A taxonomy and research framework for personalization in children's literacy apps

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This paper reviews the key types of personalization in children's literacy apps to propose a taxonomy and research framework for future empirical study. Systematic content analysis was used to identify the number and type of personalization in a hundred most popular children's literacy apps/digital books. Titles with three and more personalization features were screened qualitatively to identify what can be personalized, how personalization occurs and who personalizes the experience. Similar themes were synthesised into a research framework that outlines how identity, self-evaluation and agency relate to personalization. The discussion sets the agenda for future research, design and evaluation of children's digital books.

Keywords: personalization; digital books; e-reading; identity; agency; early literacy.

Personalization in children's books

Personalization is a highly profitable business model and an increasingly popular publishing trend (Hock, 2016; Holmen, 2017), notably in children's books (Dredge, 2015; Wood, 2017). For example, the bestselling personalized book Lost My Name published by Wonderbly sold 132k copies in the year of its launch in the UK and more than three million copies worldwide between 2014 and 2017. Yet, despite its popularity among publishers and young readers, personalization is a little explored variable in psychology-oriented research on children's digital books.

Although several researchers have begun to investigate the added value of digital books for children's learning (e.g., Takacs, Swart & Bus, 2015; Hassinger-Dass et al., 2016; Strouse & Ganea, 2017) and provided frameworks for examining their new features (e.g., Papadakis & Kalogiannakis, 2017), no one to our knowledge has developed a framework specifically for

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personalization. This is a significant research gap because it is well-established that printed (paper-based) books with personalization features support children's story comprehension (Bracken, 1982), vocabulary learning (Author et al., 2015, 2016), parents' involvement in shared book reading (Janes & Kermani, 2001) and children's interest in books (e.g., Demoulin, 2003). Producers of digital personalized books claim that 'Personalization offers children the opportunity to recognise themselves in the story, thus developing self-esteem and confidence' (My World and I Ltd., online). Thus far, little, if any, empirical research has been able to verify this claim. If personalization in printed books can affect children's reading experience, then the task is to develop a framework with which to study its possible effects and mechanisms in a new digital reading format.

The goal of this study was to begin to address this gap by developing a framework for classifying personalization in currently popular children's digital books. To this end, we aimed to establish the extent of the variety and sophistication of personalization in children's digital books by developing a taxonomy and a research framework. We also aimed to gauge the occurrence of personalization features in a sample of hundred most popular children's digital books. The focus on a systematic, coherent organisation of key personalization elements in children's digital books and its incorporation into a research framework is a novel contribution to the current literature on children's digital books.

Children's digital books

Digital books are also referred to as iBooks, picture book apps, story apps or literacy apps. In this paper and in our work, we use the terms digital books and literacy apps interchangeably. These new forms of reading media are fictional narrative texts that can be accessed via screen-based technologies, such as desktop PCs, laptops, iPads, Kindles or smartphones. While some technologies reproduce the experience of reading on paper (e.g., if a text is

published in a black-and-white non-interactive Kindle edition), some contain features that could potentially transform the reading experience. For example, the digital books accessible on touchscreen devices (such as smartphones and tablets) are a crossover between toys and books (Rees, Rvachew & Nadig, 2017) with features that challenge traditional views on reading media.

Evaluating digital books

This paper is concerned with digital books available for tablets and iPads. For iPads alone, there are currently more than 75.000 apps marked as educational in the App store and many of these are designed to support children's reading. One way of dealing with a potentially vast landscape of new reading formats is to categorize the new forms according to a set of criteria and evaluate their educational potential with a rating system or a framework.

Various rubrics and assessment tools have been used to assess the quality of children's digital books. Public-facing organisations dedicated to promoting high-quality media content for children, such as the Children's Technology Review in the USA or the Literacy Apps website in the UK, regularly publish expert-rated reviews of children's digital books. In addition, researchers have designed their own rubrics to gauge the developmental appropriateness of selected digital books. For example, Papadakis, Kalogiannakis, & Zaranis (2017) evaluated the educational value of Greek digital books available on the Android app store. The authors rated forty apps according to the author-developed assessment tool that had four main categories: educational content, design, functionality section and technical characteristics and concluded that the apps 'in no way justify their title as educational, as they do not meet the developmental needs of the target age group' (p.155). In the USA, a systematic evaluation of best-selling apps showed that 63% of the apps lacked creative and innovative content that would expand children's horizons (Guernsey & Levine, 2015, Vaala, Ly, & Levine, 2015;

Vaala, 2016). Similarly, Sari, Takacs & Bus (in press) evaluated most popular apps offered to children in Hungary, Turkey, Greece and the Netherlands and found low levels of quality in all four languages/App stores.

Rubrics can be helpful in gauging the overall quality of a resource and its practical value for use in different contexts. However, they need to be combined with a visionary research agenda that focuses on the fundamental *features,* that is properties and characteristics, of children's engagement in reading (Author et al., 2016). This paper extends previous work with the focus on a specific feature of children's digital books - personalization.

Personalization

As the name suggests, personalization relates to *personal* or personalized products and processes, relevant for a single human being (Author, 2014). Personalising children's learning has always been part of effective pedagogy, and there is considerable evidence of the impact of personalization on student attainment and motivation (Bloom, 1984). The extent of personalization in learning determines whether the approach is standardized (generic), customized (adjusted to groups) or personalized (adjusted to individuals). Although personalization is not much researched in children's digital books, it is widely researched in other fields related to children's learning, notably technology-enhanced learning (TEL).

Personalization in TEL

In TEL children's data are used to predict and dynamically adapt the learning experience to individual children (Roberts-Mahoney, Means & Garrison, 2016). In the context of reading with screen-based technologies, children's progress on a set of graded texts and their responses to reading comprehension tests are used to adjust the learning content to their response (e.g., the Lexia software). Some learning systems collect data automatically and some invite children's own or adults' contributions. For example, the Teach Your Monster to Read program by the Usborne Foundation allows children to make their own avatars

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(monsters) that they can "teach to read" by playing various phonics games and writing their own stories. Children's progress with the letters- and phonics-related games is recorded in the teachers' dashboard, so that teachers can suggest further phonics practice. The program is currently used by 500,000 children across UK schools and homes. The subscription program Nessy is specifically designed to provide personalized feedback to children with dyslexia and is currently used by 10,000 schools worldwide. In TEL, personalization is used to 'address the oft-decried "one-size-fits-all" problem that may disadvantage large numbers of learners: the notion that, as we are all individual and different from each other, so we should also be taught on an individualised basis that addresses these differences' (para.2).

Fitzgerald et al. (2017) developed a framework for personalized technology-enhanced learning, which recommends that researchers ask the following six questions when considering personalization in technology-enhanced learning:

- What is being personalized?

- What is the type of learning where personalization occurs?

- Who/what is doing the personalization?

- How is personalization carried out?

- What personal characteristics of the learner are addressed?

- What is the impact or who are beneficiaries of the personalization?

We adapted this framework for establishing the broad parameters of personalization in children's digital books and developing a taxonomy of existing personalization features.

Personalization in children's digital books

Some digital personalized books are a contemporary variant on an older version, such as for example the JibJab™ personalized books that allow readers to insert pictures of their faces into a given story template as it would be possible with a printed version. Other personalized digital books, such as for example the Mr Glue Stories™ offer more sophisticated personalization options, in that readers can replace the names of main story characters with their own names, add their own audio-recordings to the story and their own drawings to the story illustrations. To begin to understand the impact of such changes to a traditional reading experience, researchers need a set of categorisation schemes and guiding principles that could show whether and how personalized digital books impact on children's learning. A useful place to begin this research is to focus on children's self-concept.

We suggest self-concept as a key research dimension for future research on personalized digital books for two reasons: first, because of its theoretical appropriateness for personalization and its previous inclusion in psychology-oriented studies on printed personalized books and second, because of the need to investigate the claims about the benefits of personalization to children's self-esteem, self-awareness and other self-related concepts, claimed by the digital books' publishers/developers (see e.g., I See Me!™; That's My Storybook™; Put Me in the Story™).

Self-concept literature

Self-concept is a widely researched phenomenon in the psychology literature, with more than 11,000 studies on self-concept conducted between 1970 and 1990 alone (Bracken, 1996). There are 66 research terms related to self (Leary and Tangney, 2003), most of which are hyphenated (self-perceptions, self-representations, self-esteem etc.) and subsumed under the umbrella term 'self-concept' (Harter, 2015). Harter (1999) also points out that unlike in adult psychology, child psychology needs to recognise that children need to develop social and

cognitive skills to reconcile the existence of multiple selves in various contexts. This is why, for example, for children seven years and above an individual's self-concept can be gauged from their answers to standardized questions (e.g., the Tennessee Self-Concept Scale), whereas for younger children researchers use pictorial scales (e.g. Pictorial Scale of Perceived Competence and Social Acceptance, Harter & Pike, 1984). Drawing on earlier work by Harter (1987), and her work with children with spina bifida, Edwards-Beckett (1995) defines children's self-concept as 'children's conscious self-perceptions 'about themselves in terms of physical attributes, popularity, intellectual and physical abilities, behaviour, and anxiety'. Rosenberg (1979) defines self-concept as 'the totality of an individual's thoughts and feelings having reference to himself as an object' (p.7, cited in Gecas, 1982). Gecas' (1982) comprehensive overview of self-concept distinguishes between two broader content-related categories of self-concept: identity and self-evaluation. This paper aimed to suggest preliminary mapping of personalization features to previous research and for this initial work, we integrated a rich body of literature on self-concept and adopted three key research variables – identity, self-evaluation and agency - with each understood as a continuous, multi-faceted variable.

Identity

While early thinking on identity saw its formation as a developmental process (Erikson, 1963), contemporary psychology theories depart from Piagetian stage-based perspective and understand children's identity as a continuous variable with social and cognitive influences. Social-interactionist perspective (e.g., Baldwin,1988) emphasises that children assimilate attributes from others to develop positive and negative self-representations, with the latter concept intensively studied and developed by attachment theorists (e.g., Cassidy, 1988).

Self-evaluation

Self-evaluation refers to two key concepts: self-representations and self-esteem. Harter (1982) suggests that children's evaluation of their cognitive, social, and physical skills bears on their overall self-evaluation of competence. Parents and primary caregivers significantly influence children's self-satisfaction and self-esteem in early years of their life (e.g., Felson & Zielinski, 1989) and later teachers (e.g., Wigfield & Eccles, 1994). In addition to the immediate social influences of adults interacting with children on a daily basis, children's evaluation of self is influenced by the standards and values of the wider culture they grow up in, a concept theorized by Nelson (2003) in her work on the "cultural self". Nelson argues that standards of appearance are related to children's recollections (memories) and fictional and factual narratives.

Agency

Similarly to identity and self-evaluation, agency is a composite research variable, discussed in the literature with at least five related terms: volition, control, ownership, singularity and intention (Author, in press). Children gradually develop a sense of agency as they develop a sense of self-efficacy and self-continuity. Self-efficacy beliefs are, from a social cognitive perspective, about an individual's belief in being able to perform actions to accomplish certain goals, while self-continuity refers to the ability to recognise similarities between past and present "me", with various models explaining this accomplishment in childhood (e.g., Conway & Pleydell-Pearce, 2000 through autobiographical memories; Tulving, 1985 through episodic memories, see Habermas & Köber, 2015, for an overview).

Aims and objectives

Our aim was to develop a taxonomy and a research framework that would contribute to a consistent approach to the evaluation of children's reading resources and design for future

studies concerned with personalization. The pursuit of this research objective proceeded in three stages: first, we identified the amount of personalization in children's most popular books. Second, we developed a taxonomy of the key types of personalization according to a personalized learning framework developed by Fitzgerald et al. (2017) in the context of TEL. Third, we adopted self-concept as the theoretical basis for the research framework on personalization and conceptually divided the key personalization types into categories relevant for established research variables.

Overall, the paper makes the following contributions: first, it classifies the existing state-of-the-art in personalization in most popular children's digital books; second, it highlights the diverse nature of personalization in children's early learning experiences with illustrative examples of the key forms and levels of personalization and third, it adopts these concepts to propose a taxonomy and research framework for classifying the existing literature for future research and analysis of personalization in children's reading.

Delimitations

We focus on digital books that aim to support children's reading for pleasure or enjoyment of reading. Reading for pleasure, also known as recreational reading or reading for enjoyment (The Reading Agency, 2015), encompasses children's reading of fiction and non-fiction texts, in any format or genre, but with the main purpose to derive satisfaction from texts and their illustrations, that children choose to do voluntarily and that they do not do for solely academic purposes (Clark & Rumbold, 2006). From this perspective, reading for pleasure accommodates a range of contemporary reading formats and experiences, and is not reduced to a specific reading format or narrowly-defined reading skills (e.g., phonics). The review and research framework are concerned with children aged 0-8 years, that is children in the early stages of developing their reading skills and identities as readers.

Methods

Selection of digital books

The app selection process was facilitated by the authors' involvement in the development of a public database of children's literacy apps. This online platform ('App Guide' hereafter) was designed for parents and teachers (see [hyperlink withheld for peer review]), with the aim of providing the public with expert-based reviews of children's digital books and apps related to literacy learning. Initial selection of apps for the App Guide was based on a hundred most popular children's books (as per their popularity rating in the App or Google Play store) that were rated on a range of criteria, including the presence of personalization. For the purpose of the present analysis, ninety-two apps were selected from the initial list of apps in the App Guide, supplemented by additional eight apps that were added to the database through recommendations by parents or teachers after its public release.

Scoring the digital books

The analysis and identification of exemplars occurred in four methodological stages. First, all apps in the App Guide database were checked for the number and key types of personalization. This scoring was part of the development of the App Guide and corresponded to a theoretically-based rubric that included the criterion "personalized engagement". This criterion was explained as follows: 'The app can be changed to relate to the child i.e. adding voices, pictures or by creating their own characters.' The personalization criterion was defined in terms of a minimum score of 0 or a maximum score of 5, which were awarded if the following applied to the digital book: 'There is no possibility of adjusting the digital book's display of content.' or 'There are various, diverse ways for children to personalise the book content, e.g. children can insert their own pictures, sounds and written

texts. There are many possibilities to customise the appearance of text (font size, style), reading speed of audio-recorded narratives, define new favourite menu, create new keyboard shortcuts.' A "medium" score of 3 was assigned if there were some, but not more than three, personalization opportunities.

Second, literacy apps that scored 3 or 5 on the personalization criterion in the App Guide were pulled out from the database for a more detailed analysis. The digital books were downloaded on the researchers' personal iPad device and the personalization options of these apps were noted down as a short descriptive narrative about what the app does and what the user can do with it. These short descriptions were analysed for key types of personalization according to the Fitzgerald et al.'s framework.

Third, the key categories were thematically grouped under the identity, self-evaluation and agency headings that deal with children's self-concept. Further deductive analysis aimed to establish in more detail where and how personalization occurs in the reading experience and who is personalising the activity.

Findings

Amount of personalization features

Out of the hundred apps that were scored for the availability (number) of personalization features, 50 scored 0, that is they had no personalization features, and 34 apps scored between 3-5, that is they had at least three personalization features available (see Table1).

Table 1. Number of apps and personalisation scores

Make it your own	Total
0	50

1	7
2	9
3	10
4	12
5	12

These 34 apps (full list in Appendix) were further analysed and synthesised into a taxonomy.

Taxonomy of personalization features

Key personalization features were organized into five broad categories of the Fitzgerald et al.'s (2017) framework, provided in Table2.

Table 2. Personalisation elements

Categories based on Fitzgerald et al. framework of personalization in TEL	Elements in children's digital books. NB: individual titles can contain one or combination of all elements
What is being personalized	-Story characters: names, appearance (according to children's gender, age, race) -Story location (name and visuals) -Storyplot/ narrative
Type of learning where personalization occurs	Reading enjoyment Reading motivation

	Teaching new words
Who/what is doing the personalization	The child Other children Teachers Parents The technology provider
How is personalization carried out	Through pictures/images/drawings (visually) Through sound recordings (audio) Through text (textual) Through prompts (outside the book/app)
The impact/beneficiaries of the personalization	The child/reader (through increased enjoyment of the story) Other children/the wider reading community (through increased knowledge of each other's preferences) Teachers and parents (through insights into the child's reading) Technology provider (through increased time spent interacting with their product)

Individual broader categories were further analysed according to the questions of 'what is being personalized?', 'how does personalization occur?' and 'who personalises the experience?' Results of this analysis are in Table3 that details what is being personalized with a short description and examples of apps.

Table 3. Key types of personalisation

Type of personalization	Description of the category with examples
Story characteristics	This category encompasses instances where reader's characteristics were used to modify key information about the plot, including the story characters. For example, in the app *Collins Big Cat: It Was a Cold, Dark Night Story Creator*, by Harper Collins Ltd, children can choose the main story character, they can decide what they want the story to be about and the tone of the ending (happy, sad or funny). In addition, children can accompany the story with their own voiceover so that the app speaks as the text progresses. They can also make their own book using pictures and key vocabulary from the story.
Story Narrative	This category captures stories whose story

	plot is adjusted to the user's input or data. This could be with a predefined number of story endings as with the Nosy Crow's Little Red Riding Hood app that can have three possible endings, or with no predefined story plots. For example, the app Cookie Next Door – Rainy Days by Delirium LLC has no predefined narration but it supplies the reader with pictorial templates and space to add their own audio recordings and text. The final story is a fully personalized narrative.
Story appearance	This category includes all cases of personalized books where the user can adjust the format and form of the final story with a number of attributes, including colour, size, printing preferences, drawings, multimedia or hand-written words on the cover and individual pages. For example, the Mr Glue Stories app allows the users to personalize the story illustrations with their own drawings and audio recordings. The book is available as a digital interactive book or a paperback; the content is constant but the format can be flexibly adjusted, beyond

		simple customisation.

We further analysed how personalization occurs and how this positions the child. Table4 captures the various ways in which personalization occurs in the highest scoring literacy apps and the child's involvement in the personalization process.

Table 4. Types of involvement in production

	Full involvement	Child-producer involvement	Producer's involvement
Audio (oral)	Child can record their own music or voiceover (eg children can add any audio recording with the Our Story app)	Child can access audio-recording made just for them (eg parents records a voiceover for one of the fairy tales available through the Me Books Ltd. app)	Child can select music or sounds from a bank of recordings (eg children can choose the outfits and one of five original songs when creating stories with the Toca Dance app).
Textual (written)	Children write their own stories (eg the My Story app has no templates for children to write any	Children read stories written especially for them (eg with the Amazing Alphabet app children can see	Children can select words, sentences and story possibilities from a bank of textual resources

	text they wish).	individual letters of their name "come to life" on a printed page of the accompanying Amazing Alphabet book).	(e.g. with the DinoTales app from KuatoStudios children can pick and choose sentences to complete their own Dino tale).
Visual (pictorial)	Children can add their own drawings or photographs into the story (eg The Cinderella app by Nosy Crow that has an embedded camera as part of the story illustrations)	Photographs can be added to pre-designed stories (eg in the Mixtory app children's photograph can be added as one of the book's illustrations)	Children can select from a set of illustrations or visual representations of story characters (eg in the Goodnight Lad app children can select the costume for the main character and decide whether the narrator is a pirate or a superhero).

In addition to the visual mode (pictures/images/drawings and texts) and audio mode (sound recordings, music and voice-over), children can personalize their experience through physical involvement. For example, in the digital book Three Little Pigs by Nosy Crow, children are

invited to blow in the iPad (pretending to be the wolf who blows the house away) or are prompted to help the Little Red Riding Hood with various tasks, some of which involve direct physical manipulation of the iPad (e.g., pouring honey into jars by tilting the iPad device). Personalization in these instances was encouraged by child's direct involvement but in some literacy apps it occurred through prompts that necessitated adults' input. For instance, CBeebies Storytime app includes prompts and questions for adults to ask children and solve together.

Discussion

To understand the contribution of digital books to children's learning, we must carefully specify the key features that become foregrounded with new formats. The present taxonomy goes beyond broad differences between digital and paper-based books and attempts to specify the key types and forms of one feature that is significantly foregrounded with children's digital books: personalization. The quantitative analysis of the presence of personalization in a hundred popular children's digital books shows that personalization is not equally represented in children's apps but also that some form of personalization is present in about half of children's most popular digital books. The taxonomy of personalization based on Fitzgerald's framework should be viewed primarily as a specification of key forms of personalization while the more detailed analysis can be useful as a research framework for specifying which variables are being addressed or influenced by digital books.

Before generalising these results it needs to be borne in mind that the present analysis was focused on apps available for the UK App store, in American or British English and for children aged 0-8 years, publicly available in 2016. It needs to be also acknowledged that the analysis was conceptual and focused on observable features that corresponded to a deductive analysis framework. Future research could use the personalization categories to establish

whether they can capture variance in children's outcomes and how they relate to children's actual use of digital books in various contexts. On this basis, the discussion further elaborates the personalization categories in relation to the key research variables related to children's self-concept: identity, self-evaluation and agency.

A conceptual research framework

A conceptual research framework for future study of personalization in children's digital books is shown in Figure1. Digital books offer several and diverse personalization features, which in relation to identity, self-evaluation and agency, can be addressed with three main questions: what is being personalized, how does personalization occur and who is personalizing the experience. These questions represent different domains addressed by children's publishers in their business models and psychology researchers in their studies.

Figure 1. Self-concept and key questions concerning personalization
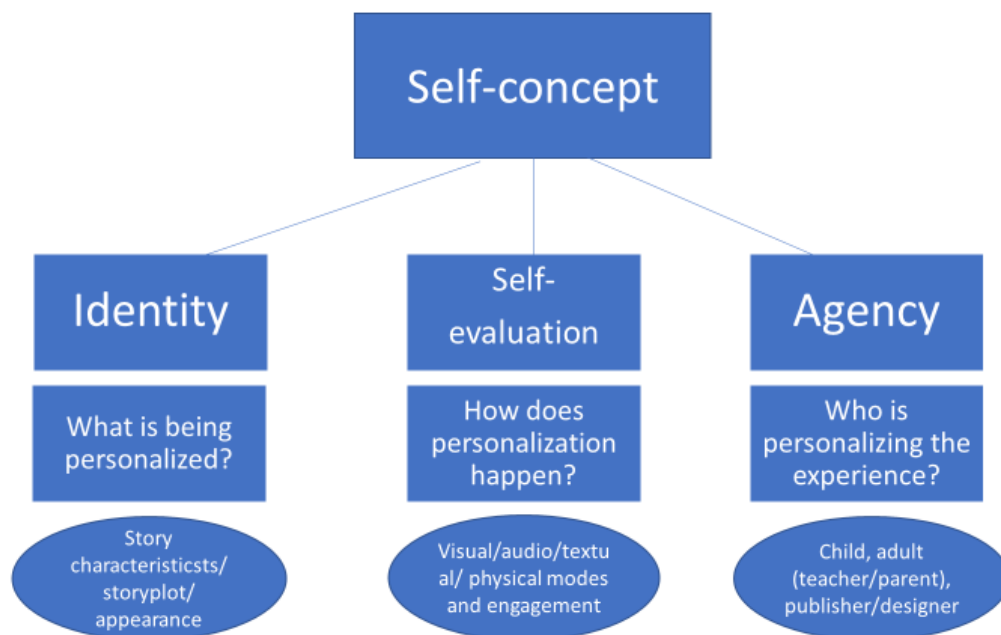
Identity and personalization categories

Personalization in children's digital books captures key external markers of self, including children's name, gender, address as well as appearance. These markers can be either inserted into existing stories (e.g., adding a picture to replace the story character) or they can be used to create children's own stories. With the focus on inner self-concept, developmental psychologists explore factors that prohibit and facilitate identity development and its culmination in identity achievement (Erikson, 1963), while social psychologists typically examine socially-constructed identities such as for example racial and ethnic minority identities (e.g., Rumbaut, 1994). Digital books offer several opportunities for children to make their perceived identities visible to others (e.g., by choosing the characteristics of the story heroes) or have these identities reflected back to them (e.g., books customized for boys and girls or avatars available in a specific skin colour). The effects of this heightened focus on self are unknown and are a crucial area to explore in books that turn the traditional idea of fictional story characters on its head and portray children as the main story heroes (Author, 2016).

Self-evaluation and personalization categories

Iser (1972) argued that the potential of texts is fully realised only through reader's own engagement with the content, making links and connections between personal and fictional narratives. He describes "gaps" in texts that are necessary to open up the space for readers' own input: 'Thus whenever the flow is interrupted and we are led off in unexpected directions, the opportunity is given to us to bring into play our own faculty for establishing connections-for filling in the gaps left by the text itself' (Iser, 1972, p.284, 285). Personalization features in children's digital books provide several "gaps" for children's own input, notably in relation to their self-representation. As shown in our analysis, around half of

most popular children's digital books allow for some form of representing children's own self-concept and in several modes (visual, textual and audio). The inclusion of these features is likely to prompt self-evaluations, particularly in apps designed for narrative content or content that invites personal remembrances (e.g., the Our Story app). A fruitful area of future research would therefore be to study how these invitations for self-representation are taken up by different groups of children and how they affect their self-representations and self-esteem.

Agency and personalization categories

The question of how personalization happens is closely related to the question of who personalises the experience (child, primary caregiver or the publisher) and its effects on child's self-concept. The intensity of a child's involvement in the personalization process and the scaffolding provided by the app producers lead to different products. For instance, adjusting the aesthetical appearance of a book in the template provided by Jib Jab app requires less involvement than animating puppets in the Play Theatre app (Nosy Crow Ltd.) or creating an original story, as it is required by the Our Story app (The Open University). Author (2014) theorized three levels of personalization, ranging from template- and script-based customized books through personalized books to fully open-ended, user-led personal books. Publishers rarely describe their products as customizeable and claim the term "personalized" given the higher currency of the word in business models (Author, 2016). The extent to which children can actually modify personalized books according to their own criteria and in this process explore, create and experiment with their agency, is therefore an important area of future research.

Recommendations for future directions

Children's self-concept is a complex and composite process and any "effects" claims should be treated as topics for empirical analyses. App designers could diversify their product portfolio by including more and varied personalization features that correspond to various aspects of children's self-concept. Personalization can be used for both paper-based and digital books, but while the printed format can only offer personalized illustrations, cover and/or text, the digital format includes personalization possibilities also through multimedia and interactive features. The levels, elements and categories of personalization presented in this paper provide preparation for future design innovation.

In conclusion, although basic personalization in children's books has been around since early 1970s and the Montgomery Choose Your Own Adventure Books series, the digital format has significantly extended the options for involving the child in the authoring process and adjusting the product to his or her unique characteristics. The individual categories of the taxonomy can be used to identify how the diverse possibilities to represent self in children's digital books might influence children's identity, self-evaluation and agency. The conceptual research framework presented in this paper provides groundwork for subsequent empirical work to identity the role of new forms of personalization in children's digital books, notably in relation to their self-concept development.

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Appendix

Jack & the Beanstalk

BUBL ABC

BUBL Draw

Jib Jab

Kibobble Kids

Chomp by Christoph Niemann

Cookie Next Door - Rainy Days

Drawp

Duckie Deck Family Photo

Explore Daniel Tiger's Neighbourhood

Grandma's Kitchen

I love you too - Ziggy Marley

Little Fox Music Box

Mr Glue Stories

Nosy Crow Three Little Pigs

Nosy Crow Cinderella

Nosy Crow Little Red Riding Hood

Nosy Crow Play Theatre

Name Play

Sago Mini Doodlecast

The Wheels on the Bus Nursery Rhymes

Big Cat. It was a cold, dark night

Bizzibrains I Imagine

Bizzibrains I Learn

Coosi box: Creative Drawing & Share

Imagination

Me Books

My Story

Puppet Pals

Toontastic

Puppet Workshop

Quiver - 3D Colouring app

Starfall All About Me

Our Story

Yuri and the Flying Squid on Turtle Island