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Personalised reading for pleasure with digital libraries: Towards a pedagogy of practice and design

Abstract

This paper discusses the pedagogical practice of developing reading for pleasure in pre- schools and primary phase settings through the lens of one key dimension of 21st century reading: personalisation. We draw on a series of studies and examples to identify, address and problematise human-and digitally-mediated personalised reading for pleasure. Through a content analysis of the key features of current digital library systems, we show how these increasingly popular systems position teachers as librarians, curators and monitors, and undermine their potential roles as listeners, mentors and co-readers in order to foster children's personal response to texts. Through a theory-driven approach we identify ways in which current design limitations of library management systems can be addressed and from which their effective application and use can develop. This conceptual elaboration, which combines contemporary reading theories with the affordances of digital personalisation, provides new insights concerning personalisation in digital library systems.

Introduction

Many would agree that the digital revolution has engendered a significant change in the way we create, consume and understand reading. Fewer would agree on exactly what has changed. Some argue that reading has become more image-based and iconic (Kress & van Leeuwen, 1996), as well as more immersive (Back, Cohen, Gold, Harrison, & Minneman, 2001). Others argue that reading has always been a multi-layered experience – that strong narratives for example offer meaning and an immersive experience in text as well as pictures (Spencer, 1988; Meek 2011), but that the digital privileges one mode over the other, with a potential loss of depth in the reading experience (Carr, 2010, but cf Barrett, 2006). We adopt a position of compromise here and argue that the definition of reading has been expanded, not transformed by digital texts and that new reading formats have not introduced, but brought to the fore some key features implicated in the reading process. In particular, personalisation, that is personalised texts and the reader's personal response to the text, play a key role in 21st century reading (Johnston & Ivey, 2016). Personalisation is important to support reading for learning and academic achievement as well as reading for enjoyment and pleasure. We focus on the latter process, with emphasis on reading for pleasure in digital and paper-based books, which were written or designed for children aged 2-11 years, that is children of pre- and primary-school age in the UK.

We commence with a description of the main objectives and methodology, followed by a definition and discussion of the key concepts that we combine strategically in this paper: reading for pleasure, digital texts and digital library systems. Next we turn to discuss personalisation, another key concept, identify the dimensions of personalisation in reading for pleasure, and consider the core challenges that teachers face in nurturing children's personal response to text in the classroom. This is followed by consideration of the personalisation

features inherent in digital library systems, their benefits and challenges and the ways in which such systems provide alternatives to practically address the core challenges concerning personalised reading for pleasure in school. Finally, we critically examine the assumptions made in current digital library systems, and suggest theorised grounds for the pedagogy as well as the design of future personalised reading systems, in relation to two key theoretical premises: that learning is mediated through dialogue (Mercer & Littleton, 2007) and is achieved through active participation in communities of learners and readers who negotiate, produce and share new meanings (Nielsen & Danielsen, 2012).

In effect we nest together personalisation in reading for pleasure and the pedagogy inherent in digital reading systems. This represents a novel way of discussing the challenges teachers face in integrating pedagogy and technology as mutually reinforcing systems in order to support children's pleasure in reading.

Methodology

This conceptual paper builds on our previous paper in which we identified six facets of children's engagement with digital books (Kucirkova, Littleton & Cremin, 2016). Drawing on an extensive literature review and a knowledge transfer partnership project with a UK literacy charity, we concluded that for children's reading for pleasure, six dimensions exist along which we can evaluate children's engagement with digital books: sustained, shared, interactive, affective, creative and personalised engagement. These key dimensions are represented in different digital texts to a different extent, but taken together they emphasise the importance of perceiving digital and printed texts on a continuum, which affords reading experiences that are physical and intellectual, and emotional and cognitive. The six dimensions can be used as a tool to identify gaps in the market as well as avenues for pedagogical practice. The current paper complements the application of this previous work

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and its use by teachers. The engagement dimensions are employed as criteria for selecting the best children's digital books (the United Kingdom Literacy Association Children's Book Award) and also underpin the Literacy Trust "app guide", which lists expert reviews of children's literacy apps (http://literacyapps.literacytrust.org.uk/). Building on this work, we focus in this paper on digital library systems and the ways in which these position teachers with regard to one of the six dimensions: personalisation.

We concentrate on personalisation because of the growing body of research concerned with personalised learning (e.g., Huang et al., 2002; Prain et al., 2013), and our own empirical work in this area (e.g., Kucirkova, Messer & Whitelock, 2012; Kucirkova, 2016; Kucirkova, Littleton & Cremin, 2016). We are also responding to the increased commercial and self-production of personalised reading resources for children of pre- and primary-school age (e.g., Russell, 2014; Kucirkova, 2014b; Charnock, 2015). We extend the current empirical literature concerned with personalised books by exploring the personalisation features of digital library management systems. The focus on such systems reflects the concern raised in some quarters about pressures for teachers to deliver sessions via, or with, digital systems that, although technologically innovative, are not pedagogically powerful and often follow aggressive expansion models (Selwyn 2016).

We consider the concept of personalised response and personalised books and their role in nurturing reading for pleasure and examine the personalisation affordances of the digital library systems for reading for pleasure. There are three bodies of literature that are relevant for this discussion: the role of personalisation in reading for pleasure, the characteristics of reading for pleasure in the digital age and the challenges associated with effective pedagogy in classrooms. Our understanding of the challenges teachers experience in this regard is based on literature pertaining to effective reading for pleasure pedagogy (e.g., Cliff Hodges,

2016) and extensive conversations with teachers participating in our studies (Kucirkova, 2014a, Cremin, Mottram, Collins, Powell and Safford, 2014).

Adding to the literature reviewed for this paper, we systematically examined three key digital library systems currently popular on the primary school market: MLS, RM Books and Oxford Owl Books. This involved signing up for the three library systems as a user and administrator, and capturing, through a conceptual analysis, their key design attributes relevant for reading for pleasure. Based on our review of the key features of these systems and ongoing discussions with teachers using one of the library systems, we identified some common benefits and limitations of digital library systems for reading for pleasure and personalisation. We do not make an empirical link between the literature and our design analysis of the three selected systems. Rather, we draw on these examples to concretise our theoretical analysis and consider how the current architecture of the digital library systems could align with the two theoretical positions of dialogic and networked learning.

In reviews of literature, researchers typically categorise papers according to 'four cross-cutting categories: primarily theoretical, largely theoretical with empirical data, empirical yet incorporating a theoretical perspective, and empirical with little or no theory included' (Hendricks, Applebaum & Kunkel, 2010, p.285). Our study is primarily theoretical but with focused empirical examples which we use to develop an alternative conceptualisation of how digital systems that are aligned with personalised reading for pleasure could re-position teachers as mentors, co-readers and listeners. We use theoretical analysis to elucidate the importance of personalisation and reading for pleasure, we identify the limitations of their application within some digital reading systems, and are thus able to consider the consequences for teachers' agency and role positioning.

Reading for pleasure in 21st century: defining terms

Before we discuss personalisation in reading for pleasure, we define reading for pleasure and our other core terms, including digital books and apps and digital library systems. We recognise reading for pleasure as a volitional, self-directed and self-initiated activity, one which involves 'agency and a desire to read, [in] anticipation of the satisfaction gained through the experience and/or afterwards in interaction with others' (Cremin et al, 2014, p.5). In education, if positioned in contrast to reading for learning or instructional purposes, reading for pleasure is more closely aligned with reader engagement, a term used in international surveys such as PISA and PIRLS and linked to frequency of leisure reading, positive attitudes and interest in reading and depth (OECD, 2010), as well as behavioural, emotional, and cognitive engagement (Fredricks, Blumenfeld, and Paris, 2004). However, given that international studies have shown independent choice-led reading and reading engagement are potent predictors of reading attainment and vice versa (e.g., Anderson, Wilson and Fielding, 1988; PIRLS, 2006; OECD, 2002; 2010), reading for pleasure is best seen as complementary to reading for learning/instruction. Reading for pleasure not only involves the enjoyment and appreciation of narratives, of 'texts which tell stories of lived experience' (Barkhuizen & Wette, 2008, p.374), but has also been associated with many other texts, including for example poetry, drama, philosophy, letters, (auto)biographies and song lyrics. We do not though wish to imply that reading for pleasure is incompatible with non-fiction texts, rather we seek to recognise the particular power of literature and narrative 'to create possible and imaginary worlds through words' (Bruner, 1986, p.156).

Regardless of the kind of literature, the quality of the text's content is key in fostering reader engagement, although the format in which it appears is also significant, especially given the availability and diversity of contemporary multimedia reading formats. The ease and affordability of multimedia editing software and of the image, music and video recorders,

and synthesisers in the 21st century, has created a wealth of new multimedia that extend and enrich print-based text formats. These new digital formats blur the lines between texts and films, texts and games, and texts and music, and offer the reader more choice and potentially a more personal and pleasurable reading experience. For instance, to enjoy poetry, readers may find satisfaction and even delight in watching a poet read his work on YouTube, directly addressing the readers/viewers, with the text of the poem overlayed on the video and synchronised with ambient background music.

Digital books and apps

For children aged 2-11 years the range of digital books, including e-books, apps and digital storybooks is very considerable (Vaala, Ly & Levine, 2015). The nomenclature of these books is changing rapidly, reflecting the speed of design development in this area (Kucirkova, 2013). New features are regularly added, for example, there are augmented-reality apps that provide children with experiences that connect physical and digital books (see The Bridging Book project, http://www.bridgingbook.com/). Additional story experiences can be accessed through external codes, which are attached to print books and apps. For instance, scanning a QR code on any of the printed Nosy Crow Stories Aloud books activates the audio-recording accompanying the story which can be played from the user's smartphone. These additional features affect the reading experience, tailoring it and influencing the child's personal engagement in reading for pleasure.

Digital library systems

In addition to digital books, reading in this new media age has changed with the availability of entire systems bringing digital texts together in the so-called digital libraries. Some digital libraries offer books for free, others for purchase or for a subscription. The burgeoning popularity of paid (subscription-based) digital libraries in pre- and primary schools follows

the well-established trend at the secondary level (e.g., BookBuzz run by Book Trust in the UK had 220,000 students in over 1,450 schools in the UK) and at university level (e.g., Pearson's digital library is the global market leader expanding its offer to 70 countries).

Most digital libraries for children digitise popular titles already available as printed books, but there are also digital libraries dedicated to new, user-generated content. For instance, the Unite for Literacy digital library lists books produced by a range of users and voluntary contributors, narrated in immigrant and indigenous languages. The services provided by digital library systems range from free book depositories (e.g., International Children's Digital Library), through subscription book recommendations systems offered for the home market (e.g., Epic!) to multimedia story experiences emulating storytime experienced in physical libraries (e.g., StoryPlace).

In our analysis, we do not focus on digital libraries that are simple book depositories and searchable catalogues (as is the case with a number of open libraries offering free or paid e-books e.g. Open Library; Page by Page Books), but on the second generation of digital libraries, the so-called digital library management systems. These systems integrate digital libraries with resource management tools, such as customisation, social media integration, data storage and personalisation options based on the user's history and self-marked or automated preferences. Digital library systems can recommend book titles through algorithmic analysis of available titles and users' past engagement with texts. In this way, and others we discuss later, they offer considerable personalisation potential. The three library management systems we have drawn upon to advance our argument are RM Books, MLS and Oxford Owl. The selection of these libraries is an arbitrary choice based on our knowledge of the UK school market and conversations with pre- and primary school teachers in the UK. Before turning to this content, we gauge the potential of personalisation in

reading for pleasure in a more general sense: via personalised books (print and digital) and personalised response to texts.

Personalisation in reading for pleasure

Personalisation can be understood on two levels: as a feature that is related to an action and as a feature related to an object. As an action, a personal response to text means that the reader relates some element of the text to self, or that an adult (teacher, parent or caregiver) who reads with a child, relates the text to the child's life experience in some way, personalising their response and the subsequent interaction. Personalisation can also be embedded as a feature in various reading forms and formats, including personalised digital books, printed cardboard books or literacy apps.

Personalised response

Potentially, personalised reading can be supported with any text through a scaffolded conversation between adults and children or between children and children. For example, a parent or teacher can point out to a child the similarities of the story characters to other people the child knows, and children who are well acquainted with one another can also make life-to text and text-to life moves about the content, themes, settings or characters in conversation as they share a book (Meek, 1988). A body of literature demonstrates the benefits of personalising talk for children's reading interest and story comprehension (e.g., Cochran-Smith, 1986; Dunst, Williams, Trivette, Simkus, & Hamby, 2012) and reveals that making texts maximally personal supports young readers' affective engagement and their willingness to think about the meaning (Lunzer & Gardner, 1979).

In schools, teachers can create opportunities for informal non-structured conversations around texts, whether print or digital, which afford opportunities for making personal connections. In addition, they can make reading more personalised by suggesting book titles,

which cover topics and themes relevant to the child's knowledge, interests, preferences and abilities. However, as we discuss later, their possibilities to do so are constrained by curriculum, time and limitations of professional knowledge

Personalised books

With digital multimedia books, a personalised response to a story can be embedded into the actual book. For instance, with the Me Books app, children or their parents/caregivers can audio-record their own story narration, which becomes part of the story and can be accessed or edited at repeated readings. This means that while conversations around printed texts remain on the verbal level, personalised books can 'cement' any personal connection between the reader and the text into the book frame.

Emerging qualitative evidence shows that high-quality digital books support positive parent-child dynamics during shared book reading at home (Kucirkova, Messer, Sheehy & Flewitt, 2013) and children's authorship and agency (Aliagas & Margallo, 2016). The latter scholars focused on four middle-class Spanish families with children aged between 18 months and 5 years in a two- year-long ethnographic study. They concluded that one of the key assets of children's digital books (in their study it was the Snow White app) is that they can be customised and co-authored by the child. In the context of schooling, other research has shown that personalised books can have an effect on reading comprehension of 9-10-year olds (Bracken, 1982) and on reading comprehension and recall in pre-schoolers (Demoulin, 2001). Kucirkova, Messer, Sheehy & Fernandez-Panadero (2014) examined the effects of digital personalisable books on children's use of exploratory talk in a group of forty Spanish 4-5-year olds. The use of open-ended apps led to more collaboration among the children and more higher-order talk including the use of questions, listening and building on each other's ideas. In contrast, when the children used close-ended and template-based apps there was

less room for creativity, the expression of ideas and talk. Thus, current research indicates that the key mechanism of personalised digital books (linked to children's learning benefits) is their support for children's agency, and that this is best achieved through open-ended designs.

Personalisation in digital library systems

Some of the personalisation options in digital library systems would be more accurately described as customisation, but providers describe them as 'personalised' and claim this term, so we adopted their terminology in this article. A core personalisation option in digital libraries relates to the choice of titles users receive. Children can choose their favourite titles from a range of interests (e.g., dinosaurs, princesses); levels (e.g., beginners, advanced) or book genres (e.g., fantasy, mystery). Their choices are recorded by the system, which then recommends future titles based on these. Children, or their teachers and parents, can specify how often they would like to receive new titles and mark up their favourites. Further personalisation options include the chance to build a reading profile with a list of favourite authors; this triggers automated notifications regarding newly published titles from these or similar authors. Most digital library systems also offer the opportunity to build a reading profile with an avatar and a short biography. The child's choice of avatar, combined with the user's activity on the site (e.g., short blogs or likes given to other books), provides additional information about each individual reader.

Fostering reading for pleasure: Professional challenges

The research literature suggests that teachers face three main challenges that impede effective pedagogy: curriculum constraints, time limitations and professional knowledge (e.g., Bingimlas, 2009; Waldron, 2014; Martin et al., 2016). Over recent years these challenges have been repeatedly identified and endorsed by teachers, both in our ongoing discussions with the profession and in research into volitional reading (e.g., Kucirkova, 2014; Cremin et

al.,2014; Cremin and Swann, 2016). In this article, we build on an amalgamation of these literatures and outline how these limitations apply to reading for pleasure and the personalisation options in digital library systems.

Curriculum constraints

Skills-based orientations towards literacy need to be combined with interest-based orientations to achieve optimal outcomes; the will influences the skill and vice versa (OECD, 2010). The former focuses on reading instruction and is teacher-directed and teacher-owned, the latter focuses on reading for pleasure, which is child-directed and child-owned. As Cremin et al., argue, we 'need to recognise the significance of these different orientations, the interplay between the skill and the will to read and the vital necessity of working towards a balance between them' (2014 p.157). In most Western countries, including the UK, USA, Australia and Canada, this is a sustained struggle; a pervasive performative culture structures the teaching of reading, influencing both how children are taught to read and the texts to which they have access. In England for example, the mandatory phonics screening for 6-year-olds (which includes words and non-words) is tethered to the use of limited reading schemes of phonetically regular printed texts. Whilst reading for pleasure is also required, it is not assessed and is frequently side-lined by the high profile focus on reading instruction, decoding and comprehension. Whilst standardised curricula and international testing for effectiveness have been heavily criticised (e.g., Carnoy 2015; Rutkowski & Rutkowski, 2016), they continue to be used as the dominant markers of national success. International surveys such as PISA and PIRLS carry considerable purchase for policy makers and when layered upon existing national testing systems, significantly constrain professional practice (e.g., Goodwyn et al., 2014; Moss, 2014). Such systems often portray reading as a technical and functional skill, framing it as a measurable result rather than a lived experience and

process. In turn, children may come to be viewed in relation to their current standards of performance, rather than as unique readers and individuals. In such audit-driven cultures the vital personal and affective dimensions of teaching reading and of being/becoming a reader easily become obscured.

Time constraints

In schools where high teacher/pupil ratios are combined with highly specified curricula, significant time pressures surface. In such contexts, offering individual and tailored support to young learners represents a real challenge (Burns and Myhill, 2004; Mottram and Hall, 2009). Typically, teachers divide their attention among thirty or so children, leaving little space and time for developing individualised and personalised reading conversations. Yet conversations that help children draw on their prior knowledge of the world and connect readers to texts and to the other readers present (both teachers and children) should not be left to chance. Volitional opportunities for readers to choose their own texts, make connections and share their personal responses are at risk when curriculum imperatives, linked inexorably to assessment, dominate daily practice. In time-limited classrooms, decoding and comprehension push child-led volitional reading and personal response firmly to one side.

The challenge of professional knowledge

In addition, there are significant limitations in terms of teachers' knowledge of children's literature and of the children themselves as readers. Each child has idiosyncratic needs, interests, and preferences, which can be supported with a diverse range of stories, genres and formats. If teachers are able to match children to texts and vice versa, they ensure that a choice of appropriately motivating texts is offered to support the young reader's agency. Yet research shows that primary phase teachers lack in-depth knowledge of the children they teach - of their individual lives, interests and funds of knowledge (Cremin et al., 2015; Hill, 2010). This seriously constrains their professional capacity to make connections between the

text and the child, and to make tailored text recommendations that harness the child's intrinsic motivation, thus nurturing reading for pleasure.

Furthermore, US and Canadian research suggests that most pre-service teachers are not active readers, many describe themselves as non-readers and express limited interest in reading children's books (Sulentic-Dowell et al, 2016; Nathanson et al., 2008; Benevides and Stagg Peterson, 2010). Analysis of initial teacher education programmes internationally indicates that children's literature as an area of study has reduced in recent years (Simpson, 2016), alongside a reduction in libraries and qualified school librarians. In the UK, drawing on a survey of 1200 practising teachers' personal reading habits and professional knowledge of children's literature, Cremin et al. (2008a,b) revealed that whilst the majority were adult readers, the teachers' repertoires of children's literature represented cause for concern. Over half the primary-phase teachers were unable to name six children's authors, 24% could not name a single picture fiction creator and 22% of the teachers could not name a single poet. They relied upon a relatively small canon of children's writers which was dominated by Roald Dahl. Without strong subject knowledge, teachers are not in a position to support reader development, to make salient suggestions or engage in personalised text-based conversations that can foster reading for pleasure (Court, 2011; Cremin et al., 2009, 2014).

Digital library systems: practical advantages and teacher positioning

Based on our conceptual analysis of three digital library systems for young children and broader literature review, we identified several ways in which such systems begin to address the challenges that practitioners encounter in relation to curriculum constraints, time, and professional knowledge. Nonetheless, as we discuss later, this provision is not unproblematic.

Digital library systems can save teachers time by developing personalised reading profiles for each child; they can provide access to a large database of diverse titles and can be used as a marker of reading proficiency required within the school curriculum. These are important advantages and are likely to be the reason for the systems' popularity in UK schools. Based on our analysis of the key features of these systems, we argue that their current design serves to position class teachers in three particular ways, namely as librarians, curators and monitors. We consider each in turn.

Teachers as librarians

Whilst professional knowledge of children's literature and other texts is essential to foster reading for pleasure, no teacher can hold information about 1000s book titles and monitor how children from different groups respond to each of them. With digital library systems, teachers can select books according to the child's preferences from a large database, often supplemented by resumes about each text. Through their classroom login, teachers can access the database and directly recommend titles based on a set of keywords, which can specify the book's main topic, author, genre, age range and text difficulty. Teachers can see which books are on loan and which books have been requested or returned by individual children. While such information was in the past held only by the school or public librarian, digital library systems afford teachers, positioned as class librarians, opportunities to find out more about children's wider reading practices and directly act upon them. In the context of limited provision of librarians in some countries (e.g., Majid, 2005), and reduced school library budgets (e.g. School Library Association, 2015), this role has the potential to benefit young readers.

Teachers as curators

Library management systems can be regularly updated with new titles. Titles can be inputted by teachers based on their knowledge of children's individual interests, preferences and needs. Teachers can suggest new book titles for school purchase and can also link their classroom library to an external library which may already hold the titles (e.g., a city library). In some library management systems, teachers can additionally edit the categories under which specific titles appear and adjust the filtering options. This means that teachers can curate the online library and, based on their knowledge and expertise, make it more relevant for their classroom. The customisation options available to teachers allow for better differentiation: for example, books which might be rated as "advanced reading" in some classrooms might be perceived as "beginners" in another. As such, incoming titles can provide a more tailored offer to individual children based on their teacher's judgment.

Teachers as monitors

Some of the digital library systems we reviewed offer the administrator back-end data; a set of indicators of the student's engagement in reading which can be used by teachers to check and monitor children's reading. The data generated can include the number of titles a child accessed, the number of comments or blog posts they wrote online, and the time spent with individual titles. The system can be programmed in a way that allows for statistical comparisons of a child against other children in the classroom or in the region (if regional data are available). These data provide teachers with additional information about children's engagement in reading practices and arguably position teachers as monitors and checkers of children's reading.

In sum, the digital library systems and their customisation options offer the possibility of addressing some of the practical barriers of teacher-mediated reading for pleasure in the classroom. Digital library management systems tap into schools' immediate and practical

needs and provide responsive functions designed to address professional challenges with regard to personalisation and reading for pleasure. As such, they could be perceived as practically valuable. However, we consider that the current design of library management systems is theoretically problematic in so far as they assume, but do not provide, inclusive and innovative spaces for classroom dialogue about text and the development of reading and learning communities. Additionally, these systems position teachers in particular ways which have consequences for their pedagogic practice. In the following section, we outline our critique in relation to the question of teachers' positioning and pedagogy and then consider the practical design implications of our argument.

Problematising the personalisation possibilities of digital library systems

The importance of dialogue

In current digital library systems the teacher is positioned in a hierarchical relationship to the child and to a large extent holds the reins of each child's reading. In such systems teachers are prompted to adopt the roles of librarian, curator and/or monitor and through these roles, mediate and transfer the knowledge available to them about the myriad texts in the library database to the child. Yet, the personalisation features offered in these systems should not only be about a hierarchical knowledge transfer from a 'more knowledgeable other' to a novice reader as perhaps Vygotsky (1978) initially envisaged. Rather, personal response to text occurs through a mutual knowledge exchange between two readers, as theorised in the neo-Vygotskian socio-cultural model of learning (Wegerif, Mercer & Dawes, 1999).

In studies of pre-school children using digital personalised books at home, observational data indicates that the parent-child relationship moved from a zone of proximal development (Vygotsky, 1978) to an intermental development zone (IDZ) (Kucirkova,

Sheehy & Messer, 2015). This IDZ, is described as the shared communicative space and is 'represented in talk by references to shared experience', and 'sustained by tacit invocations of shared knowledge' (Mercer & Littleton, 2007, p.19). It can be established verbally between adults and children, through technology-mediated interactions and in the wider social spaces mediated by technology for meaning-making. For example through reading and sending emails (Fernandez-Cardenas, 2004) or mother-child telephone calls (Gillen & Cameron, 2004). In informal text conversations, whether mediated by print or technology, at home or in school, there is a dynamic iterative interchange between the reader, the text and the context. In the classroom, the teacher's role is to integrate children's response to texts within the wider literary and literacy frame. While in Vygotsky's ZPD, the role of adult was to monitor a child's progress and provide contingent support, in an IDZ of reading, teachers and children act reciprocally, sharing their enthusiasm and providing models for each other.

Building reading communities

The hierarchical framing of teacher child relationships through the current use of digital library systems is arguably not conducive to the development of reciprocal communities of readers, who can and *do* choose to read and who are motivated and socially interactive about their reading (Dreher, 2003; Cremin et al., 2009; 2014). A teacher's personal stance and positioning as a reader can positively impact upon young readers' attitudes and attainment (Cox and Schaetzel, 2007; Cremin, , 2010). Reading Teachers- that is teachers who read and readers who teach- (Commeyras et al., 2003), not only act as role models, but also offer something of themselves as humans, sharing their own personal responses to texts, listening to children's and making strong shared connections. In one UK study of 43 teachers in personal conversational responses to texts were frequently triggered by 'texts in common', those texts which had been read aloud to the class or which had been shared through

reciprocal recommendations between teachers and children or between children and children (Cremin et al., 2014, p. 153). Talking about texts together without attention to the instructional agenda created space for sharing life experiences and gave the teachers useful insights into children's lives and vice versa. It nurtured more reciprocal reader relationships and helped the practitioners to effectively recommend texts to individual children. In some of their classrooms, the potency of the personal in reading was re-asserted. It is through such co-participation and active listening to each other that learning communities develop trusting relationships and establish long-term learning networks.

Repositioning the teacher's role

Building on this empirical and theoretical work and on the technological advances made by the current digital library systems, we suggest that teachers' roles need recasting from curator, monitor and librarian to co-reader, mentor and listener. This repositioning reflects our view that teachers, particularly those who position themselves as Reading Teachers, can provide effective personalised and digital reading space, but this space needs to be shaped to optimise the opportunities for building dialogue and networked reading communities. We therefore situate the pedagogy of personalised reading for pleasure within the tradition of sociocultural theories that emphasise the active co-construction of knowledge (e.g., Faulkner, Joiner, Littleton, Miell, & Thompson, 2000), participation in networked communities of practice (e.g., Hung & Chen, 2001) and the importance of dialogue (e.g., Mercer & Littleton, 2007). In what follows, we outline how these theoretical insights can contribute to the both the framing of teachers' roles and the future design and use of digital library systems.

Teachers as mentors

Teachers can positively promote reading and mentor children as readers through the affordances of digital library systems. In addition to face-to-face dialogue, teachers'

mentoring can be practically achieved with the annotation feature available in most digital library management systems. This feature allows teachers to add short comments to any piece of text accessed by the child and to share these in a variety of formats. Just as a recording can capture a child's personal response and 'cement' this in a digital book, so too could digital library systems capture personal responses (teachers or children's) with the annotation features. Teachers and students could overlay the books they read with their own voiceovers, extended texts, short videos, geo tags or embedded hyperlinks. These multimedia commentaries on individual book titles could be shared creating an authentic multimedia communal record around each book, creating additional 'texts in common'. Such digitally mediated personalisation could provide an online space for students to express their own text related ideas related and share them with diverse reading populations who might be part of the same classroom, but also geographically dispersed in virtual networked reading communities. Teachers who facilitate active, jointly constructed, interactions around texts will effectively be mentoring young readers. Linking to Littleton and Mercer's (2013) accounts of successful classroom talk, and Kochan and Trimble's (2000) work on mentoring, we envision that the relations between teacher-mentors and child-readers in these digital spaces would lose their traditionally conceived hierarchical and monitoring nature, and become characterised more by appropriation, co-construction and transformation. They may even move through collaboration to co-mentoring relations.

Teachers as co-readers

Teachers who are positioned as readers alongside younger readers are able to participate in the co-construction of knowledge as they discuss particular texts and their meanings. In demonstrating that they too are readers, (of adult and children's texts), teachers act as role models and conversational partners and are legitimately able to share their own adult reading preferences and practices. In digital library management systems, this could be presented as

an extra tab or box on the landing page. Rather than simply distributing given book titles to the children, teachers could build on their academic, professional and personal reading practices and share these. This conceptualisation of a teacher's role has the potential to open up children's personal responses through reciprocal sharing. We anticipate that a culture of authentic teacher-child dialogue around texts would broaden children's conceptions of adult readers and adults' knowledge of child readers and their reading identities. Based on the notion that a key opportunity of technology-mediated learning is that 'learners can tailor the path of their own learning through their choice of the way of working with the medium' (Meadows & Leask, 2000, p.8), and the reciprocal relationship between children's agency and motivation as readers (Clark & Phythian-Sence, 2008), it is likely that scoping digital library systems as newly interactive personalised spaces will enable more volitional reading to be owned or shaped by the children themselves.

Teachers as listeners

Digital library management systems hold a potentially unlimited number of children's book titles, but to recommend specific titles to a child, these systems employ some relatively crude markers of personalisation: a child can specify their gender, name and preferences based on a selection of a few pre-established categories. As noted earlier, the central learning mechanism of personalised books is their open-ended character and support for child agency. Digital library systems could therefore expand their personalisation features through an open-ended, child-based categorisation system. The creation of such a system could be led by the teacher and include categories relevant to children's personal preferences. For this to work teachers would need to position themselves as listeners and make the time to attend to children's voices and choices. In coming to know children's individual preferences and practices as readers, and in sharing their own, teachers positioned as fellow readers and

listeners will be more likely to broaden what counts as reading in their classrooms and validate reading in a range of formats.

Current digital library systems offer children limited possibilities to respond to the texts through text creation, that is through writing, curating and publishing their own books. Whilst current systems do enable students to add their own content (in the form of blogs or short notes about a book), this could be expanded to multimedia content production (stories delivered in audio, video or image-based form) and extended book cycles involving for example, book launches, book reviews and discussions. Contemporary theories of reading (see Sefton-Green, Marsh, Erstad, and Flewitt, 2016, for an overview) emphasise the multiple forms in which texts portray meaning, constituting diverse, often bilingual or multilingual 'literacy eco- systems' (Kenner, 2005). In these eco-systems children not only read, but also produce and disseminate texts in various forms and formats. The new reading eco-systems seek to create reading communities that blur the boundaries between authors and readers and between teachers and learners (Hughes & Oliver, 2010).

As such, these theoretical insights move us away from the concept of digital library systems being a restricted depository of digital versions of printed texts. They compel us to consider a community-oriented interactive space with a range of forms and formats of texts, through which teacher- and technology-mediated personalisation of reading for pleasure can be developed. Technology and professionals can fulfil a mutually enriching role in supporting young readers; their discrete roles do not conflict but complement each other, to the benefit of the child. Figure1 captures the dual role of technology and teachers in facilitating a personalised reading for pleasure pedagogy.

Figure 1 to be inserted about here

Discussion

This paper offers new understandings about the nature, form and value of personalisation in children's reading for pleasure, with a particular focus on personalisation in digital library systems, and how these systems currently position teachers. It argues for the reconceptualisation of their professional positions within such systems which could afford more pedagogic value. We identify the challenges which the teachers face in seeking to nurture reading for pleasure, namely time, curriculum constraints and professional knowledge and articulate ways in which digital library systems can help to address these. By positioning teachers as librarians, curators and monitors the practical limitations of human-delivered personalised response to reading for pleasure can be partially ameliorated. However, these roles create their own challenges and we argue that personalisation options in digital library systems need to encompass more theorised practice. We suggest design refinements and the professional re-positioning of teachers as listeners, co-readers and mentors to young children as readers. In this way we align potential future pedagogic practices of personalised reading for pleasure with contemporary reading theories and the affordances of digital personalisation. In the context of professional development, initial teacher education and the work of national literacy charities in this digital age, we recommend that serious consideration is given to the ways in which teachers position themselves and are positioned in digital library systems, and more broadly, as teachers of reading who seek to foster children's pleasurable engagement as readers.

Uniquely, this paper examines the personalisation aspects of digital library systems designed to support children's reading for pleasure. As such, it advances possible future applications for research and practice. Perhaps unsurprisingly, scant empirical studies exist in this rapidly developing area, although some 'in-house' studies claim that digital library

systems can positively influence children's attitudes towards reading for pleasure (e.g., Picton & Clark, 2015). Our conceptual argument and articulation of teacher positioning offer scholars novel insights regarding personalisation in digital library systems and offer both researchers and designers of such systems clear directions for prospective work.

As mentioned, personalisation is only one of the six facets of young children's engagement in digital reading. It will be important for future theoretical and practical work to consider the role of personalisation in relation to the other five facets (sustained, shared, interactive, affective and creative engagement) and their current execution in digital library systems (Kucirkova, Littleton & Cremin, 2016). In particular, the importance of affect and of interactive reading for the playful aspects of digital reading and the significance of sharing texts for children's participation need to be addressed empirically.

Reading for pleasure happens in formal, informal and vernacular spaces. Digital library systems could not only operate in these spaces, but significantly they could draw such spaces together. This applies not only to children's individual reading experiences but also to discussions around text. For instance, a child's parents and friends outside the classroom could have access to the content generated by the child and comment upon and contribute to this. Teachers' knowledge about the child's home life would provide valuable information about their interests and experiences, enabling more tailored text recommendations. Clearly, the security, confidentiality and privacy issues linked to crowd-sourced content and information would need to be discussed with the user-community and technically supported. Nonetheless, it is possible to see that in a community- and dialogue-oriented digital library, the teacher's pedagogy could create a learning environment where everyone is a reader and everyone is a teacher of each other.

The theoretical ideas presented in this article could be extended to adult-oriented book recommendation systems and reading communities. For instance, Goodreads which is owned by Amazon, and based on readers' independent ratings and reviews of books, offers several features conducive to personalized reading for pleasure and active, dialogue-based co-construction of knowledge among the community members. For example, readers can select their favourite genre, opt to receive regular book recommendations (based on their Google, Facebook, Yahoo, or Twitter connections) , and rate books that they have read or purchased from Amazon. They can submit book reviews and personalize their profiles, connecting to other users with similar interests. Indeed, Goodreads is beginning to be used in initial teacher education in the UK (e.g, Tobin,2017) to widen professional knowledge and build reading communities.

Given the influence of international surveys such as PISA and PIRLS on government policy-making and teachers' practice, and the widely recognised bi-directional relationship between reading for pleasure and reading attainment (OECD, 2010), there is a need to pay increased professional attention to the challenges and opportunities offered by digital library systems. The current time-pressed and outcomes-oriented curricula evident in many countries demonstrate that we need to be mindful of the barriers impeding personalised reading in school. Thus far, the focus of funding into personalised learning has been on refining the technologies rather than developing pedagogical models and strengthening community partnerships which would cater for individual differences. This paper highlights the relationship between socio-cultural theories and the pedagogy of digitally- and human-mediated personalised reading for pleasure and stresses that socio-cultural theories offer more adequate underpinning for developing dialogic and emotionally-rich reading communities.

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