Confronting the 'Crisis of Significance' in 21st Century School Libraries

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Abstract
The demands of life in the 21st century have evolved dramatically, giving rise to the need for a complex set of interrelated and interdependent skills in order to cope with this complexity and to achieve success in life. Unfortunately, there is a widening gap between the world experienced and created by youth outside of school and their in-school experiences leading to what Michael Wesch has called a "crisis of significance" (2009) facing teachers and schools today. Many would suggest school libraries today are also struggling to find their place and regain their significance in the learning lives of students. How should schools and school libraries respond to this 'crisis' and change the learning landscape to better match 21st century realities? This paper explores these issues and clarifies the characteristics of 21st century learners and learning, and provides ideas for re-visioning school libraries to meet the expectations for 21st century learning.

Introducing 21st Century Learners
There is a growing awareness that schools now face a generation of "new learners" (Doiron & Asselin, 2006). Several researchers (Gee, 2002; Howe & Strauss; O'Reilly, 2000; Tapscott, 2009; Negroponte, 2008) have even suggested the neurological wiring of these learners is actually physiologically different than previous generations and that the way they learn and how we should teach them is very different. These writers describe the youth of this generation in this way: 1) they are growing up connected to the world and each other; 2) they use technologies seamlessly to communicate with known/unknown others and to shape their lives; 3) they are action-oriented problem solvers who see technologies as primary tools to learn and live; 4) they define their identities by shared interests/experiences, not simply race, gender or geography; 5) they embrace global world views; 6) they value an education (Barnes, Marateo, & Ferris, 2007); 7) they embrace diversity and creative thinking; and 8) they see themselves as competent sculptors of their personal and shared futures (Asselin, 2005; Doiron & Asselin, 2006). While these characteristics are not meant to be considered as a definitive and exclusive summary, they do outline the key characteristics of the new learners in ways that are broadly recognized and discussed socially. Having been raised in an age of media saturation and convenient access to digital technologies, these new learners have distinctive ways of thinking, communicating, and learning (Doiron & Asselin, 2006; Oblinger & Oblinger, 2005). Since the advent of YouTube, FaceBook and Web 2.0, we are seeing a growing use of mobile technologies such as smart phones, tablets, laptops and other handheld devices giving educators pause to reflect that we have moved beyond a digital generation into the age of "the mobile learner of the 21st century" (Allen, 2011).
A further synthesis of the qualities of new learners is summarized in Table 1 where ten characteristics of new learners are organized into two major categories.

Table 1. **Describing New Learners** (Asselin & Doiron, 2008, p.8)

Learning Processes	Constructed Identity
Interactive participants	Economic force
Take action approach	Networked communities
Early adopters	Passionately tolerant

Makers of personal landscapes   Force for social transformation
Learn by doing
Multi-tasking, multi-modal

The first category captures how new learners go about a task; how they use technology; and their learning styles. These *ways they learn* (learning processes) form the interface they use to connect and build their world. They learn by doing, making, and pulling disparate pieces together to create new products; they value action and use a take-action approach. New learners approach their learning as the building of a personal landscape, controlled and mediated through the tools offered by new technologies. They expect information and ideas to be shared openly and freely and created in multi-modal ways. They navigate and browse while searching for ideas and information and they can move among various texts in a type of digital grazing. These distinct characteristics should be forcing schools and school libraries to re-examine their programs and methods of teaching to determine how we can tap the learning styles of these new learners in ways that maximize the ways they learn.

The second category in Table 1 outlines the personality features of these new learners, their values and how they see themselves–*their identity*. Youth today value choice and they exercise an increasing economic power. They value relationships (virtual and real) and their independence, yet see things as connected and interdependent; they want to take action and do something significant, make a difference and be part of a global connected community; they value diversity, are tolerant and see themselves as active creators of the world. At the same time, they are constructed by the worlds they navigate and create, resulting in multiple and flexible identities online and offline. We should ask ourselves, what happens when they come to school? Do our school libraries build collections and learning environments that capitalize on these emerging identities and offer new learners ways to express themselves, engage in global conversations and develop action-oriented projects that make a difference in the lives of others?

As we think about the learning styles and emerging identities of our new learners, we begin to see that there is a disconnect between the experiences many of our students have outside of school and the limitations we impose on their ability to exercise these traits and develop their multiple literacies. Repeatedly, we hear the call that "new learners" need to be better prepared to live and work in a digital world and that educators need to be careful that education does not remain "fixed in monomodal instruction with homogenized lesson plans, curriculum, and pedagogy…" (Kellner, 2004, p. 14). As our students graduate from our schools, "the ability to deal with complex and often ambiguous information will be more important than simply knowing a lot of facts or having an accumulation of knowledge" (Frand, 2000, p. 27). At the same time, research suggests our youth encounter "institutional, social and cultural constraints" which inhibit their opportunities to live and learn with these digital technologies (Ito, *et al.*, 2008). Similarly, our schools seem to continue to privilege learning contexts bound by having learners work, perform and be assessed in isolation, as individuals, rather than embracing the social learning contexts of group work/activities, interactive online learning and the creation and distribution of new knowledge products (Doiron & Asselin, 2011). It's as if we fear the Internet, see it perhaps as frivolous and having more entertainment value than learning applications and that somehow we need to 'protect' our youth from its 'unhealthy' influences. While we could easily find examples of these things being true, it is also true that there is a great deal of worthwhile, innovative and important information on the Internet and, when we understand the new ways it has created for learning and for distributing new knowledge, we realize there are exciting opportunities for teaching and learning if we can bridge the digital divide.

Powering the 21ˢᵗ Century Learner
If we agree we are facing a unique population of learners entering our schools, what then are the knowledge, skills and attributes we need to teach, so students reach their full potential and are ready for the challenges of the 21ˢᵗ century? In the professional literature today, this question has been powerfully addressed by the movement referred to as the [Partnership for 21ˢᵗ Century Skills](#) (n.d.), which has become one of the most pervasive and

influential frameworks for learning. Many government policy documents and new programme initiatives throughout North America are grounded in the principles outlined in this framework. Known as the Framework for 21st Century Learning (n.d.), the framework describes the skills, knowledge and expertise today's students must master to succeed in work and life. The outcomes are often summarized as the 4Cs: 1) Core subject area knowledge; 2) Creativity and innovation; 3) Communication and collaboration; and 4) Critical thinking and problem-solving. This framework is a blend of content knowledge, specific skills, expertise and multiple literacies, many of which include traditional outcomes included in school library programmes.

In addition to detailing a complex set of 21st century learning outcomes, the *Partnership for 21st Century Skills* also describes *the learning environments* conducive to the learning needs and learner characteristics of today's students. "Learning environments are the structures, tools and communities that inspire students and educators to attain the knowledge and skills the 21st century demands of us all" (*Learning Environments: A 21st century skills implementation guide*, n.d., ¶ 8).
Such learning environments:
• Create learning practices, human resources and physical environments that support teaching and learning;
• Support professional learning communities that enable educators to collaborate, share best practices and integrate 21st century skills;
• Enable students to learn in relevant, real world contexts;
• Allow equitable access to quality learning tools, technologies and resources;
• Provide architectural and interior designs for group, team and individual learning;
• Support expanded community and international involvement in learning, both face-to-face and online. (21st Century Learning Environments, n.d., ¶ 1)

If we turn specifically to school libraries, major professional organizations, as well as state and provincial ministries of education, have developed frameworks drawing on the vision for 21st century skills. In Canada, the 21st Century Learning Initiative has had a major influence on policy and programmes in several provinces and helped spawn the Change Learning project which describes itself as a "movement to radically transform education". Their work is based on the premise that there has been a dramatic "learning change" that is forcing us to "change learning". Examples of provincial documents include: 1) British Columbia's *The Premier's Technology Council: A Vision for 21st Century Education* (2010); 2) Western and Northern Canadian Curriculum Protocol: 21st Century Learning and Learners (Friesen & Jardine, 2009); 3) Prince Edward Island: *Proceedings of the Minister's Summit on Learning* (2010); and 4) New Brunswick's *NB3-21C: Creating a 21st Century Learning Model of Public Education*, (2010).

In the United States, the American Association of School Librarians (AASL) has taken a major leadership role in providing school library professionals with clear documents outlining the expanded set of learning outcomes needed for learning in the 21st century. The AASL publication Standards for the 21st Century Learner organizes its recommended set of outcomes within these categories:
• Inquire, think critically and gain knowledge;
• Draw conclusions, make informed decisions, apply knowledge to new situations and create new knowledge;
• Share knowledge and participate ethically and productively as members of our democratic society;
• Pursue personal and aesthetic growth. (AASL, 2006).

After examining a wide range of these 21st century learning frameworks, we in the school library community can see all sorts of connections to what we have espoused in libraries for years. We can hear the call for inquiry, information literacy, critical thinking, technological competence, global connections and collaboration for learning that echoes throughout these documents. The only thing missing in most of them is any clearly articulated role for the school library and the professional expertise of the teacher-librarian. It's as if our ideas, goals and aspirations as a school library community have been appropriated from our contexts and transferred into a wider vision for the whole school system. This is perhaps the desire we all had – that one day our message would become permeated throughout students' learning experiences. We just didn't think it would happen in such a way that school libraries would be seen as obsolete and unnecessary in this digital world.

Powering 21st century learning

If we recognize changes in our learners, in their learning styles and in the learning outcomes they need to achieve, how do we teach students in the changing landscape for schools and school libraries? Thanks to several authentic learning models and the emergence of a new set of technological tools, we can offer students a more meaningful and engaging learning experience based on *inquiry* and *action*. Taken together these two form the basis for achieving 21st century skills and preparing students for a life of constant change and constant learning.

Inquiry is recognized as an investigative process that engages students in answering questions, solving real-world problems, confronting issues or exploring personal interests (Pappas & Tepe, 2002). It closely matches the learning characteristics of today's learners and provides them with opportunities to connect in-school and out-of-school contexts. Built into the process is the notion that the investigation has a meaningful purpose; it is for something and about something important; it has a real-world application; and it calls for action in local and/or global communities. For the school library community, whether we still call this process resource-based learning or if we use other descriptors like project-based learning or problem-based learning, the principles are the same. What we must ask ourselves is, are we really empowering 21st century learning, or are we limiting student investigations by restricting the resources they can use, the access provided through the Internet and in our willingness to have them collaborate with peers at school and in global communities?

Our personal reluctance (and the barriers created by our school districts) to use social media, Web 2.0 applications, wireless networking and other technical services is sending a clear message to students that school is about control and limiting their learning while, when they are out of school, they have much more access to the full network of resources and tools available. I have had students complain they can't use a memory card to transfer files from home to the school computers. They tell me they can't use cell phones, tablets or laptops at school and they cannot access social media in school. Many districts ban the use of mobile devices in schools. Recently, a grade 12 student was told by his teacher that for a research project, he was only allowed two online resources; he must use hard copies for the journal articles and books he was referencing in the paper. Apparently this teacher doesn't understand that most journals (and many books) are accessible to students online from their homes and that actually holding the resource in your hand is no longer necessary. These situations will not do, and they pose a real danger by undermining the development of the very skills our students need. This could be seen as a type of silent censorship that is happening and teacher-librarians seem reluctant to stand against this limiting of digital access and showing how students can be taught the critical skills to surf safely, behave ethically and appropriately on the Internet while respecting cultural differences and intellectual property. Our role is to guide, challenge and learn along with our students while giving them increasing power to control their learning and take leadership in working collaboratively and in connected global ways.

How then should we teach the new generation of learners? Asselin & Doiron (2008) created a framework for school library programmes that connect the characteristics of new learners with 21st century outcomes. When we teach the new learners:

- *We focus on teaching learners 'how to learn'.* More than ever, we must focus on developing inquiry processes that help our youth build strong knowledge-building skills while equipping them with the diverse and flexible competencies needed to live and learn throughout life. Naslund & Gustini (2008) provide excellent examples of how to use blogging, social networking and other Web 2.0 tools to engage learners in learning how to learn in digital contexts.
- *We build collaborative, connected learning situations.* Creating learning opportunities where learners work locally and globally with other learners to build new knowledge and access current and past knowledge are the types of projects that excite students and build 21st century skills. For example, the school library can create a class wiki on Global Warming where we all contribute, link to authorities, interview experts virtually, and collect existing knowledge using available online multi-media products and in turn creating our own.
- *We capitalize on learners' social conscience and global perspective.* We only have to look at the impact YouTube and other digital tools are having on issues such as the current public protests for democracy to learn that today's youth are using new technologies to make a statement, lobby for change and wake

people up to what is happening around them. We need to move away from the static social studies project where each student picked a country and "researched" it and give our learners meaningful tasks built around their global consciousness.

- *We assign learners more control in their learning within a clear set of parameters*. As educators, we tend to want learning to look the same yielding a common product at the end (a written essay on favorite figures in history for example). We would be better to set clear parameters for a task and let learners choose the ways and means to create a product that represents what we expected. For example that essay would be prepared digitally with links to archival documents, quotes, personal websites and video clips.
- *We use multiple and varied resources in teaching and learning contexts*. If new learners are multi-modal in their learning styles, then they will gravitate to the resources that are first of all, most easily accessible, and secondly, ones that have the richest multimedia formats. Viewing images and reading texts are balanced as the key literacy processes used to study information and create new and varied texts.
- *We teach learners the ethical issues and proper online behaviours associated with information use and knowledge building*. Critical literacy should be the pervasive theme that runs through all our work in the school library. We must use the medium itself to teach learners to critique that very medium. Good examples are found in McPherson (2008) with activities (a) Investigating junk mail; (b) Reading media photographs; and (c) Deconstructing YouTube.
- *We teach learners to respect the work of others and to act responsibly as information literate citizens*. Learners must come to understand at an early age that they have responsibilities as they take from and contribute to the expanding Internet. What are intellectual propriety rights? What does open source mean? What should I be telling about myself? An information literate, global citizen must live and work in this world with respect and responsibility.

A large part of the contribution school libraries can make is in the creation of engaging and interactive learning environments that are grounded in a wide range of digital technologies, flexible in management procedures, linked throughout the school and globally by a programme that capitalizes on 21st century learning outcomes and the learning styles and learning needs of today's youth. We need to envision new learners as agents of change who are reaching out and touching the world. We should strive to make the school library learning environment meaningful and engaging for learners by focusing on real-world, complex problems and their solutions, using role-playing exercises, problem-based activities, case studies, and participation in virtual communities of practice. Such learning environments are inherently multidisciplinary, collaborative, creative and learning-centred.

Powering up school libraries
Finding the path to 21st century school libraries is the challenge facing all teacher-librarians. Everything has changed and while we see strong individual efforts and innovative ideas by many teacher-librarians, no compelling vision has emerged to guide us into the next phase of school library development. Bold steps will need to be taken if we are to address the current crisis and stem the tide that threatens to diminish and even eliminate our role in students' learning. Perhaps we should look outside the traditional rhetoric of school librarianship and listen to what futurists and cultural anthropologists have to say about the changes that are needed for 21st century learning. Most would suggest educators need to start redesigning current learning environments to address, leverage and harness digital technologies and new media. Wesch (2009) argues we cannot be limited by the views of some who see these technologies as disruptive and warns us that if we ignore digital technologies or limit their use to what we see as "safe uses", then we run the risk of allowing students (and our school districts) to tune us out and become even more disengaged from their learning. This would further deepen our loss of significance to schools. If we want our students to be information literate, technologically competent, and fully prepared for their 21st century work life and their roles as global citizens, then we must be willing to have them work with all the tools they will need to achieve this. O'Connell (2009) challenges us to "lead learning" by becoming an "uber-information specialist with redesigned spaces and a diverse and powerful digital toolkit. At the same time, Wesch (2009) encourages us to work with students to "find and address problems that are real and significant to them" so students will become not just knowledgeable but "knowledge-able".

New Metaphors – Not simply old wine in new bottles
We do have signs that our school libraries are evolving into very complex spaces combining virtual, physical, and human spaces into social learning environments. However, we are not moving quickly enough to make this happen. Several international leaders in school librarianship are bringing forward ideas we need to explore and then applied in our research and professional literature. Their ideas are not simply updating our ideas about resource-based learning or pushing the idea of information literacy or designing new catch phrases that are often interpreted as "old wine served in new bottles". They have created new visions for the space we call a school library and with these notions come exciting new ways of building 21st century learning experiences for our students.

Kulthau (2010) talks about creating "the third space" which is where the students' interests, knowledge and background (the first space) and the curriculum (the second space) meet to create a creative third space where "the most meaningful, lasting learning takes place". This is a great metaphor for the new school library.

Frey (2007), through his work at the DaVinci Institute, calls on libraries to make "the transition from a center of information to a center of culture". He elaborates by describing a culture-based library as one that

> "taps into the spirit of the community, assessing priorities and providing resources to support the things deemed most important. Modern day cultural centers include museums, theaters, parks, and educational institutions. The library of the future could include all of these, but individual communities will be charged with developing an overall strategy that reflects the identity and personality of its own constituency." (Frey, 2006, ¶48).

Loertscher, Koechlin & Zwaan (2008) call on teacher-librarians to make radical changes in their school libraries to create "a learning commons" that combines many of the features of a traditional school library but greatly expanded ones including: professional development services to colleagues; an experimental lab for creating and producing new media; collaborative activities developed by a variety of subject specialists in the school; and rich digital resources and projects.

Waaijers (2005) calls for the metamorphosis of traditional libraries into "libratories" – "an imaginary word to express the combined functions of library, repository and collaboratory". These are active research-focused spaces where library professionals guide resource development, collaborative projects and the production of new knowledge through the use of current and emerging digital tools.

These are simply a few of the new metaphors librarians seem to be reaching for to find words to describe the new vision for their libraries. Is it a learning lab, a production studio, a virtual space, mostly e-books, a media space or a combination of all of these? What is certain is that the metaphors of "hub" or "heart" of the school will no longer suffice. Classrooms are transcending the walls of the school and in many cases ignoring the school library. We should adopt more ecological models or social-cultural models for the design of a school library, where we envision the library situated within the learning culture of the school, the community culture and the global world, all at once. It is a virtual/physical learning environment that is one node in a massive interconnected, global network of libraries and collaborative learners engaged in learning processes/activities that are fundamentally social in nature and co-constructed by the consumers and producers of traditional and new knowledges. Better to be thought of the nerve centre, the "brain of the learning environment", one that is firing on all synapses.

Three major challenges
For the later part of the 20th century, we saw great gains in the support for school libraries. We were clear in our vision of what a school library does and how the role of the teacher-librarian fit into the educational context of the times. We had this one model in mind and set out to make our school library in that image. As the 21st century dawned it was clear we were not making the breakthroughs we had hoped for. Perhaps we were hindered by a single view of a school library and by the goal of replicating that model in every school library. We have learned that no one model for school libraries will work everywhere; each one reflects the culture and conditions of each

school and community where it exists. To move forward, we would be wise to stop striving for the same outcome and accept that we will all build unique ways of achieving the transformation that is needed.

There are several recurring factors which seem to be holding us back from making that transformation and they may even acting as inhibitors of change. First of all, *we are lacking current and reputable research* into the "new school library". Granted, we have many testimonials from colleagues around the world and only have to surf the blogosphere to read and view examples of what teacher-librarians are doing to make their programmes more relevant. What would add power to some of these examples would be if teacher-librarians were attaching action research models to track these new ventures and show colleagues and decision-makers how the school library still has a major role to play. Academic researchers as well need to take the focus off "school libraries and student achievement" and help frontline teacher-librarians and policy makers formulate and articulate the concepts and philosophies that will guide the next generation of teacher-librarians and their students.

The second issue centres on *the need for reinvigorated leadership in school librarianship*. Many of our leaders are passing into retirement and many more are set to do so in the near future. Little succession planning has been done to create a new group of advocates, pedagogues and researchers to lead the way and provide the voices needed to maintain and enhance our roles in learning. Membership in professional organizations are in need of recruitment and few people seem ready to take executive positions in these organizations or to write about their work and share that through our journals and professional newsletters. This is creating a huge gap in the professional literature and helping build the case for our irrelevance in 21st century learning.

The third challenge lies in *the state of professional development for teacher-librarians*. There is so much to learn when it comes to digital technologies and it is a never-ending process of keeping up and leading the way. Yet there appear to be fewer opportunities for large-scale upgrading of our skills. There are amazing pioneers who are out there taking the initiative to learn to use new digital tools, but their efforts remain on the fringe and seemingly out of the reach of most teacher-librarians. We can't expect to call for a transformation in school libraries without following up with clearly articulated visions and professional development opportunities in place. It is a daunting task that lies ahead for us if we are to re-claim a valued position in the 21st century school and without new leadership and more research filtering down into the professional practices of teacher-librarians we will not ride out the current "crisis of significance".

Concluding thoughts
Building a new learning landscape in school libraries for today's learners will require the embracing of new metaphors and new conceptualizations of teaching and learning. It will also require a recognition that not all students arriving at our schools have had equal access to digital technologies, nor an equal opportunity so far in their education to develop the digital literacy skills essential to their continuing learning success. While in many cases, educators seem to be tinkering with technologies to make them fit into the traditions and values long held for education, this will not get us to where we need to be. If we are to be relevant and robust learning communities, then we must transition from traditional static library spaces into active, collaborative, connected digital learning spaces. These changes will take much discussion and debate, new research and innovations in our thinking about school libraries and may need to be led by the "new learners" themselves supported by future leaders in the current school library community. As Wesch (2008) says "We find ourselves as co-creators of this world and the future is up to us".

Three Key Learnings
- We need to re-vision the role of the school library and bring it more in line with 21st century learning.
- Teacher-librarians need to take the lead in the digital transformation of learning and show peers and administrators the seriousness of losing our "significance".
- This is a call for new research, new leadership and new professional development for teacher-librarians to support the new learning landscape.

References

Allen, T. (2010). The mobile learner. Blog post April 18, 2011. Retrieved from *The New
      Learner* blog http://blog.ischoolinitiative.com/2011/04/18/newblog/

Asselin M., & Doiron, R. (2008). Towards a transformative pedagogy for school libraries 2.0. *School Libraries
      Worldwide*, *14*(2), 1-18.

Barnes, K., Marateo, R.C. and Ferris, S.P. (2007), Teaching and learning with the Net
      Generation. *Innovate*, *3* (4). Retrieved May 31, 2011 from
      www.innovateonline.info/pdf/vol3_issue4/Teaching_and_Learning_with_the_Net_Generation.pdf

Doiron, R., & Asselin, M. (2011). Exploring a new learning landscape in tertiary education. *New Library
      World 112*: 5/6, 222-235. doi: 10.1108/03074801111136266

Doiron, R., & Asselin, M. (2006). *New libraries and new literacies for the
      information generation* A paper presented at the International Association for School Librarianship
      (IASL) annual conference, Lisbon, Portugal.

Framework for 21ˢᵗ Century Learning. (n.d.). Retrieved May 31, 2011 from
      http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=119

Frand, J.L. (2000), The information-age mindset: Changes in students and implications for higher education.
      Educause Review, *35*(5), 14-24, available at: http://net.educause.edu/ir/library/pdf/ERM0051.pdf

Frey, T. (2006). The future of libraries. Retrieved May 31, 2011 from
      http://www.futuristspeaker.com/2006/11/the-future-of-libraries/

Friesen, S., & Jardine, D. (2009) *21ˢᵗ Century Learning and Learners.* A report for the Western and Northern
      Canadian Curriculum Protocol. University of Calgary: Galileo Educational Network.
      Retrieved May 31, 2011 from
      http://education.alberta.ca/media/1087278/wncp%2021st%20cent%20learning%20(2).pdf

Gee, J. (2002). New times and new literacies. In M. Kalantzis, G. Varnava-Skoura, and B. Cope (Eds.), *Learning
      for the Future: New Worlds, New Literacies, New Learning, New People*, pp. 59-84, Common Ground
      Publishing, Australia.

Howe, N., & Strauss, W. (2000). *Millenials Rising: The Next Great Generation*, New York, NY: Vintage Books.

Ito, M., Horst, H., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P.G., Pascoe, C.J., & Robinson, L. (2008).
      Living and Learning with New Media: Summary of Findings from the Digital Youth Project, MacArthur
      Foundation. Retrieved from: http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-
      WhitePaper.pdf

Kellner, D. (2004), Technological transformation: Multiple literacies and the re-visioning of education. *E-
      Learning*, *1*(1), 9-37.

Kuhlthau, C. C. (2010). Guided Inquiry: School libraries in the 21ˢᵗ century. *School Libraries Worldwide, 16*(1),
      17-28. Retrieved May 31, 2011 from http://comminfo.rutgers.edu/~kuhlthau/docs/GI-School-Librarians-
      in-the-21-Century.pdf

Loertscher, D., Koechlin, C., & Zwaan, S. (2008). *The new learning commons: Where students win*! Hi Willow
      Research and Publishing.

McPherson, K. (2008). Shaping global criticality with school libraries. *School Libraries Worldwide*, *14*(2), 35-44. Retrieved May 31, 2011 from http://asselindoiron.pbworks.com/f/14_2mcpherson.pdf

Naslund, J, & Giustini, D. (2008). Towards a school library 2.0: An overview of social software tools for teacher-librarians. *School Libraries Worldwide*, *14*(2), 55-67. Retrieved May 31 from http://asselindoiron.pbworks.com/f/14_2naslund_giustini.pdf

Negroponte, N. (2008). Inside the mind of the Net generation. *Between the Lines*: ZDNet.com, available at: http://blogs.zdnet.com/BTL/?p=3900

Oblinger, D., & Oblinger, J. (Eds.) (2005). *Educating the Net Generation*. Retrieved May 31, 2011 from: www.educause.edu/educatingthenthegen

O'Connell, J. (2009). *21st Century School Libraries: Leading learning*. A slideshow presentation St. Joseph's College, Australia, March 18, 2009. Retrieved May 31, 2011 from http://www.slideshare.net/heyjudeonline/21c-school-libraries-leading-learning?type=powerpoint

O'Reilly, B. (2000). Meet the future: It's your kids. *Fortune*, July 24, 2000, 144 -168.

Partnership for 21st Century Skills.(n.d.). Retrieved May 31, 2011 from http://www.p21.org/index.php

Standards for the 21st Century Learner. (2006). American Association of School Librarians. Retrieved May 13, 2011 from http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/AASL_Learning_Standards_2007.pdf

Tapscott, D. (2009), *Grown Up Digital: How the Net Generation Is Changing Your World*. McGraw Hill, NY.

21st Century Learning Environments. (n.d.). Retrieved May 31, 2011 from http://www.p21.org/index.php?option=com_content&task=view&id=354&Itemid=120

Waaijers, L. (2005). From libraries to 'libratories'. *First Monday, 10*(12). Retrieved May 31, 2011 from http://firstmonday.org/issues/issue10_12/waaijers/index.html

Wesch, M. (2009). From knowledgeable to knowledge-able: Learning in new media environments. *Academic Commons*, posted January 7, 2009. Retrieved May 31, 2011 from http://www.academiccommons.org/commons/essay/knowledgable-knowledge-able

Wesch, M. (2008). Anti-teaching: Confronting the crisis of significance. *Education Canada*, *48*(2), 3-7. Retrieved May 31, 2011 from http://www.cea-ace.ca/sites/default/files/EdCan-2008-v48-n2-Wesch.pdf

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Statement of Originality

This statement certifies that the paper above is based upon original research undertaken by the author and that the paper was conceived and written by the author(s) alone and has not been published elsewhere. All information and ideas from others is referenced.