "personalising books for young children can be viewed as a positive means to support young children's vocabulary development during shared book reading" (Kucirkova, et al., 2014a).

Oral language skills

Oral language has been shown to play both a direct and indirect role in developing children's word recognition abilities, and to provide a better foundation for early reading skill than vocabulary alone (NICHD Early Child Care Research Network, 2005). As Morrow and Tracy state, "The reciprocal relationship between children's spoken and written language means that oral language skills will impact early and later achievements in learning to read and write" (2007). In addition, Baumann and Duffy (1997, as cited in Clark & Rumbold, 2006) include "a language-rich environment" in which children are encouraged to have discussion with their caregivers, as one of five factors that help children to become readers. Studies have shown that talk during shared reading is positively associated with children's motivation on starting school (Sonnenschein et al., 2009) and researchers have suggested that, even if parents don't like reading themselves, talking to children about what they read is a good way to encourage reading (OECD, 2012).

A 2014 study of 35 pre-school children given personalised printed books including pictures and personal references relevant to them, found that:

> "…Children produced a significantly higher rate of utterances in the personalised reading context, which in comparison to the non-personalised context also lasted a significantly longer time."
>
> (Kucirkova et al., 2014b)

Researchers concluded that findings suggested that "the situational context provided by the personalised books encourages children's higher rate of spontaneous speech overall, and self-references in particular", concluding that "reading personalised books provides a positive context for speech production" (Kucirkova et al., 2014b). Notably, while the volume of speech was significantly higher with personalised books, much of this consisted of self-referential comments, which:

> "…raises important questions about the appropriateness of these resources in solitary reading contexts and underscores the important role adults play in supporting children's optimal speech production."
>
> (Kucirkova, Messer, & Sheehy, 2014b)

As a note, study methodology featured a researcher (rather than a teacher, parent or carer) sharing the books with children. The study's authors speculated that results may have been influenced not only by the child's "familiarity with the content of the story" but because "personalised books, with all their textual and pictorial representations of the child, provided a 'common ground' between the researcher and the child …serving as an evocative storytelling prompt" (Kucirkova et al., 2014b).

A 1996 study of 41 parents found that "low proficiency" parent readers engaged in more talk when sharing a more predictable text, while proficient parent readers interacted more when sharing a narrative text. Researchers suggested:

National Literacy Trust

> "For parents who lacked proficiency in reading, the highly predictable text with its repetitive language and rhyme appeared to act as a scaffold for active participation with their young children."
>
> (Neuman, 1997)

Moreover, a study of 130 pre-school children and their parents during shared book reading found that parents tended to focus on meaning-related discussions, observing that such discussions "…are dependent on the knowledge that the child brings to the exchange". (Hindman et al., 2008). These findings may indicate the potential for personalised elements to increase children's engagement with the text, drawing on the parent and child's existing knowledge of their personal characteristics, likes and dislikes and so on, which may help to encourage children to take a more active role in story sharing, and offer greater opportunities for the adult involved in shared book reading to extend conversations.

This may also be the case whether the adult sharing the story is less familiar with the child than a parent, carer or teacher (for example, a reading volunteer or babysitter) or indeed a less confident parent, who may know the child well but find it easier to talk about familiar topics than support talk about less well-known or imaginary subjects. Indeed, Kucirkova (2010) notes that personalised stories "[celebrate} each parent's and child's 'funds of knowledge' (Moll et al., 1992)" and, following "later extensions of Vygotskian theory …places emphasis on culturally constructed tools and shared meaning; personalised books are particularly suitable in facilitating social interaction which involves these processes."

The quality, as much as the quantity, of verbal interaction during shared book reading has featured in many studies. An approach known as 'dialogic reading' has been shown to improve children's expressive vocabulary (e.g. Bus et al., 1995; Whitehurst et al., 1998). Dialogic reading involves specific techniques in which adults sharing books with children ask open-ended questions, provide feedback and encourage the child to take an active role in narrating the story. Children whose parents were trained in dialogic reading techniques showed long-lasting improvements in expressive language skills. Mol et al. (2008, 2009) observed, "Such dialogic reading practices are more facilitative for children's vocabulary development than simply reading the story" (2008, 2009). As Whitehurst et al. (1998) stated, "Adult scaffolding is especially important for children below the age of four in order to enable their active involvement to promote story comprehension or vocabulary" and, "beyond reading the print text, adults can involve the child in interactions regarding the story such as evoking comments from the child and providing feedback to their responses."

As noted by Duursma et al (2008), the use of "'decontextualized' or non-immediate talk and active engagement has proven to be particularly beneficial for children's language enhancement" (Reese and Cox, 1999; Beals et al., 1994; Zevenbergen and Whitehurst, 2003; cited in Duursma et al, 2008). Duursma defines non-immediate talk as "talk that goes beyond the information in the text or the illustrations, for example, to make connections to the child's past experiences or to the real world (e.g., ''you like ice cream''). Supportive adult talk of this nature plays an essential role in linking the world of books to the child's world, which is particularly important for younger children's print awareness and engagement with books and reading. As Bus (2003) stated:

> "Children's commitment and learning depends on the parental ability to bridge the child's world and the world of the book by using their intimate knowledge of the child's personal experiences, of familiar and meaningful settings, possessions and sensations, and of the language with which these sensations are associated."

(Bus,2003)

Bus noted "numerous examples of caregivers changing the print or altering the text during book reading to make it more attractive to the child (e.g. Martin & Reutzel, 1999; van Kleek et al., 1996)", for example, one study described a parent who added a dog character to a story, as their child liked dogs. These studies suggest that personalised books may offer good opportunities both to encourage children to take a more active role in story sharing, and to provide the adult involved in shared book reading with ready material to extend conversations. Given that personalised books feature a child's name, appearance and other familiar features on the pages themselves, it would be interesting to explore whether such features might have the potential to facilitate connections between the child's life, and the world of books. It would also be interesting to explore any impact that personalised elements may have on dialogic reading practices and decontextualised talk; for example, to observe whether children take a more active role in the story and whether parents' talk increases due to the prompts suggested by personalised elements, which naturally connect the text to children's past experiences and their preferences in real world.

Reading comprehension

Personalisation has also been shown to improve older children's reading comprehension. A US study of 40 fourth-grade[3] children reading at below the level expected for their age found that, when personalised elements (such as names and addresses, sourced from pre-intervention questionnaires) were added to their school reading books, their reading comprehension scores improved by more than 40% compared with peers reading non-personalised stories. Based on these findings, the study's author concluded:

> "It appears likely that children who find reading difficult because of uninteresting materials would become more involved in personalized stories because of their personal relevance."

(Bracken, 1982)

This suggests that children's interest in their reading books was enhanced by the sense of the direct personal relevance of the text, implying that personalised elements may not only attract children less engaged by non-personalised texts to reading, but that this impacts positively on their literacy outcomes.

Personalisation and affective aspects of reading: enjoyment and interest

Clark and Phythian-Sence noted the impact of interest on reading outcomes in a 2008 review. Citing a study by Daniel, Waddill, Finstad and Bourg (2000), the review noted that:

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[3] 9 to 10 year-old

> "…Personally interesting narratives allowed readers to incorporate new information into a broader knowledge base from which more general information could be recalled."
>
> (Daniel, Waddill, Finstad and Bourg, 2000, as cited by Clark and Phythian-Sence, 2008)

This was also suggested in a 2010 study by Kucirkova, who proposed that "Personalised information enables enhanced understanding …with reduced memory load [as] the learner is building on previous knowledge and known concepts" (Kucirkova, 2010a).

Evidence linking personalisation with interest, and interest with reading recall and comprehension, would again seem to imply that the literacy outcomes of some groups of readers, for example, those less interested by non-personalised texts, may be supported by texts with personalised elements. Longitudinal studies have demonstrated connections between early interest in books and better reading habits and achievement later in life. A 2006 study found that early shared reading for enjoyment (storybook reading before formal schooling) had a direct link to frequency of reading for enjoyment in Grade 4 (Sénéchal, 2006), whereas an earlier study found that children whose parents said they showed very low interest in books before the age of five had weak reading skills in Grade 4 (Olofson and Niedersoe, 1999, as cited in Baker, 2003).

Alongside influence on learning, attention and comprehension, interest has also been found to affect emotional engagement (e.g. Schiefele, 1999 as cited by Clark and Phythian-Sence, 2008). Kucirkova (2010) suggests that books tailored to a child's personal interests, needs and culture are "very likely to elicit substantial interest and engagement of both participants" and in a 2016 article, suggests that personalisation "adds a layer of playfulness, authenticity, immediacy to the story and can be a great way to engage the children and caregivers in the process of shared book reading." Indeed, in a radio programme on the subject of personalisation in children's books, a child featuring in a family case study explained that he thought his personalised story was "a lot more interesting to read about than any other book" (*You and Yours*, 2017).

Seeing yourself in a book

There is, of course, a sense of uniqueness to a personalised book; parents and children know "There's no other book out there like it" (*You and Yours*, 2017). This may contribute to the feeling of ownership, and, as Dymore and Griffiths (2010) state, "Ownership of text, both in the literal and metaphorical sense, is a significant element in the process of becoming and perceiving oneself as a reader". Williams (2014) describes other, perhaps less tangible, effects that such a personalised text may have on a young child's print awareness and sense of themselves as a reader:

> "…The sheer specialness of seeing your own name on a page in a well-loved and familiar context. …For children, at least, it broadens, rather than narrows the book's focus; it makes explicit the idea that they are welcome here, in the world of the written word."
>
> (Williams, 2014)

These ideas may be extended further as personalised books can reflect a child's gender, ethnicity and cultural background, which may be less visible in commercially published non-personalised books. While this does not address the urgent need for children's books to more accurately reflect and represent the variety of people in the world, personalised books may at least provide an individual child with the opportunity to see themselves within the pages of a published book.

A 2014 white paper for the American Association for Library Service to Children commented on the impact of not seeing your culture represented in books: "When children never see their culture represented …in materials on the library shelves, they receive a resounding message that the librarian does not think their culture is important" (Campbell Naidoo, 2014). However, such 'cultural invisibility' is not only a concern of librarians and other curators, but reflects a serious lack of representation in children's publishing overall. US academics have noted a significant under-representation of people of colour in children's books over the last three decades, both in terms of the ethnicity of authors and illustrators and in relation to the characters appearing in books. For example, the University of Wisconsin-Madison found that, of children's books sent to their research library (the Cooperative Children's Book Centre) in 2006, just 5.1% featured black people; in 2016, this percentage had only increased to 8.4% of submissions (*Children's Books by and About People of Color*, 2017).

Flood (2014) noted that while there are no similar statistics available for the UK, "…experts have said that the issue is a 'huge problem' in the UK as well". She quotes inclusion consultant Beth Cox:

> "All children have the right to be included in books, to see faces that they can relate to on the covers, to meet characters with similar families, lives and experiences. Equally important is for children to see difference in books, to learn about those who are different from themselves, and to realise that they do, in fact, have many similarities."
>
> (Cox, as cited by Flood, 2014)

Award-winning illustrator Christopher Myers pointed out that this "apartheid of literature" (the lack of characters of colour in children's fiction) has two effects on children under-represented in the books available to them. Firstly, there is the "…gap in the …sense of self-love that comes from recognizing oneself in a text …from the understanding that your life and the lives of people like you are worthy of being told." Secondly, Myers suggests that books are not just "mirrors", but "maps", helping children create "an atlas of their world …of their possible destinations" (Myers, 2014). Indeed, individuals' motivations have increasingly been associated with their sense of "possible selves" (Oulasvirta & Blom, 2008). Thus, depending on the content of the story, seeing oneself in a book may contribute to children's sense of "possible selves", and on their motivation, which may potentially be of longer-term benefit to children in the early stages of considering their place in the world and their future aspirations.

Other aspects of personalisation

Stories play an important role in shaping a sense of personal identity and understanding others' thoughts, feelings and motivations. A 2015 review by The Reading Agency and BOP Consulting noted that "reading is closely linked to increasing understanding of our own identities and can also play a large part in relating to others, understanding their world-views and so forth". Jones (2002) notes that considering yourself in a narrative role is important for developing self-perception:

> "Personal biography, that capacity to structure the world around an autobiographical event, allows children particularly to order and explain things which otherwise might remain random and inexplicable.
> …Narrative form, then, is a developmental turning-point in a human being's understanding both of the world, and themselves."

(Jones, 2002)

Personalised books that present children as a protagonist or as a main part of the story structure may also have an empowering influence on some children, as they imagine themselves as an agent with power to change or advance the narrative. Indeed, in a 2008 paper examining the psychological motivations of personalising ICT, Oulasvirta and Blom note "personalisation features can help shift the locus of causality[4] from extrinsic to intrinsic and can make the user feel like being the origin rather than subject of events".

However, there is a balance to be struck between allowing a child to enjoy being the star of the story and using storybook reading to support their developing theory of mind, and awareness of different perspectives and ways of thinking. Several studies indicate that our perception of others' mental states may be inferred by assuming that others experience what you would think or feel in a comparable situation (Adolphs, 2002; Davies & Stone, 1995a, 1995b; Gallese & Goldman, 1998; Gordon, 1986; Nickerson, 1999). Therefore, non-personalised stories may offer more opportunities for adults to help children comprehend that there can be multiple causes and motivations for characters' behaviours, through exploring feelings other than their own. Kucirkova (2015) has recommended that adults ensure children have opportunities to read both personalised and non-personalised books for this reason.

At the same time, a recent study suggests that books featuring human rather than animal characters may help promote pro-social behaviours, such as sharing, in young children. A 2017 Canadian study involving 96 pre-school aged children found that children were more likely to share stickers with an anonymous child after being read a story with human, rather than anthropomorphised animal, characters (Larsen, Lee & Ganea, 2017). It would be interesting to explore whether, through featuring human characters, personalised books with pro-social themes may also be effective in influencing positive attitudes to others. Finally, in terms of the format of personalised books, a 2017 blog by a UK children's publisher suggested that personalised books, particularly those in print format, "…create both a safe and stimulating environment in which to develop a child's language and love of

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[4] "The extent to which individuals perceive their actions as caused by internal or external reasons" http://onlinelibrary.wiley.com/doi/10.1111/j.1559-1816.2007.00263.x/abstract

reading" (Egmont Publishing, 2017). The blog makes reference to a 2016 study of 24 mothers reading with seven to nine-year-old children in print and on screen, which observed that while there were no differences in recall quality between formats, "interactional warmth was lower for screen than for paper, and dropped over time, notably when children read on screen" (Yuill and Martin, 2016). Researchers concluded that "mother - child posture for paper reading supported more shared activity", and qualitative analysis suggested that children tended to hold tablets "in ways more typical of individual use", meaning mothers had to "shoulder-surf" to see the story on the screen. Conversely, "...when the pair read a paper book, it seemed natural to open the pages wider to invite the listener to curve inwards and share" (Yuill and Martin, 2016).

Discussion

This literature review has discussed the role of a supportive home environment on children's early literacy and learning, and how positive shared reading experiences are associated with children's later educational success. In addition, a number of small studies have indicated that personalisation can have positive impacts both on overall learning and with regard to specific areas of literacy, such as oral language, vocabulary learning and recall (Kucirkova, et al., 2014a) and reading comprehension (Bracken, 1982).

Studies indicate that personalised elements can increase children's learning motivation, engagement and aspiration (Cordova and Lepper, 1996). Furthermore, the special qualities of seeing themselves within the pages of a book may increase children's engagement with books and reading, supporting parents in bridging that world with the world of their child's everyday experience and helping children to see themselves as part of the "world of books" (Williams, 2014), which can have a positive impact on children's self-perception as readers. In addition, the option of featuring a child's appearance, gender and ethnicity within a personalised book also provides a unique opportunity for children to see themselves in a published book, increasing self-esteem and a "sense of possible destinations" (Myers, 2014).

Technological advances have only recently allowed the production of good quality, highly illustrated personalised storybooks at reasonable cost, and therefore studies exploring their impact on family literacy outcomes are difficult to find in existing literature ("in many respects, research lags behind industry developments," Kucirkova, 2017). Studies to date suggest that there may be great potential for personalised books to facilitate positive shared book talk, young children's reading enjoyment and motivation, their sense of themselves as readers, their self-esteem and aspirations and, potentially, other areas such as developing empathy and theory of mind. However, these are relatively small scale, and further research in this area is much needed to allow the benefits of personalised books for children's reading to be established in more detail, helping to better inform parents, educators, academics and all those seeking to support early reading enjoyment and engagement.

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