This penultimate chapter introduces readers to the increasingly popular world of children’s digital libraries and digital library systems. In alignment with the book’s focus on agency and reciprocity in personalisation, I give particular attention to the ways in which these systems can position teachers, parents and children as content-makers and co-creators. I divide up the argument and supporting examples into two parts. First, I present the pros and cons of ‘static’ digital libraries that do not contain data management tools and merely list different books and their availability and location in physical libraries. I suggest that the use of these libraries could involve greater and more direct engagement with children. In the second part, I outline the pros and cons of ‘dynamic’ digital libraries that can collect and analyse user engagement data. These digital library systems are data driven in that they not only list and store books but also provide information about how users engage with the books, including the duration of reading or teacher–child engagement with specific titles. The user data can be harnessed to offer recommendations or support dialogue around reading in the classroom. I suggest ways in which these data could be harnessed by educational professionals to support community conversations around children’s reading. Teachers may be familiar with many of the systems mentioned in this chapter and may be using them for a different purpose in their classrooms. I focus on the purpose of motivating children to read for pleasure, and I emphasise elements relevant to children’s agency, adult–child dialogue and communities of readers.

Static digital libraries: advantages and limitations

Digital libraries can help teachers and children find relevant reading content because they can hold unprecedentedly large and diverse assemblages
of stories. Besides this availability of titles, the key advantage of digital libraries, compared with physical libraries, is the accessibility. Digital libraries can be accessed by parents, teachers and children anywhere in the world. They are open 24/7 and can offer access to books in various formats. The maintenance and curation of titles do not require as much staff time as in physical libraries. Moreover, digital libraries do not take up any physical space, so are cheaper to run. On the more technical side, digital libraries need regular software updates to provide an easy-to-navigate and attractive user interface. Providers of digital libraries need to make sure that the digital platform is in line with the latest data preservation, management, privacy and security regulations and that they protect not only users’ privacy but also the titles they stock against illegal use, copying or distribution. Digital libraries can be extremely beneficial to encouraging resource sharing, exploration and new ways of learning and teaching. There is also the advantage that a digital copy of a digital book can’t get lost or damaged as often happens with physical books.

The key disadvantage of digital libraries is that, in their current design, they offer very little space for dialogue about the books and no space for community engagement. Physical libraries are community spaces where people can access the internet, find out about job offers, read magazines and browse books. For children, brick-and-mortar libraries are spaces where they can touch and physically manipulate and browse books they do not have at home. Physical libraries are also important spaces in terms of modelling reading behaviour, since children can see other children and adults engaged in quiet reading. Libraries also offer parents and their young children collective story-related experiences (e.g. storytime sessions facilitated by professional storytellers) and opportunity for parents to meet other parents. Physical libraries have dedicated sections for children’s books, whereas digital libraries typically divide up their content according to book characteristics, children’s age, reading level and genre. Physical libraries employ librarians who can advise on books’ appropriateness and provide recommendations, whereas digital libraries expect teachers or parents to stand in for the absent librarian.

Given their complementary roles, digital and physical libraries should exist side by side. Unfortunately, however, cuts to government funding have led to the reduction or complete removal of libraries in many local communities. Many educators, librarians and community members, including me, have protested against the recent public library closures in the UK. The focus on digital libraries in this chapter is an attempt to raise awareness about their unique role in children’s reading but is in no way intended to sideline the important role played by physical
libraries. Countries that have developed sustainable systems to maintain physical libraries in their communities have always had my admiration.

**Strategies for using static digital libraries**

In contemplating strategies to support the use of digital libraries, we can draw some inspiration from teachers’ effective use of physical libraries. The common feature is that they model the reading environment, apprentice children into attending the library and guide them in exploring the books it holds. Schools have established routines for connecting to the physical libraries in their communities, with, for example, regular trips organised by individual class teachers. Some schools have very rich collections of books on their premises and involve children in managing book loans and sorting. Some schools have gone the extra mile by creating their own library space, either inside or outside the school building. For example, the UK school of which I am a governor has its own School Library Bus. This is a converted double-decker bus that offers a quiet, fun and comfortable space where children can enjoy books. The bus is parked on the school field and has been renovated with help from local charities.

Of course not all of these inspirational strategies are directly transferable to digital libraries, but similar approaches can be adopted to familiarise children with them. The key difference is that teachers’ guidance will need to be accompanied with a digital demonstration of using the library. This could happen either on the interactive whiteboard for the whole class or on children’s individual tablets or computers. Teachers can devote some time in their English lessons to showing children the digital books available in digital libraries, click through the navigation path as if guiding children in a physical location and explain how to borrow and return books. Examples of digital libraries that teachers may wish to use with children are included in the next section.

**Recommended examples of children’s digital libraries**

Digital libraries for schools are typically based on whole-school subscription models but there are also some that are freely available. Teachers may consider the possibility of children accessing a digital library from home and encourage them to choose titles for themselves. Just like planning visits to physical libraries, teachers can plan children’s ‘visits’ online to explore digital libraries. For example, they can allocate some time at
the end of an English lesson for children to browse the latest titles or renew their book loans. The key message to convey to children is that digital libraries provide legitimate spaces to nurture their interest to read and that digital books can be an integral part of their reading diet.

The International Children’s Digital Library

My primary example of a recommended digital library is the ICDL, which offers free access to high-quality digital books from around the world:

http://en.childrenslibrary.org/

The ICDL was established in November 2002 and caters for children aged between three and thirteen. In 2018, it lists 4,619 books in 59 languages. The ICDL’s mission is to promote reading but also the cultural value of books. This mission is underscored by the fact that the ICDL offers e-books in 15 different languages from 27 cultures. The library was designed in partnership with a research team led by Allison Druin from the University of Maryland, which adopted a unique approach to the design of the digital user interface. Druin’s (2005) team collaborated with children in designing the ICDL and pioneered the direct involvement of children in the design of technology-based environments. The library’s success is thus a testament to what can be achieved through co-design with children. Researchers at the University of Maryland have published several academic papers (e.g. Druin et al. 2003) that describe the benefits of child-mediated design and their approach has become prominent in the field of computer design. The children’s involvement has meant that the library does not contain typical genre-led categories of books. Professor Druin’s research shows that children use different criteria when searching for books. When developing the library search categories for children with children, the researchers noticed that adult categories of fiction and non-fiction made little sense to young readers. Instead, the children suggested categories such as ‘happy’ or ‘scary’ books or books with spiders and princesses. The CDL can be accessed via the web browser on any device; as far as I know, most schools access it on desktop computers. For iPads, the library can be accessed as a free iOS app:


Oxford Owl

Another large collection of digital books is the Oxford Owl library run by Oxford University Press. Oxford Owl is a paid subscription library for
UK schools, but it also offers a free e-book library with a collection of selected Oxford Owl titles. The site is for three- to eleven-year-olds and offers about 200 titles categorised according to age, reading level, book type and Oxford Owl series (Project X, ReadWriteInc., Biff, Chip and Kipper adventures, etc.). The digital books have limited interactivity but are likely to engage children because of their attractive illustrations and professionally recorded voiceovers. The library can be accessed from the publisher’s website:

https://www.oxfordowl.co.uk/for-home/find-a-book/library-page

StoryPlace

StoryPlace is a free book depository for computer-based digital books. Users need to have Adobe Flash installed to access all its titles. The digital library carries titles for pre-schoolers only. The ‘Book Hive’ offers several stories, and the ‘Preschool Activity Library’ offers matched activities for each story. The site is available in English and Spanish:

https://www.storyplace.org/

Nalibali

In addition to digital databases of stories in English, teachers can introduce children to digital libraries with books in different languages. For example, Nalibali offers titles in African languages and English. Nalibali was developed and is curated as part of the Project for the Study of Alternative Education in South Africa (PRAESA). PRAESA is an independent research and development unit affiliated with the University of Cape Town, which seeks to support children’s love of reading with titles in local languages. It offers digital books that can be printed out or read online. Besides English, Nalibali titles are available in 10 African languages: Afrikaans, Sepedi, Sesotho, Setswana, Siswati, Tshivenda, Xitsonga, isiNdebele, isiXhosa and isiZulu

http://nalibali.mobi/stories

TumbleBooks

TumbleBooks is a popular digital library site in Canada with interactive audio picturebooks for children of pre-school and lower primary-school age. TumbleBooks can be presented to children as a digital library they can access from home with their parents. It is a subscription site with books based on popular picturebooks with added audio (narration and
music) and some basic animation. Children can listen to the story or interact with it with the narration switched off. They can access the books on any reading device (if you’re using a tablet go to the TumbleMobile site) and teachers who subscribe to the site can access lesson plans in alignment with Canada’s Common Core.


Wheelers Books

Wheelers Books prides itself to be the largest supplier of digital books in Australasia, with a huge database of 20.2 million titles. The platform is advertised to teachers and librarians who might wish to license specific titles. For teachers working with international communities of readers, it is worth having a look at the content diversity enabled by its massive database.


Literature for Children

Literature for Children is an example par excellence of how digital books can enrich traditional libraries. The site shows that, whereas physical copies of the same titles would be difficult to make freely available en masse, digital copies can be shared, saved as a digital copy or printed out as a PDF. The site offers 74 free digital books that can be read via an internet browser. The unique feature of the site is that it features copyright-free books published in the United States and Great Britain between 1850 and 1923. The digitisation of these titles was funded through the US National Endowment for the Humanities and the site is hosted by the University of Florida. Most of the titles are from the Baldwin Library of Historical Children’s Literature, housed in the Department of Special Collections and Area Studies at the University of Florida. Despite the age of the titles, their digital display presents scanned pages with vivid colours. This digital library is an important example of how digital libraries can enrich reading: rather than focusing on bestsellers and currently popular titles, they can play an important role in reviving classic stories and historic illustrations.

http://palmm.digital.flvc.org/islandora/search/?type=edismax&collection=palmm%3Ajuv

BorrowBox

BorrowBox is not a digital library (book depository) per se but rather a digital intermediate between an existing library collection and a school’s

DIGITAL LIBRARIES AND LIBRARY MANAGEMENT SYSTEMS
access to it. BorrowBox can be installed on any digital device. Once installed, it enables users to download digital books in a format compatible with their device. Users need to be registered with a local library to be able to download selected digital books. They can also search, browse and request loans. Books are arranged by age, genre, author, series and for audio-books also by narrator. Unique features include recommendations of similar titles and the facility to read and listen to book previews. Some libraries offer their own curated lists of titles. Given a connection to a local library, users can make instant loans or reservations of physical books as well. If a digital book is accessed through the app, BorrowBox saves where the reader has stopped and offers a digital bookmark. BorrowBox works as an app for Apple devices:


– or Android devices:

Dynamic digital libraries: key advantages and limitations

Library management systems, sometimes referred to as ‘digital reading systems’ or ‘dynamic digital libraries’, are digital collections of children’s books that act not only as book-holding sites but also as data management sites. These systems can help teachers and children find relevant content, archive readers’ responses to individual titles, collect and manage data on users’ activity and share such data with relevant parties. Unlike static digital libraries, dynamic digital libraries contain data management tools that can provide tailored recommendations of new titles based on readers’ engagement with the database and their selection of genres and difficulty levels. Some data management systems integrate tools such as social media and the option to share favourite titles with one’s followers. Dynamic digital libraries that are offered to schools can also produce data analytics and descriptive data analyses, which teachers can use to evaluate and develop their mentoring practice with specific children. For example, the systems can generate an at-a-glance-view of which books have been accessed, requested or returned by individual children. Teachers can request data and statistical comparisons of children’s engagement with the database and can curate the database by adding/removing titles and categorising them according to the abilities of the children in their classes.
Some classroom-based research shows that dynamic digital libraries can enhance classroom provision and motivate children to read more (Picton & Clark 2015), especially if they are initially reluctant to read print books, which is often the case for young boys (Picton 2014). The key advantage of dynamic digital libraries is that they position reading as a recreational and enjoyable activity rather than just a technical or functional skill. This is important because the international drive towards testing in schools often degrades reading to a functional skill and non-leisure activity. Another asset of dynamic digital libraries is that they can individualise book or author recommendations and keep track of individual children’s engagement – a level of personalisation that a teacher in a typically sized class will not have time to do. Last but not least, the systems address professional and practical constraints, since they hold thousands of book titles that children can access, which would not be possible with a traditional library (unless a school joins an external library).

Thanks to the data management tools, dynamic digital libraries can recommend titles by drawing on a huge database and match information about books with children’s preferences. For example, if users click on a book recommended by the RM Books Depository (http://www.brownsbfs.co.uk/vlebooks/vle-primary), the system registers this book on the user’s virtual bookshelf. Through a management dashboard, the teacher can access the bookshelves of all students and see which books were read and for how long. In addition, users can comment on each other’s titles, exchange comments about books they like to read and even access information about their favourite authors, all in one virtual space.

There are some limitations to dynamic digital libraries. Teresa Cremin and I have argued (Kucirkova & Cremin 2017) that the design of the most popular digital library systems does not align with socio-cultural theories of learning. We looked at the key features of some popular digital libraries and compared them with theories of learning. We found that current digital reading systems address some immediate practical challenges faced by teachers in the classroom and therefore have significant practical value. However, the systems position teachers in restrictive and restricted roles as librarians, curators and monitors rather than as mentors, listeners and co-readers. Professor Cremin and I suggest that, instead of as curators, dynamic digital libraries could position teachers as co-readers who can model and contextualise reading behaviour in the classroom (e.g. by giving teachers an attractive space to share their own favourite titles and reading preferences and practices). Instead of acting in the capacity of an absent librarian, teachers could be positioned as listeners. These roles relate to the notion of agency and reciprocity. Our article encourages
designers to rethink the way they approach digital reading spaces for children. However, it is worth remembering that even bad design can be transformed into a new experience. We encourage teachers to co-create the online reading space and enhance its personalisation features through community-oriented dialogue around books. For example, teachers can share their own reading habits by creating digital reading diaries and marking specific book titles on the platform. They can also invite children into dialogue about books by sharing their own choices of specific titles that children may browse on the platform or borrow.

Teachers play a central role in how the existing systems are used (or not used). My recommended strategies for the use of dynamic digital libraries focus on two issues: appropriate use of children’s data and the enhancement of classroom dialogue.

Strategies for using dynamic digital libraries

The use of children’s data to enhance their reading experiences is a new way of encouraging reading for pleasure in the digital age. There is no blueprint or evidence-based way of how to do this well. In what follows, I draw on some of my experiences with the systems, and some broader ideas from research on effective pedagogy, to make suggestions how teachers may engage positively with digital library systems to facilitate learning benefits for children.

The safety and security of children’s data

First and foremost, it is essential that children’s data collected through the systems are kept safe and secure. In order to provide children with recommendations, digital libraries need to collect information about individual children’s likes and history of reading. This information is typically supplied to the systems by the teacher or by the children, who fill out a short questionnaire about their reading preferences. Information about reading habits can also be provided to the system less directly when the library monitors children’s use of the library. Based on the patterns of behaviour, the library derives children’s level of reading and interest in specific titles. It is essential that teachers and children are fully aware of the data collection and monitoring purposes of the digital libraries they use. Children’s data are analysed by algorithms, and algorithms are not neutral tools: they are typically designed with commercial, not only educational, intentions. Information about children’s engagement with
digital books is typically stored in the cloud, so the providers of digital libraries need to guarantee that children’s data are stored securely and not sold for marketing purposes. If schools keep children’s data, they need to make sure they have valid reasons for storing them. They should not keep children’s data just for the sake of archiving them; they should securely dispose of any data they no longer need for assessment purposes.

The use and misuse of personal data by large companies have featured in public discourse (e.g. the Cambridge Analytica scandal) and media headlines. Digital libraries are not immune to potential data breaches and misuse of data by external companies. Teachers who use digital library systems in the classroom therefore need to ensure that children’s data are protected and that the systems’ providers comply with regulations on data access, encryption and retention. On many platforms, children can share their own stories, book ratings, preferences, reading progress logs and even videos. In the UK and mainland Europe, the General Data Protection Regulation (GDPR) applies to all organisations that handle personal data. GDPR is a pan-European regulation that applies to small and big organisations, including children’s app designers and book publishers.

Although the responsibility for handling children’s data lies with the providers of digital libraries, data interpretation is carried out by individual teachers. It is important to remember in this process that digital reading logs do not represent children’s entire reading engagement (e.g. the system will not log what children read at home or on their way to school at the bus stop) and that behind each data point lies a complex reading pattern.

Enhancing dialogue through dynamic digital libraries

A promising element of dynamic digital libraries relates to the online dialogue spaces that they create. The commenting features and possibilities for children to leave feedback on specific titles are likely to encourage children’s engagement with the platform and conversations with their peers. Moreover, some dynamic digital libraries run a news feed or chat on their platform and some even host reading forums. These features add novelty and opportunities for synchronous conversations.

Teachers are unlikely to have the time to monitor an online chat, but they can direct discussion through strategically suggesting discussion topics. For instance, teachers could frame students’ online conversations on a platform with regular requests for them to review new books and share their views on what they liked or disliked about the books. For example, students could be asked to write a review of John Green’s *The Fault in Our Stars*, displaying their own comments next to the book
and other students’ feedback. Teachers could also set up community contests, ask the children to rate their favourite titles and announce the class’s favourite title each week. The more that teachers can introduce a shared element that brings the class together as a community of readers, the more likely the platform will be used by children in a dialogic way in which each child’s reader identity is valued.

Different digital library systems have different characteristics and functionalities, so their use needs to be informed by the instructions provided by the individual systems. By way of illustration, I have selected some examples of digital library and digital reading management systems and shall describe their key features. I have seen most of these systems in use in schools, but some descriptions are based on the provider’s description, so caution should be exercised in interpreting the systems’ capabilities.

Examples of children’s digital libraries

MLS Books

The Micro Librarian System (MLS) offers a suite of associated products, including the Reading Cloud (see below). The titles in MLS have been chosen in collaboration with librarians and Peters Educational Books, which pride themselves on being ‘the best children’s library supplier in the country’. The collection features predominantly UK authors and topics relevant to the UK primary curriculum, with more than 1,100 titles for primary school and 1,500 titles for secondary schools. Digital books offered through MLS Books can be read on any device, including PCs and tablets, which is a major advantage for schools. Schools that subscribe to the system can monitor the usage of individual titles by individual children. Subscribers can also build their own library collection customised for groups of students and select from a database (called OverDrive) of more than 500,000 digital books and audio-books.

MLS Reading Cloud

The MLS Reading Cloud is the reading system part of MLS and offers a digital reading community, with conversation-supporting features such as opportunities to access featured authors and most popular books and to comment on and share individual titles. Children can add their blogs and write or even video-record their own book reviews. They can chat in
the Reading Cloud secure system with other students about their favourite books or authors and add their ‘likes’ and recommendations of titles, as on a social media system. Children have access to the digital school library via the Reading Cloud, so they can search and download titles and share what they read (i.e. their personal library) with other users. MLS regularly updates the site with book-related news and words and facts of the day.

https://www.readingcloud.net/

RM Books

RM Books is similar to MLS in that it features both a digital library and a reading management system and is based on a subscription model available to UK schools. The system has been tested and evaluated in schools in partnership with the National Literacy Trust in a study in 2014/15. Picton and Clark (2015) concluded that use of the system motivated children to read and was a useful tool for teachers to monitor children’s reading habits. The RM digital library features titles from popular publishers such as Penguin Random House and each book can be annotated with digital notes. These notes can be text based or can take the form of short audio or video clips.

Another feature of the reading management system is the customisation option to create small libraries for groups of children or individual children. Teachers can allocate books to such mini-libraries using the system’s guide to reading levels and key topics. In the teachers’ dashboard, they can then track how long and how much the students have read particular books and even see which page was read last by an individual student. The subscribing school does not own the digital titles but rather rents them for a fixed period of time. Rental periods are per student or groups of students and can be a week, month, term or year. The system works on PCs as well as tablets and can be usefully employed in both school and home-learning environments.

Epic!

Epic! is a subscription system popular in US schools as well as homes. The platform offers access to some 25,000 e-book titles, most of which are a combination of text and illustrations. The site is specifically designed for home and school use with a neat user interface. The library can be
accessed on any device. The large number of titles available through the library will be attractive to teachers seeking to engage children with content they may not have come across before. The books are offered in three age categories: under fives, six to eight years, and nine to twelve years. The subscription model gives access to e-books and also interactive quizzes and videos.

https://www.getepic.com/

Padlet

Given that not many freely available digital libraries contain space to discuss stories, teachers can use existing collaborative tools to invite contributions from children as well as their parents. Padlet is an easy-to-use tool that can be used to profile teachers’ reader identities and encourage communication about children’s story authorship. This tool is suitable for older children or for children who can use it with their parents. No signup is required and collaborations are potentially unlimited. Teachers can choose who they invite to the shared digital board and can assign to individual collaborators the roles of writer and moderator. There are multiple ways of sharing content and commenting on it, which offer great possibilities for dialogue around stories.

https://en-gb.padlet.com/

Chapter summary

This chapter has established that digital libraries can usefully complement physical libraries by providing access to large databases of books and tailored recommendations based on children’s engagement with what they read. Teachers can enlarge the classroom’s or school’s book provision by providing access to online book depositories such as the ICDL. Teachers should be aware of the potential of dynamic digital library systems to encourage dialogue around books and to use children’s data to provide targeted recommendations. All digital library systems need to comply with best practice in personal data management and storage. Teachers can harness the opportunities for expanded reading that these systems offer and thereby strengthen the reading community in their classrooms and beyond.
Reflection point

No two persons ever read the same book. (Edmund Wilson)

This quote always reminds me of the many ways in which books can be interpreted and internalised and of the importance of dialogue around books. Facilities to store and share digital books online offer multiple access points to a wider range of contents than was previously accessible. They also provide opportunities for rich dialogue about books. Digital libraries could become sites in which to capture and nurture such dialogue. Perhaps the key role for twenty-first-century teachers of reading for pleasure is to encourage this kind of participatory dialogue with children early on in their education. What do you think?

Further reading

These three books do not address digital library systems per se, but they cover in depth the importance of dialogue and community-building around literacy and technologies in the classroom. They are authored by leading experts in literacy and technology. If you can’t access these specific titles, I recommend you look up other books by Henrietta Dombey, Teresa Cremin, Neil Mercer, Karen Littleton and John Potter.


For readers interested in how digital libraries handle personal data, I recommend this white paper co-authored with the HAT (Hub-of-All-Things) Community. It describes the data challenges and possibilities as well as the technical requirements of educational systems handling children’s data. It is freely available from the UCL Document Depository page: http://discovery.ucl.ac.uk/1568437/