Supporting Digital Literacy and 21st Century Learning Through the School Library

By Linda Twitchett

The School Library Association of Victoria conference *It's a Digital World*, held in Melbourne in August 2015, was a good opportunity to reflect on the digital environment that is shaping our personal, work and social lives and to ask, What are the implications for us as educators? What are the imperatives for new literacies, including digital literacy and 21st century skills? How can international frameworks guide the development of digital literacy in our schools? And how can digital devices and tools enrich the learning environment to support the development of skills, attitudes and understandings students need to be successful, effective citizens of the 21st century?

How is the digital environment shaping the lives and needs of our students? There have been a number of large-scale surveys of young people and their attitudes to technology. The WNYC blog by Manoush Zomorodi, *Note to Self*, (from New York's flagship public radio stations WNYC 93.9 FM and AM 820) reports on the findings of a classroom survey of thousands of school students (Zomorodi, 2015). The theme of the blog is "How technology is changing our lives – for better and for worse". These are the top three takeaways:

1. Remember children are seeing a different world than we did at this age.
2. We need to see students as our partners in this landscape, rather than taking an authoritarian stand about kids and the technology they use.
3. We need to educate students about good use of this technology. Just because they are born with all this technology doesn't mean they know how to research, write, communicate or protect themselves on it.

. . . paternalism and protectionism fail our young people

Danah Boyd, Principal Researcher at Microsoft Research and visiting professor at NYU's Interactive Telecommunications Program, spent seven years travelling across America, between 2005 and 2012, talking with and observing teens. Her book *It's Complicated: The Social Lives of Networked Teens* reports on this research, examining teenagers' use of social media and how it affects their lives (Boyd, 2014). She, too, makes the point that paternalism and protectionism fail our young people, when what they need is our help to become informed, thoughtful and engaged citizens through their online interactions.

Project Tomorrow undertakes national surveys in the U.S. highlighting the views and values of today's students. They add the valuable insight, that today's students are creating their own learning environment by tapping into digital tools, resources and content to self-direct their learning, beyond the sponsorship and facilitation of their teachers, to explore academic interests or passions for knowledge (*Digital Learning 24/7: Understanding Technology – Enhanced Learning in the Lives of Today's Students Speak Up 2014 National Findings K-12 Students April 2015*, 2014).

The Pew Research Centre is a non-partisan think tank based in Washington DC that provides information on social issues, public opinion and demographic trends shaping the United States and the world. In May this year it released a survey report entitled *Teens, Social Media and Technology Overview 2015* (Lenhart, 2015). One of the main findings of this U.S. based survey was the emerging importance of smartphones, and how they have facilitated a significant shift in the communication and information landscape of teens, reinforcing the findings discussed earlier. To synthesise the findings of these studies and their significance for us as educators:

- Mobile technology has changed the communication and information landscape of our students;
- Kids are tapping into digital tools and self-directing their learning;
- Protectionism and paternalism are failing our young people;
- We need to educate our students about good use of technology.

The changing nature of our students, and the changing context for learning in the 21st century is driving the imperative for new literacies and instructional development of these new literacies. The International Reading Association offers four common elements:

- The Internet and other ICTs require new social practices, skills, strategies, and dispositions for their effective use;
- New literacies are central to full civic, economic, and personal participation in a global community;
- New literacies rapidly change as defining technologies change;
- New literacies are multiple, multimodal, and multifaceted.

In their handbook for schools, *Digital Literacy Across the Curriculum*, the UK think tank Futurelab points out that digital literacy not only supports students to become independent, critical learners, but also narrows the gap between their lived experiences inside and outside of school (Hague & Payton, 2010). In their New Media Literacies Project at USC Annenberg School for Communication and Journalism, Henry Jenkins and his colleagues share the view of the participatory and multimodal qualities of new literacies (*The New Media Literacies*, 2015). They describe new media literacies that constitute "the core cultural competencies and social skills that young people need in our new media landscape that changes the focus of literacy from one of individual expression to one of community involvement". They include skills like:

- Play: the capacity to experiment with one's surroundings as a form of problem-solving;
- Judgment: the ability to evaluate the reliability and credibility of different information sources;
- Transmedia Navigation: the ability to follow the flow of stories and information across multiple media.

This call from Jenkins and others, to address new media literacies, is being met by innovations in our schools and school libraries in a range of ways – gaming in education; the makerspace movement; the drive to teach coding; and the call to teach digital literacies.

So how do we define digital literacy? Mediasmarts, Canada, reminds us that digital literacy is more than technological know-how; it includes a wide variety of ethical, social and reflective practices that are embedded in work, learning, leisure and daily life. They propose that under the digital literacy umbrella are a wide range of interrelated skills that traditionally fell under other literacies – including media literacy, technology literacy, information literacy, visual literacy, communication literacies, and social literacies (*Digital Literacy Fundamentals* n.d.). Futurelab in the UK offers the following definition:

> *To be digitally literate is to have access to a broad range of practices and cultural resources that you are able to apply to digital tools. It is the ability to make and share meaning in different modes and formats, to create, collaborate and communicate effectively and to understand how and when digital technologies can best be used to support these processes* (Hague & Payton, 2010, p. 2)

Create, Collaborate, Communicate – the 3 C's of 21st century skills.

Create, Collaborate, Communicate – the 3 C's of 21st century skills. However we define it, there is clearly an intersection between digital literacy and 21st century skills. Many national and international organisations attempt to provide a framework for digital literacy and the 21st century skills needed by our students today: Futurelab in the UK; the International Society for Technology in Education (ISTE); Project 21; The Australian National Curriculum General Capabilities; MediaSmarts Canada; the Ministry of Education in Singapore. The broader context of each school or school district will determine the relevance of these to the articulation of a digital literacy framework and an approach to digital literacy in each of our school environments.

The International Society for Technology in Education (ISTE) has been very influential internationally and many schools reference it in their approach to digital literacy. As they state on their website, the Standards for Students describe the skills and knowledge students need to learn effectively and live productively in an increasingly global and digital society (*Standards for Students*, 2015). The skill areas they have identified are:

- Creativity and innovation- involving creative thinking, construction of new knowledge, development of innovative products and processes using technology;
- Communication and collaboration: use of digital media to communicate and work collaboratively;
- Research and information fluency: use of digital tools to gather, evaluate and use information;
- Critical thinking, problem solving and decision making: use of critical thinking skills and digital tools to plan and conduct research, manage projects, solve problems and make informed decisions;
- Digital citizenship: understanding human, cultural and societal issues relating to technology and associated legal and ethical behaviour;
- Technology operations and concepts: understanding technology concepts, systems and operation.

MediaSmarts describes itself as a Canadian not-for-profit charitable organisation for digital and media literacy. Its Digital Literacy menu reveals a wide spread of issues. There are lesson plans and other resources for teachers. Its framework is entitled Use, Understand, Create, a digital literacy framework for Canadian Schools K-8. It contains three frameworks: K-3, 4-6, 7-8. Their bands include: Ethics and empathy; Privacy and security; Community engagement; Digital health; Consumer awareness; Finding and verifying. There is a lot here to support a strong program for digital citizenship.

Returning to the idea of the broader school context as a consideration in planning for digital literacy in our schools, an important factor to consider is staff readiness. The ISTE *Standard for Teachers* includes the ability to:

- Facilitate and inspire student learning and creativity;
- Design and develop digital age learning experiences and assessments;
- Model digital age work and learning;
- Promote and model digital citizenship and responsibility;
- Engage in professional growth and leadership (*Standards for Teachers*, 2015).

ISTE discusses prerequisite essential conditions – 14 critical elements necessary to effectively leverage technology for learning (*Essential Conditions*, 2015) including:

- Shared vision;
- Funding and support for infrastructure;
- Technical support;
- Ongoing professional learning.

ISTE provides diagnostic tools to help teachers and school leaders assess their school's readiness. Identifying potential drivers and constraints in the school context will aid in the timely and successful implementation of school-wide approaches to digital literacy.

This process has been undertaken at the Australian International School (AIS) Singapore. The AIS is a large international school with a diverse and fluid school population. It provides a technology-rich learning environment, with 1-1 MacBooks in Secondary and 1-1

iPads in Elementary. There is a school-wide LMS which the whole school community can access, with the teaching program available online.

The school's articulated values are respect, opportunity and achievement. In the learning and teaching program there is a strong emphasis on integration of ICT to achieve differentiation, engagement and curriculum goals. The opportunities for us at AIS were in the implementation of the 1-1 program:

- Availability of technology and the school's financial commitment;
- Access to excellent support staff;
- Provision of professional development;
- Staff readiness.

In undertaking a review of our provision for information literacy through the library, the biggest challenge was time. A review of existing scope and sequence documentation had been completed for the Elementary School, but not the Secondary School. The introduction of Teacher Inquiry Groups, an in-house professional development program, created the time, opportunity and driver for this review to be completed.

Starting with our existing scope and sequence for information literacy, and proceeding with a literature review, it was decided to use the term information fluency to indicate a higher degree of proficiency and a convergence of skills – 21st century critical thinking skills, information literacy, digital literacy and digital citizenship (*Information Fluency*, 2015).

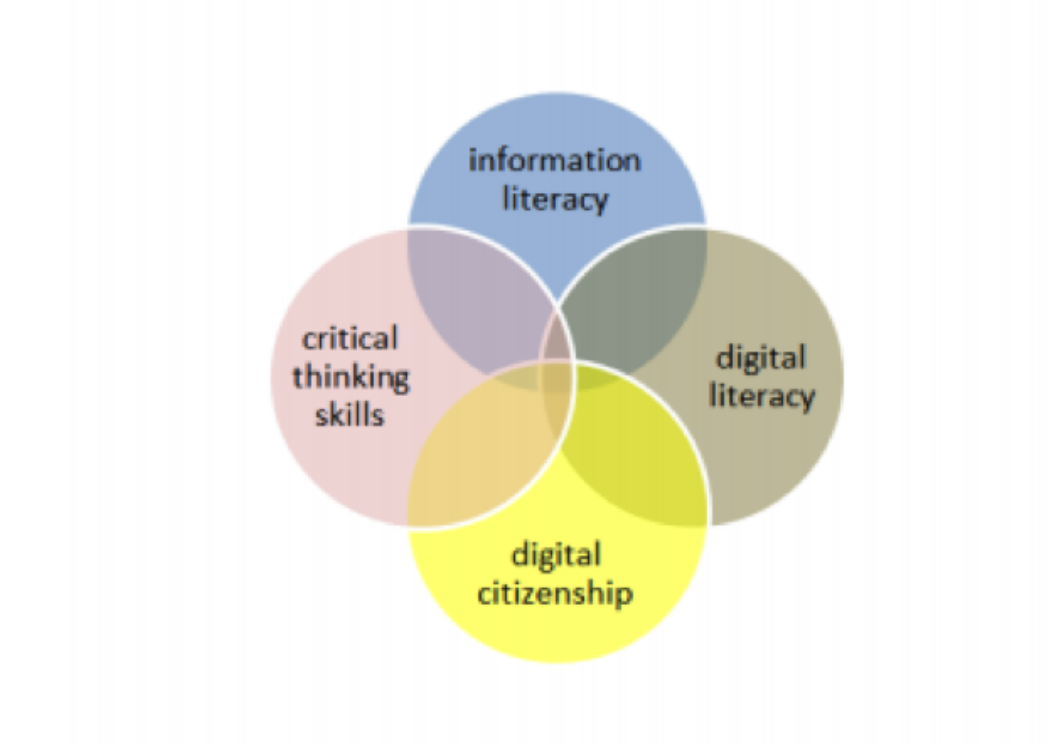

Figure 1 - Information Fluency – The convergence of critical thinking skills, information literacy, digital literacy and digital citizenship. (*Information Fluency*, 2015)

The result was 21st Century skills @ AIS – an information fluency framework (2015).

The strands or groups of skills are adapted from ISTE's standards for students:

- Communication and collaboration;
- Critical thinking;
- Creativity and innovation;
- Digital citizenship.

The framework references the General Capabilities of the Australian National Curriculum, as this curriculum is taught in Years 6-8 (*General Capabilities in the Australian Curriculum*, 2013). It is also very strongly linked to the inquiry process as the context for skill application and development. The Ontario model K-12 from Queens University Education Library, was chosen for this. Learning outcomes are identified for each strand, and for each of these a dropdown toolkit of digital tools was included. The library team has revised the framework this year, extending it P-12, and removing the toolkits. It was felt that, as the toolkits are now included in the accompanying website that has been developed, they were not needed in the framework.

The framework is intended as a guide and vision for the library's involvement in learning and teaching with a focus on digital literacy and 21st century skills. An online student Research Guide has been developed to accompany it. This is built around the same inquiry process model (*Research Guide*, 2015).

At AIS we use Libguides as a curation tool, so the Research Guide is published in Libguides. With the toolkits removed from the Framework, one has been developed for each stage of the inquiry process in the Research Guide:

- Exploring your topic;
- Investigating further;
- Processing information;
- Creating.

So what does digital literacy look like, in terms of student learning? Howard Garner and Katie Davis have dubbed today's kids 'the app generation' (Gardner & Davis, 2013). In their book by the same name, they note the power of digital devices for:

- Collaboration – Digital devices offer a greater degree of collaboration with those far away as well as with those nearby;
- Creation – New media enables a far greater spectrum of intellectual tools, enabling many more forms of expression and understanding;
- Differentiation – "No two persons have to be educated in a single mandated way." It is possible to learn in multiple ways with digital media. On digital devices students can use tools for Collaboration like Google Docs; Titanpad; Padlet.

They can use tools for creation and the presentation of their learning such as imovie, Pictochart and Audacity. Digital devices allow us to differentiate content, process and product, with tools such as audiobooks, multimedia databases like Discovery Education and Mindmapping tools to visualise thinking, like Bubbl.us.

In the Junior Library, imovie has been used with young students in a unit on sequencing. Students had their oral story telling recorded on their iPads and this served as a record of their work, which the children enjoyed viewing. It was also used for assessment. iMovies have also been used in the library with the application Aurasma to embellish displays. In the Senior Library the Piktochart infographic tool was used as a presentation tool. Students found its click-and-drag operation easy. More challenging was the concept of representing data visually, with minimal text. There are so many digital tools to choose from and a healthy Personal Learning Network can deliver daily inspiration to one's inbox.

. . . how do we keep the conversation going in our schools about digital literacy?

Most importantly, how do we keep the conversation going in our schools about digital literacy? It may be possible to identify some common ground as a springboard for collaborative action. That could be realising the greatest point of need in the school. Academic honesty is often a good starting point, where there are existing, shared understandings about plagiarism and referencing across the school. There will be challenges to building momentum and a focus for digital literacy in the school that need to be identified and addressed. Continuous curriculum reforms can impact on the will, energy and focus on 21C skills and digital literacy. Sustaining the focus can also be a challenge. Events such as holding an annual Digital Citizenship Week could prove helpful here.

How do we teach and assess 21C skills? Barry McGraw at the University of Melbourne led an international collaboration called 'The Assessment and teaching of 21st century skills' project – a four year project completed in 2012 (*About the Project*, 2012). This was a groundbreaking international collaboration, as empirical evidence was gathered to inform this question – how do we teach and assess 21st century skills? The series of books *Assessment and Teaching of 21st Century Skills* reports on the study and its findings (Griffin, Care & McGraw, 2012). Studies such as this will take us forward, informing policy in education and ultimately shaping teaching practice. It is interesting to note that the OECD has included a collaborative problem-solving framework for PISA tests in 2015 (*PISA 2015 Draft Collaborative Problem Solving Framework*, 2015). This is indicative of the growing recognition of the importance of 21st century skills.

The digital environment we now work in has redefined the role of the teacher-librarian. It calls for a new skillset and expertise. How does it shape the way we work with teachers, students, and curriculum leaders? This dialogue is taking place in school library associations around the world, and it's a continuing conversation we need to have.

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