INTRODUCTION

In recent years there has been an explosion in the electronic media that is marketed directly to young people. According to Vandewater et al. (2007), from as early as birth, young people have access to technology and grow up in an environment saturated in media. The children that were the first to grow up during the rise of the Internet and digital technology are referred to as the millennial generation (Howe & Strauss, 2000). For these children and those born after them, computers and digital media are second nature. They are more likely to see their parents reading a computer screen rather than a book made of paper (Cooper, 2005).

GENERAL CHARACTERISTICS OF YOUNG PEOPLE

The increase in electronic media or digital resources has been accompanied by new ideas for meeting the educational and entertainment needs of young people. Likewise, the availability of digital formats has expanded the use of physical libraries. Digital resources make it easier to enable access to information in a variety of formats. Because of the availability of information and the likelihood that youth will access it online, current young people have characteristics that differ from previous generations. Research indicates the following characteristics are just a few that reflect today’s youth:

- Twenty-six per cent of teens say they have been a victim of bullying or harassment via text messages and phone calls (Lenhart, Ling, Campbell & Purcell, 2010).
- Youth prefer classroom environments that resemble the way they use digital tools at home (Project Tomorrow, 2014).
Today’s children grow up with computers and a variety of digital devices. Yet they still need assistance with discerning, synthesising and locating credible information (Kuhlthau, 2010).

By the time they reach college, many young adults are not aware that their information literacy skills are deficient (Latham & Gross, 2011).

Seventy-four per cent of youth aged 12–17 have access to a phone that can connect to the Internet (Madden, Lenhart, Duggan, Cortesi & Gasser, 2013a).

Teens have reported sharing personal information on their social media profiles including their pictures (91 per cent), school names (71 per cent), city or town where they live (71 per cent), email address (53 per cent) and cell phone numbers (20 per cent) (Madden, Lenhart, Duggan, Cortesi & Gasser, 2013b).

Ninety-three per cent of teens have a computer or can access one at home (Madden et al., 2013a).

Many young people are not aware of digital resources such as e-books that are available to them in libraries (School Library Journal, 2014).

Children from varying economic backgrounds use computers for academic purposes at similar rates. Poorer young people are less likely to use computers for recreational purposes (Eamon, 2004).

**THE USE OF DIGITAL TOOLS IN SCHOOL LIBRARIES**

Many experienced school librarians are well versed in the characteristics of youth and are aware that the use of technology requires careful planning to meet the needs of various stakeholders in educational environments. For example, digital resources have become a part of collection development. E-books are slowly becoming more accessible in school libraries. According to the *School Library Journal’s* (2014) study of e-books in schools in the United States, most students are using devices provided by their schools to read e-books. The most popular devices used in schools for e-books are the iPad or iPad mini.

School librarians have also become avid curators of digital resources. Valenza (2012) describes digital curation tools as a new form of search tools. School librarians are able to locate and curate credible resources that can be placed in safe locations and searched by students, parents and teachers. Valenza further explains that curation is important because students are in need of dynamic resources that are cloud based. Working with students to curate information that they are interested in enhances
their life skills by providing them with examples and hands-on experiences with collecting and organising information.

Research proposes that digital textbooks can be an effective replacement for traditional textbooks (Everhart, Mardis, Johnston & Smith, 2011). Digital textbooks are a viable option for schools because they can help to conserve financial resources. In addition, materials can be tailored to fit the specific needs of school communities.

The 2013 School Library Journal technology survey signifies how digital textbooks and other tools have been utilised by school librarians. According to the results, the most popular tools that school librarians plan to use include blogs, digital textbooks and open source technology. The most common free

![Figure 14.1](image-url) Percentage of reported technology tool usage and instruction. Source: School Library Journal (2013).
digital tools that school librarians use are Google Apps, Animoto, Glogster, Prezi and Edmodo. Figure 14.1 demonstrates examples of digital tools that school librarians personally use, teach students to use, assist teachers to use and plan to use in the future.

THE CHALLENGES OF USING DIGITAL TOOLS

Budgets and Digital Resources

Several challenges face school libraries when considering the adoption of digital tools. School librarians cite issues such as district policies, challenges in providing technology-related professional development, and challenges with convincing teachers to use technology. Time constraints and limited bandwidth are also perceived as barriers to implementing technology (School Library Journal, 2013). Breeding also writes:

School libraries shape their collections under a much different set of assumptions, generally needing to provide enriching and educational materials for the students, but to also ensure that they will pass the scrutiny of parents and administrators. These concerns apply just as much to electronic resources selected and in the provision of access to the web (2013, p. 26).

A lengthy debate about the need for libraries (Harris, 2011; New York Times, 2012) and decreasing budgets have affected the services that school libraries provide. Several school libraries are not equipped with adequate staff as many school librarians have been laid off. Moreover, as equipment ages, there are frequently fewer funds for replacements (School Library Journal, 2013). A plethora of new tools are created each year. When technology is replaced, school districts have been slow to provide ongoing training on implementing the new technology.

THE COMMON CORE STANDARDS

The Common Core Standards (CCS) have added another dimension to the challenge of using technology. Even though school librarians currently use a variety of digital tools, they will need to be prepared for the new technology that will accompany the implementation of the CCS. The CCS were designed to provide consistent guidelines for academic progress in maths and literacy. To date, the District of Columbia, four US territories, the Department of Defense and 42 states have adopted the standards (Common
Core State Standards Initiative, 2015). With acceptance of the standards in most states, school districts have placed an emphasis on locating the materials necessary for implementing them. Naturally, school librarians in states where the standards have been adopted are examining ways to support the standards (Uecker, Kelly & Napierala, 2014).

Watters (2014) discusses some of the technology requirements that are associated with complying with the standards. Watters observes that the standards require schools to use computers for assessment. Additionally, since the standards are relatively new, schools need to purchase materials that support them. These changes have initiated a technology boom to create CCS software as school districts seek software that will shape how children learn. As this implementation progresses, Watters cautions school librarians to think about how the new digital technologies for the CCS will affect the ways automated code may be substituted for human interaction. School librarians will need to be aware of and be able to evaluate how these automated technologies can be used to create authentic learning experiences for students.

E-BOOK CONCERNS

E-books are available in school libraries but they are not used as much as print resources. Why? One explanation is that school librarians are still more likely to purchase print books than e-books. There are several reasons for this. The respondents to the School Library Journal’s 2014 survey noted that members of their school communities still prefer print books. In addition, many publishers and vendors have gravitated from selling e-books to schools to renting books for 12- and 24-month periods. Some school librarians feel that renting a book for the full price of a printed copy when it does not stay in the library collection is counterproductive. Other school librarians have shifted to using on-demand rental services such as Brain Hive that allow them to rent for a low fee (Brakhage, 2014). Moreover, the prices for e-books are frequently greater than the price of a print copy. In addition, digital content subscriptions are often set for school districts as a whole. Smaller school districts are required to pay the same fees as large school districts with more financial resources. Other challenges related to the slow implementation of e-books in schools include the need for training to use and implement them. A lack of e-book devices in schools and in students’ homes and students not being aware of the availability of e-books is apparent.
GETTING PAST THE FILTERS

Although e-books are available online, access does not present some of the filtering challenges that are present for other online digital resources. Most, if not all, school librarians agree that children should not be subjected to harmful information on the Internet. One measure that has been taken to ensure the safety of children in US schools has been the adoption of the Children’s Internet Protection Act, often referred to as CIPA. As stated in the second paragraph of the law, CIPA requires schools and libraries that wish to benefit from federal funds and discounts for telecommunications and Internet access to adopt measures to protect children by blocking or filtering ‘Internet access to pictures that are: (a) obscene; (b) child pornography; or (c) harmful to minors (for computers that are accessed by minors)’. Schools and libraries must provide notice of their policies before adopting them. Furthermore, schools must have policies for supervising youth while they are online and teach youth about cyberbullying and how to interact with others online.

CIPA is meant to be a protective measure. Yet many school district personnel are ill informed and go beyond the CIPA requirements (American Association of School Librarians, 2012). For example, Wallace (2013) explains that school districts want to ensure that they are in compliance with CIPA requirements. In doing so, they use vendor software that does not define the resources that will be blocked. Additionally, schools frequently turn on all software filters and excessively block websites. CIPA allows schools to use safe zones developed by teachers.

The American Association of School Librarians (AASL) conducts the ‘School Libraries Count!’ Survey which is part of a longitudinal study that reports trends in school libraries. The 2012 version of the study revealed several trends related to the use of digital tools and their impact on school libraries. For example, when responding to survey questions about the effect of filtering on education, 52 per cent of participating school librarians noted that filtering impedes the student research process. Hence, school librarians are frequently caught between requesting access to filtered resources and providing the best information literacy training to students.

The summary of the report signified that school districts use a variety of filtering options (see Figure 14.2). The most common type of filtering is software followed by the implementation of acceptable use policies. The report also indicates the types of content that is blocked. The two
The types of content that were blocked the most were social networking sites (88 per cent) and IM/online chatting (74 per cent) (see Figure 14.3). With regard to devices that students are allowed to bring to school, some schools allow students to bring devices such as e-readers (53 per cent), cell phones

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![Figure 14.2](image1.png) **Figure 14.2** Types of filtering used in schools. Source: AASL (2012).

![Figure 14.3](image2.png) **Figure 14.3** Types of content filtered in schools. Source: AASL (2012).
(49 per cent), laptops (39 per cent), MP3 players (36 per cent) and netbooks (32 per cent).

REMAINING Viable

Peck, Mullen, Lashley, and Eldridge (2011) suggest that a pervasive digital media culture has led students to misuse technology and challenge authority systems and classroom norms. It can be argued that the misuse of technology, along with the changing landscape of technology, will contribute to the need to retain school libraries and school librarians. Youth and adults will continue to need assistance with understanding how to use technology properly.

The Development of Literacy Skills

In recent years, issues such as sexting (that is sending sexually explicit images as digital media) and cyberbullying have received attention in the news. Researchers have noted that sexting is only practised by a small percentage of youth between the ages of 10 and 17 (Mitchell, Finkelhor, Jones & Wolak, 2011). Yet, 7.1 per cent of youth participating in the same study have received sexually explicit images. Likewise researchers argue that cyberbullying is a phenomenon that is also less common than media coverage suggests (Olweus, 2012; Sabella, Patchin & Hinduja, 2013). The research results imply that these behaviours are not common among youth. However, instances when they do occur can be detrimental for the youth involved. For example, in a study of the effects of bullying and cyberbullying, both traditional styles of bullying and cyberbullying were associated with an increase in the likelihood that the victim will attempt suicide (Hinduja & Patchin, 2010).

Cyberbullying and sexting are a few reasons why school libraries and librarians need to be in every school. Youth need to understand that cyberbullying and sexting may be criminal activities with severe penalties. Librarians can teach digital citizenship skills. These skills are important because even the most basic jobs now require employees to use technology responsibly.

Students that decide to attend college are expected to understand the ethical use of information and how to find and synthesise it. Yes, there
will be times when the information they need will be in a digital format. Yet higher education still requires the use of print formats as well. Librarians are equipped more than any other educator on school campuses to show students how to locate information in a variety of formats and to organise and present results by using digital media and printed text. Ignoring the importance of school libraries as viable and necessary institutions of learning could put students at a disadvantage later in life.

FORMING COMMUNITY PARTNERSHIPS

Libraries are also still significant in schools because of the community partnerships that can be developed around them. Many types of libraries join consortia to share books. While consortia have proven to be effective for public libraries, they are not widely accepted among school libraries. In a recent study, responses specified that a mere 13 per cent of school libraries currently participate in consortia (School Library Journal, 2013). Conversely, the same study found that school librarians noted that they typically purchase e-books that relate to school curricula and rely on public libraries to provide access to popular titles.

The formation of partnerships can be mutually beneficial for public and school libraries. Participating in consortia and collaborating with public libraries has the potential to assist with budgeting and improving access to e-books for students. Woolls (2009) suggests that these collaborations can benefit public librarians because school librarians can promote public library programmes and increase circulation. Being able to access materials in public libraries when school libraries are closed could ultimately improve students’ academic achievement, thus benefiting the community as a whole (Murvosh, 2013).

BEING TRANSFORMATIONAL LEADERS

The AASL (2014) recently changed its mission statement to ‘The American Association of School Librarians empowers leaders to transform teaching and learning.’ Overall, it appears that school librarians need to apply leadership behaviours to roles that they fulfil. The question of what leadership looks like in libraries has been posed (Phillips, 2014). While the definition of leadership may be left for interpretation, the meaning of
leadership for school librarians has been defined by standards. The AASL and American Library Association (ALA) have acknowledged the importance of leadership skills by incorporating the leadership and advocacy role into the Standards for the Initial Preparation of School Librarians (ALA & AASL, 2010). The standards assert that school librarians are leaders that seek lifelong learning opportunities for professional growth. In addition, the standards specify that school librarians need to network with other librarians, provide and participate in professional development, serve as leaders by employing evidence-based practice and be advocates for library programming by articulating the importance of school libraries.

A form of leadership that focuses on organisational change is transformational leadership. Transformational leadership is well suited for educational environments because of its emphasis on changing organisational cultures by engaging all stakeholders in the leadership process. Kouzes and Posner (2007) define transformational leadership in five domains.

- Enabling Others to Act — creating an atmosphere of trust, fostering collaboration and making stakeholders feel they are an important part of organisational processes.
- Encouraging the Heart — acknowledging the input of others and how it benefits the organisation as a whole.
- Modelling the Way — serving as a role model by establishing and following organisational principals and goals.
- Challenging the Process — using new and innovative methods that involve taking risks that challenge organisational norms.
- Inspiring a Shared Vision — visualising the ideal future of an organisation and creating a shared consensus for the acceptance of the vision.

When describing learning commons that represent physical and virtual spaces, Loertscher (2014) notes that schools need individuals that can ‘successfully lead out front, or lead from the middle, or push from behind’. These characteristics describe transformational leaders who need not be appointed and are able to synchronise their strengths and weaknesses with other leaders to accomplish shared visions and goals. Examples of the activities that school librarians can undertake as transformational leaders incorporating digital tools are provided in Table 14.1.
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<tr>
<th>Enabling</th>
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<th>Inspiring</th>
<th>Modelling</th>
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<tr>
<td>Collaborating to create and curate digital resources with teachers,</td>
<td>Inviting community partners such as public librarians to share in the</td>
<td>Advocating to change the perceptions of the roles and benefits of libraries in the digital age</td>
<td>Promoting diversity and the use of digital resources by curating resources for diverse needs in multiple formats</td>
<td>Mentoring other educators to help them use digital resources</td>
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<td>students, administrators and community stakeholders</td>
<td>creation of resources</td>
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<td>Recognising outstanding digital resources from community stakeholders</td>
<td>Networking in professional organisations to encourage collaborative resource sharing with peers</td>
<td>Taking risks by using new digital tools</td>
<td>Involving stakeholders in the decision-making process for the development of digital resources</td>
<td>Offering professional development to share expertise and current research</td>
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<td>by displaying them online and promoting them</td>
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<td>Identifying personal weaknesses and seeking input from community</td>
<td>Supporting the school curriculum and initiatives by creating applicable digital resources and identifying appropriate digital tools</td>
<td>Seeking new perspectives about how to use digital tools</td>
<td>Articulating and endorsing a shared vision of how digital resources can be used for academic achievement</td>
<td>Using evidence-based practice when incorporating digital resources</td>
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<td>members with the necessary skills to implement change</td>
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<td>Teaching parents and students how to use digital tools to complete</td>
<td>Sharing successful digital tool projects</td>
<td>Collaborating to build partnerships with community organisations to fund digital resource projects</td>
<td>Creating innovative library programming that blends digital and print resources</td>
<td>Being a life-long learner that continuously engages in professional development activities</td>
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<td>research projects and communicate with teachers</td>
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<td>Contesting excessive filtering by frequently curating digital resources and requesting access to them</td>
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<td>Modelling the ethical use of digital resources</td>
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CONCLUSION

The issues related to the adoption of digital media in school libraries, characteristics of the current generation of young people and examples of how school librarians are implementing digital tools have been explored. Chakraborty, English, and Payne wrote:

*We can count on no shortage of new technologies and delivery options, and new organizational theories and structures, but without vision and implementation by the people in the library none of these advances reaches the students.* (2013, p. 90)

This statement remains true as school libraries are presented with opportunities to exist as the intellectual hubs in schools. School librarians are aware that digital tools present the world with a variety of options for accessing information. This access is accompanied by challenges. Young people are particularly drawn to digital resources because they are inundated with them from birth. The current generation of young people have specific needs related to technology that should be addressed to provide them with the best educational opportunities.

Based on the influx of digital tools available, school libraries and the services offered by the librarians that administer them are more relevant to schools than ever. As technology continues to evolve, school librarians will need to become transformational leaders to guide their school communities through a maze of misconceptions about the worth of libraries, overwhelming amounts of print and digital information, and calls to action for improving educational outcomes. This is a challenge that school librarians are well equipped to conquer by demonstrating their professional skills and defying obstacles to promote shared visions for digital technology implementation.

NOTES

2. https://animoto.com/
5. https://www.edmodo.com/
REFERENCES


