Directing the Digital Moral Compass: Teaching Digital Citizenship

Lesley S. J. Farmer, PhD

Professor of Librarianship, California State University, Long Beach. lfarmer@csulb.edu

Abstract
As technology advances, so do the techniques for abusing it. While traditional crime has not increased in some countries, cyber crime is becoming increasingly common and steadily growing. One of the duties of teacher librarians is to teach the learning community about digital citizenship so everyone can understand, address, and prevent technology abuse. This paper defines digital citizenship, discusses its ramifications on individuals and the learning community at large, and recommends strategies for digital citizenship education.

Introduction
The world is changing faster than ever because of socio-economic factors, which have been significantly impacted by technology. As the world seems to grow smaller, due to increased communication and population transience, the global scene reflects a more interactive mode relative to information. Economic and social activities rely on information and communication technologies. Knowledge is ever-flowing, and social interactions seem web-like (Daniel, 2009).

Therefore, the need for critical use of information is more important than ever. In a digital world where the amount of information doubles every two years, individuals need to evaluate resources carefully and determine how to use relevant information to solve problems and make wise decisions. It is no longer principally an issue of getting information: it's getting the right information at the right time to do things right and to do the right things.

This changing informational environment affects education, and also emphasizes the need for lifelong education to prepare today's workforce to deal with an uncertain tomorrow. Moreover, Since 85 percent of twenty-first century jobs will involve technology, it makes sense to incorporate technology throughout instruction. Nonetheless, 22 percent of Americans lack digital literacy skills (Federal Communications Commission, 2010).

But teaching about information and technology is not enough. It is imperative to teach learners how to be responsible and ethical users of them. They need to be digital citizens.

The information society
This information society impacts existing institutions and cultures. The speed and globalization of information leads to constant change, which can be hard to digest and manage. The majority of jobs now involve technology and other related new skills, so that the idea of a "terminal" degree or a static skill set is becoming an outdated paradigm. Rather, adults often need to "retool" themselves throughout their work lives. Particularly for adults who are largely digital immigrants, and youngsters in developing countries, this new world of information, especially in electronic form, can be puzzling and overwhelming. Do they have enough background information to understand and use the *new* information?

What then do today's learners need to know and be able to do?
* Be information literate: access, evaluate, use
* Be lifelong learners: pursue interests, read, generate knowledge
* Be socially responsible: uphold democracy, be ethical, cooperate.

These skills, knowledge and dispositions are digital citizenship.

Technology Use
In 2010 400 million people had Facebook accounts, 126 million blogs exist, 50 million tweets are created daily, and 91 percent of mobile web users access social networking sites. Additionally, 44 percent of online videos viewed are done at the workplace (Kennedy, 2010).

What are people doing online? learning social rules, designing profiles, exploring identity, writing blogs, writing software codes, sharing producing music, discussing interests, producing social documents, doing social and political activism, keeping friends, assessing risk.

What *else* are they doing? seeking validation, competing for popularity, venting, showing off, embarrassing oneself, damaging reputations, getting even, threatening, harassing. They also may be victims of online cons and abuse.

In short, individuals build and impact their digital reputation every time they go online, especially when doing social networking. Particularly because the workplace can monitor online activity, individuals need to be aware of their technology behavior at all times. While protective actions can be put in place such as Internet filtering software and spyware, people need education more than protection. Indeed, today students need to develop their digital footprint and online reputation.

Instruction
Education has as its goals, among others, to prepare students to become effective life-long learners, responsible citizens, and positive contributors to society. Digital citizenship crosses curricular lines. On a systemic level, the entire learning community can examine digital citizenship competency alongside subject matter standards in an effort to develop an interdependent matrix of learning activities that can insure learner competent. Just as each training session builds on the prior knowledge set, so too can digital citizenship skills build upon prior experience that is contextualized to optimize meaningful engagement.

Using this approach, classes can also focus on one digital citizenship skill, such as working cooperatively toward a goal, which can be implemented in a physical education or music class as well as in a science class. Similarly, if students are comfortable evaluating print resources, they can concentrate on evaluating web-based resources for the moment. Having a school-wide scope and sequence across curricular areas provides a venue for meeting specific digital citizenship standards *and* linking them to the overall intellectual framework.

While technology may sometimes feel ubiquitous in today's society, its use is not ubiquitous in education. Even with well-maintained labs and a solid collection of digital resources, learners will not profit from technology-enhanced activities if educators do not provide such learning opportunities. For the most part, the chief reason that technology is not used to improve learning is lack of knowledge on the part of the educators themselves. Most of them are digital immigrants, and have not experienced a technology-rich academic setting themselves. Many educators use technology on a personal basis, such as communication, but have not had formal training in technology-integrated instructional design. Therefore, many do not feel comfortable in using such educational technology in the classroom or online. Not only should educators learn technology, including web 2.0 tools, but they should also seek opportunities to commingle with technology users. On the other hand, educators have life experiences and a developed moral sense that they can leverage when incorporating digital citizenship.

Furthermore, the educational community needs to *model* digital citizenship in its infrastructure and actions: providing equitable access to digital information, making provisions to ensure that the educational community is digitally safe, having a plan to secure and protect educational data in case of crime or disaster, maintaining privacy and confidentiality of individual records, creating and enforcing

policies that product the digital rights of everyone, and training staff to keep them current in digital citizenship education themselves. Teacher librarians (TL) are uniquely positioned to vanguard this issue. They have the technology knowledge, can teach both information and digital literacy, work collaboratively across the curriculum, and serve the entire educational community.

The organization also needs to be realize that learning *about* technology differs from learning *with* technology; the former views technology as an end in itself while the latter views technology as a means. With technology as an end, systems and organizational goals are the central concern, and advanced project management skills are needed; the entire enterprise is changing. When technology supports learning, digital citizenship is the focus, and the education controls the process to the large extent; the organization as a whole is not in flux (Maier & Warren, 2000).

TLs can pro-actively connect with students in several ways beyond the traditional classroom visit.
- Go to where the students are
- Build community and social safety net
- Provide (and teach) tech tools
- Provide online tutorials – or links to them
- Provide online reference and link to other libraries with online reference service
- Think web 2.0
- Use blogs, wikis, "e-readers"
- Sound out: use podcasts/vidcasts.

Awareness
For learners to deal with digital information, they must first become aware of it. Life is full of information and informational needs: from stop signs to epistemologies, from finding a pencil sharpener to finding ways of dealing with illness. In educational settings, it is usually the teacher who tries to call a learner's attention to information – or the need for information. Indeed, the existence of the need is, in itself, a piece of information that requires a sense of awareness for it to be acted upon. When teacher librarians can draw attention to a learner's *own* digital informational needs, be it as a positive experience or as a response out of fear of the consequences if they ignored the information (such as missing appointments or losing sight), then the information is more likely to be given the attention needed to become engaged with it.

Qualitative assessment can elicit interest, and provide pre- and post-test data. By eliciting learner perceptions via surveys and focus groups, TLs can ascertain what needs exist for addressing digital citizenship. The respondents can also give several coping techniques, such as keeping social networking sites private and phone numbers unlisted, stop enabling others to harass, and reporting incidents.

Engagement
While learners are engaged with information, they are accessing it physically and intellectually. Before they can comprehend the information, they need to decode its "language", be it verbal, visual, or sound. Only then can they begin to understand the content in terms of associated concepts and societal consequences. If learners do not have the pre-requisite skills (linguistic, technical, experiential), they will not be able to connect; in these cases, TLs need to scaffold the learning so students can bridge the intellectual gap. However, just because one understands digital information, does not mean that one will use it. The first consideration is usually the task at hand: what relationship does the information have with the identified task?

Assessment of evaluation seems straightforward: how efficiently and effectively does one evaluate information? What is the basis for their decision? How does one deal with new, contradictory

information? Ultimately, the most valid assessment consists of examining the use of the information in deriving the final solution. In the digital world, learners may find it very hard to discern the verity of information because it can be modified so easily and with so much sophistication. TLs need to teach explicit guidelines for evaluating the quality of digital information and its relevance. To check for learner understanding, and to engage them in active examination, debate, and self-reflection, educators can use a variety of technological tools: threaded discussion, online chat, blogs, wikis, and online conferencing.

Learners need to know both their digital rights as well as their digital responsibilities. When engaging with digital information from a legal or ethical standpoint, one of the most effective strategies is case studies. By examining the underlying conditions, the contributing factors, and the possible consequences, learners can form their own moral compass and make reasoned and ethical decisions. . As learners self-identify inappropriate digital behaviors and impacts, they become more aware of the problem. When they are involved in developing ways to solve the problem, they gain more ownership and control, feeling empowered to cope themselves as well as to help their peers.

Manipulating information
The central question at this point is: what shall I do with the information? Digital information can be transformed into knowledge: through interpretation, organization, synthesis, reformatting, changing, relating, or combining it with other information. Digital information manipulation consists of four major processing skills: 1) extracting the information, 2) deciding how to represent the information, 3) determining the method of manipulating the information, and then 4) knowing how to do the manipulation itself (McCormick 1983).

Application
How does one *act* on the information? That is often the ultimate real-life goal, particularly as a digital citizen. Not only does it provide concrete evidence of learning, but it also demonstrates the value of interacting with digital information. It can improve oneself and one's surroundings. It offers a sense of empowerment that is important for an informed and engaged citizenry. Some student-empowering activities that enable learner to apply digital citizenship skills include:
- reviewing books, media, Internet sites
- creating products for the community: photos, artwork, videos, displays, posters, newsletters, web pages
- creating position papers and campaigns for communities and organizations
- capture community oral and visual history
- training and mentoring others in responsible technology use.

Instructional resources
Throughout the instructional design process, educators need to determine which technologies will be used – and to what extent. Such decisions need to be addressed in light of intellectual access for learning. At the very minimum, TLs need to determine whether technology will be used as a tool to deliver instruction, as a learning aid, or as the outcome itself. Even the instructional focus, whether to emphasize a technology tool or educational task, requires careful consideration to make sure that learners have the prerequisite skills and knowledge in order to learn with technology – and consider its responsible and ethical use.

Sample learning activities
The ultimate goal is empowered students who have positive digital reputations and contribute to society. To this end, several kinds of learning activities can lay the groundwork for such outcomes. Here are representative ideas.
- Incorporate writing: directions, continuous stories, text commentary, peer review.

- Have students dramatize digital citizenship scenarios.
- Address the environment: visual inventory, field trips, animal rights.
- Incorporate art: original clip art, digital self-portraits, ideal school, virtual museums.
- Address health issues: ads, fotonovelas, tech healthcare, assistive tech.
- Explore careers: shadowing, role of tech in careers, online volunteering.
- Examine youth laws: students' rights, driving laws, CSI, legal tech, voting trends.
- Sponsor online clubs and literature circles.
- Sponsor online student publications.
- Sponsor video/podcast/Web service clubs.
- Teach special ed aides.
- Facilitate online peer tutoring and mentoring.

Conditions for positive digital learning

TLs cannot teach in a vacuum or without support. Digital citizenship is a schoolwide endeavor. To that end, several conditions need to be in place for effective digital citizenship learning and practice.

- Broad-based vision and mission
- Positive and open community-based school culture
- Comprehensive, cohesive, interdependent, aligned curriculum and assessment
- Competent, committed staff with small classes
- Strong repertoire of instructional/learning strategies
- Rich collection of learning materials and fully-integrated technology (system infrastructure and support)
- Well-maintained and spacious facilities.

Conclusions

Digital information is *potential* power until it becomes used, at which point it becomes kinetic power. Putting humans into that power equation means that power can be used for good or for evil. While TLs can help protect learners from evil, they can also teach learners how to use and create digital information for good. Thomas Jefferson asserted that an informed citizenry is needed for a sound democracy. Informed citizens can make better decisions and act on them. Extended to the cyber environment, digital citizenship necessitates participating responsibly and respectfully in cyberspace to act wisely for social and personal improvement.

References

Daniel, G. (2007, October 9). Elearning in K-12 education. *WWWtools for Education.* Retrieved May 13, 2011, from http://www.getmail.com.au/ wwwtools/viewpage.aspx?rid=37767.

Farmer, L. (2011). *Digital citizenship.* Long Beach, CA: California State University Long Beach. Retrieved May 13, 2011, from http://k12digitalcitizenship.wikispaces.com

Federal Communications Commission. (2010). *Broadband survey.* Washington, DC: Federal Communications Commission.

Kennedy, S. (2010). The information today index. *Information Today* (May), 15-16.

Maier, P., & Warren, A. (2000). *Integrating technology in learning and teaching.* Sterling, VA: Kogan Page.

McCormick, M. (1983). Critical thinking and library instruction. *RQ, 22*(34).