DIGITAL CITIZENSHIP AND TODAY’S ONLINE STUDENT

by

Annette Dillinger

An Abstract
of a research paper submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Library Science and Information Services
in the Department of Educational Leadership and Human Development
University of Central Missouri

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ABSTRACT

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Technology in today’s society is ever, changing and with the ability to have readily available Internet access, students have found ways to communicate instantly online. This communication has led to new risk-taking endeavors, motivating the government and educational system to realize the benefits of teaching digital citizenship. Research of peer reviewed journals, articles, books, and web pages were used to review the literature on student technology usage and digital citizenship in education. This review shows that digital citizenship incorporated within everyday lessons has the potential to have an impact on a student’s life, both in and outside of the school environment.
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APPROVED

Advisor: Dr. Patricia Antrim

Committee Member: Dr. Jennifer Robins

ACCEPTED:

Chair, Department of Education Leadership and Human Development: Dr. Patricia Antrim

UNIVERSITY OF CENTRAL MISSOURI
WARRENSBURG, MISSOURI
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CHAPTER 1
INTRODUCTION

Technology is rapidly changing and the way students use the Internet and social media has given them the independence to produce creative projects, acquire current research, and communicate freely with family and friends. Online accessibility that is readily available to students through personal devices such as tablets, smart phones, and laptop computers allow them instant Internet connections that can also lead to risk-taking endeavors. Ninety-two percent of teens go online daily; and out of those, 24% report going online “almost constantly” (Lenhart 2). This constant use of the Internet allows students to take risks such as talking to strangers, not adjusting privacy settings correctly, and cyberbullying. These new risks make it imperative for schools to teach digital citizenship skills to students.

Digital citizenship is described as the ability to “use technology competently, interpret and understand digital content and assess its credibility, create, research, and communicate with proper tools, think critically about the ethical challenges of the digital world and make safe, responsible, respectful choices online” (Common Sense Media 3). Incorporating digital citizenship skills into the curriculum of schools is a major component in teaching online responsibility. Schools that participate in the government funded E-rate program, where they receive discounted Internet services, are already required to teach digital citizenship. Organizations such as the International Society for Technology, American Association of School Librarians, and Common Sense Media provide online resources and standards to guide both teachers and librarians in enhancing their lessons with digital citizenship skills.

School librarians and teachers play a major role in educating students about the risks of using technology. School librarians are advocates of teaching digital citizenship by becoming
involved in professional development, joining a technology committee, and collaborating with teachers on lessons that use technology. Teachers promote digital citizenship skills in their classroom by integrating technology into daily lessons with applications being used by students, and becoming role models when teaching online lessons.

**Statement of the Problem**

Students use the Internet every day to find and share information and socialize with friends and strangers. The increased number of students with hand held devices and computers gives way to characteristics that positively influence research and learning, but also provide an outlet for risk-taking behaviors. Digital citizenship incorporated into the curriculum and taught by teachers and school librarians provides students with guidelines and skills to practice safe Internet behavior when in the school environment and at home.

**Purpose of the Study**

The purpose of this study is to review the literature and statistics to understand how students are using technology and the risks that are taken, thereby showing the importance of teaching digital citizenship in the classroom. The research also explores resources available to educators and standards to help implement digital citizenship into the curriculum. The literature reviewed explores the role of the school librarian and teacher within the school setting and how to enhance classroom lessons with digital citizenship skills where technology is used. The results of this study demonstrate the need to incorporate digital citizenship skills into school lessons in order to teach students independent responsible online behavior.
Research Questions

The following questions were used to guide the research presented in chapter two. Answers to these questions can be found in chapter three.

1. What is digital citizenship and why should we teach these skills to students?
2. What resources are available to educators to incorporate digital citizenship into the curriculum?
3. What roles do the teacher and librarian play in educating students about responsible technology behavior?

Limitations of the Study

There are numerous limitations involved in the study of digital citizenship and technology use among today’s student. One limitation is the timeframe in which to complete the study. Another limitation is the availability of peer-reviewed journals and texts with related articles on the topic from individuals with expertise on digital citizenship. A third limitation of the study is that the search only included literature from the past ten years in an effort to find the most current information. The change in technology is rapid and much of the literature is outdated, limiting the information.

Definition of the Terms

Digital citizen – a person who uses technology responsibly and respectfully.

Digital citizenship – the ability for a student to use technology competently, interpret digital content, create, research, and use online applications while making independent safe, respectful digital choices (Common Sense Media 3).
Digital society – a society formed by using and integrating information and communication technology at home and school.

Instant messaging – a message over an electronic device that uses software which immediately displays a message on the screen.

Online – operating on a computer network.

Personal devices – a computer, laptop, tablet, or smart phone owned by an individual.

Social media – platform for sharing of information between people over the Internet or cell phone service.

Social networking – a process where people connect with others to communicate and/or form new relationships.

Texting – sending messages or pictures over a mobile phone.

Twitter – a free social networking site that allows students to send and read other users’ short posts referred to as tweets (Chisolm par. 20)

**Research Design**

This study is descriptive in nature. Guiding questions are answered based on a review of previously published literature and research. No research has been conducted for this study. Existing articles, statistics, and case studies pertaining to how digital citizenship skills can be incorporated into a school’s curriculum in order to teach responsible technology use have been reviewed. Articles were retrieved from the following databases through Mid-Continent Public Library and the James C. Kirkpatrick Library: *Educators Reference Complete, Educators Research Complete, Academic Search Elite, Academic Search Complete, Gale, Academic OneFile, ProQuest, ERIC, and Library Information Science & Technology Abstracts with Full Text*. Also
reviewed for their current statistics on technology use are reports from the PEW Research Center as well as online journals, websites, and government documents. Search terms included “digital citizen,” “digital citizenship,” “online risks,” “online safety,” “social networking,” “cyberbullying,” “technology use,” and “digital citizenship curriculum.”

**Conclusion**

This research study includes three chapters related to a student’s use of technology and the risks associated with online behaviors. It also reviews resources that are helpful in incorporating digital citizenship skills into a school’s curriculum and the roles teachers and school librarians play in implementing independent, online responsibilities. The next chapter is a review of the literature. Chapter 3 consists of answers to the questions posed in this chapter and a discussion of the findings.
CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

Digital citizenship is taught in schools to enhance students’ awareness and ability to succeed in a digital society. School librarians and teachers prepare students for the 21st century by recognizing there is a need to teach and practice digital citizenship in the classroom setting. The first section of this paper defines digital citizenship and explores why students need to learn how to utilize digital citizenship concepts when using personal devices, social networking, and cyberbullying. The second section will explore incorporating digital citizenship into the school community through standards-based objectives, online resources, and by raising awareness. Finally, the third section will focus on the role of the school librarian and teacher in preparing students to become safe digital citizens in the 21st century. A student’s everyday use of the Internet and social networking sites has the potential to lead to risk-taking behavior, which has awakened a movement in the Federal Communications Commission (FCC). The FCC put in place the Children’s Internet Protection Act. This act requires that educators working in schools use the E-Rate program to give schools discounted Internet use incorporate digital citizenship lessons into their curriculum.

Digital Citizenship, Technology Use, and Risks among Students

Digital citizenship can be characterized by many different actions among technology users. This section looks at what defines digital citizenship and how it relates to personal devices, social networking, cyberbullying, and the carefree actions of some students. Research statistics from surveys and reports will help one recognize the increase in amount of time spent on personal devices and computers and the online risk-taking among students. The findings in
the literature are designed to bring awareness that digital citizenship is an important life skill and produces responsible 21st century learners.

A technology awareness movement started in the mid-1990’s in the United Kingdom to characterize digital citizenship and enable educators to work toward establishing protocols for good digital citizenship (Vilano par. 2). The crusade helped to define what good digital citizenship means although there are many different definitions. One description for digital literacy and citizenship is the ability to “use technology competently, interpret and understand digital content and assess its credibility, create, research, and communicate with appropriate tools, think critically about the ethical challenges of the digital world and make safe, responsible, respectful choices online” (Common Sense Media 3). Mike Ribble describes digital citizenship as the norms of appropriate, responsible behavior with regard to technology use (In Schools 10). He and Gerald Bailey add to the definition by describing it as a developmental process of critical thinking, self-reflection, and growth, making learning to be a digital citizen a lifelong process (Developing Ethical Direction 38). Digital citizenship is a concept linked to building healthy and safe relationships and communications in the Internet setting with conscious use of digital applications (Kuzu, Odabasi, and Gunuc 302). In order for students to benefit from technology and avoid damage from the Internet, teaching digital citizenship has the ability to provide the guidance needed to make better technologically qualified decisions.

Being a good digital citizen involves many things, from proper email and texting etiquette to citing sources for copyright materials and intellectual property. When students learn about intellectual property they realize what someone creates is owned by the creator and should not be changed or copied in any way without following guidelines for the use of
intellectual property (Hollandsworth, Dowdy, and Donovan 41). This element of digital citizenship is crucial to students today because of their ability to easily share and reuse information. This can lead to copyright infringement. For example, copying a picture from a website and posting it for all to see without citing the source is copyright infringement (Razzaghi, Garcia, and Leu, par. 6). Even though this aspect of digital citizenship is relevant, intellectual property is beyond the scope of the paper and, therefore, will not be discussed in depth. Instead, the discussion in this paper is limited to the use of personal devices, social networking, and cyberbullying as potential reasons to include other properties of digital citizenship as part of the school curriculum.

Students’ instant access to the Internet provides them with global communication outside of their home and school life. With the increase in Internet usage, much of their time is spent in the digital world rather than the real world. The constant use of the Internet among students is a major factor in the reasoning for teaching responsible use and actions within digital citizenship skills.

**Personal Devices**

The rise in personal device usage and technological advances of the past decade gives students the opportunity to produce Internet-based projects and socially communicate with friends and family, but with this continuous online navigation, there are risks to a student’s safety and reputation. The convenience of tablets and mobile devices, especially smart phones, provides the opportunity to access the Internet 24 hours a day. Ninety-two percent of teens go online daily; and out of those surveyed, 24% report going online “almost constantly” (Lenhart 2). These statistics are confirmed by another study reporting that 93% of teens ages 12-17 go
online, and 93% of 18-29 year olds use the Internet (Lenhart et al., par. 8). Eighty-seven percent of students age 13 to 17 have access to a desktop or laptop computer (10). Home is the major location for Internet usage, and girls spend more time online per week than boys do. Girls use the Internet for instant messaging or texting and visiting websites while boys’ favorite online activities are playing games and using instant messaging (Dowell, Burgess, and Cavanaugh 549).

Social interactions and communications are a top priority among students.

Cell phones are the most common devices used by students to access the Internet. Almost three-quarters have or have access to a smartphone (Lenhart 2). Of those students, 90% exchange approximately 30 text messages a day (4). Mobile access allows students to access the Internet at any time, and this has changed the way social media and other online activities are used (Lenhart 14). Smartphones give access to communicate with friends and strangers and to take and send pictures on social networking sites or through texting.

Risk-taking behavior also increases in students with the use of personal devices as the access to inappropriate websites, chatting with people they do not know, or sending pictures of themselves are more readily available. Historically students have taken risks by smoking cigarettes, substance abuse, or sexual experimentation, but in 2015 youth have a new venue to take risks (Dowell, Burgess, and Cavanaugh 548). Many concerns related to reported online risk-taking behaviors are directly linked to posting inappropriate pictures online (551). An example of inappropriate action among teen cell phone users is when a student takes a sexually explicit or nude image of himself or herself or someone else and sends it to a friend. This practice is known as “sexting.” Dowell, Burgess and Flores found that 50% of high school students knew about sexting and 15.2% of those students report that they had been sexted (33). Students
believe they are sending the photo to someone trustworthy, but the consequence of sending these types of photos is that they may be copied and resent to thousands of Internet users or sexual predators (28).

The media has increasing reports where students exchange inappropriate pictures of themselves on their cell phone or email. One New York case involves a 15-year-old girl who sent sexual images to a 16-year-old boy. This could have been the end of the story, but the boy decided to forward those photos to his friends, which began a string of messages to unknown phone numbers and computers. One of these strangers contacted the girl, and soon parents and police were involved (Dowell, Burgess, and Cavanaugh 551). Students can learn to be aware that the type of image they choose to post on the Internet may be used to judge them negatively in their future endeavors.

Students might not realize their risk-taking on the Internet influences the rest of their lives. Many college recruiters and company human resource departments are asking to access personal sites to see what an applicant has posted (Dowell, Burgess, and Cavanaugh 551). A report published by the American Library Association conveyed that 38% of college admission officers have found something online that was a negative impact on the student’s evaluation, and 70% of United States job recruiters have rejected applicants based on the person’s online behavior (6). Educating students that what they post, snap, or tweet stays on the Internet forever and affects their future is one goal of teaching digital citizenship.

Social Networks

Improving social networking skills among students is another reason to teach digital citizenship within the school system. Boyd and Ellison define social network sites as Internet
based services that allow students to profile themselves, construct a list of other users or “friends” with whom they share a connection, and blend their list of acquaintances with those made by others in the system (par. 4). Social activities on networking systems such as Facebook, Twitter, Instagram, and Snapchat provide a way for students to communicate and share personal information with friends and families, but these connections also may lead to risk-taking such as speaking with strangers, and privacy settings not being activated or understood. A lesson in schools aimed at protecting students’ privacy serves to teach the hazards of sharing personal information with strangers on social media.

Statistics show that social networking among teens is more popular than ever. In a 2015 study, Lenhart reports that 71% of teenage students use more than one social network site, with Facebook being the most popular among 13-17 year olds (2). Facebook users average 300 friends on the network, and 33% of those users are friends with people they have never met in person (Madden et al. par. 1, 12). Because of the size and popularity of sites like Facebook, they provide an environment that attracts Internet predators. The real world environments of students using social networking sites, such as schools, youth athletics, video gaming arcades, and other popular activities attracts not only students but also child molesters and strangers (Dowdell, Burgess, and Flores 34). One in six teens has been contacted online by a person they did not know in a way that made them feel uncomfortable or scared (Madden et al. par. 34). Wolak and his colleagues say though not all strangers are online predators, students should be educated about specific age-appropriate risks they take when conversing with people they do not know and be aware that behaviors such as aggressive solicitations or exchange of inappropriate images is a red flag and should be reported to teachers, counselors, or the police.
Researchers also recommend that education on digital privacy is effective in raising student awareness of unsafe situations (Vanderhoven, Schellens, and Valcke 285, 290). Digital citizenship incorporated within the curriculum helps by educating and empowering students to assess risks on their own and enables them to make informed decisions and give impartial responses (Atkinson and Newton 117). These responses might include blocking unwanted messages when they first read them or knowing how to obtain the evidence needed to report inappropriate behavior. Students prepared for unwanted encounters that seem to be innocent at first will help them in their future online endeavors (117).

Another concern pertaining to social networking sites is that privacy settings are set to share automatically personal information unless users change their profile individually. Marwick and Boyd agree that social networking privacy controls denote that students are held responsible for managing their settings regardless of whether they understand them or how often those settings change (1062). They contend that when users share content or are unable to keep it private, companies often provide that data to third parties. Other businesses may extract information, store or republish the post under the assumption that it was public and, therefore, approved whether the user intended it to be or not (1062). Unattended privacy settings also allow criminals such as burglars and stalkers to see posts and track the whereabouts of an unsuspecting user.

Among those social networking sites where there is an issue is Twitter. Twitter is a free micro-blogging and social networking site that permits students to send and read other users’ posts or tweets. A tweet is a message under 140 characters (Chisholm par. 20). Twitter is growing in popularity and has increased to 33% usage among students (Lenhart 32), and 64% of
those students have accounts that are open to the public (Madden et al. par. 10). Twitter, like other social networking sites, uses an approach for many of its features that implies it is the responsibility of the user to set their own privacy settings. Most personal information and tweets are made public by default and can give pertinent information to criminals to perform identity theft or cyberstalking (Gan and Jenkins 70). When students tweet their whereabouts or personal information this provides opportunities for criminals. When users post they are “out to dinner” or “away on vacation” they can give away pertinent information to burglars and stalkers (70).

Geo-location tagging or geo-tags are inserted into an image file. A setting on a user’s camera app on their cell phone or embedded into a file from pictures downloaded from some cameras, add to the risk factor for students that use Twitter. This setting allows a Twitter follower to know the exact location of a tweeter using latitude and longitude coordinates. Photographs taken by the tweeter provide the most data. Almost all new cameras and cell phones have the geo-location data collected automatically (71), therefore, compromising the safety of the user. Gan and Jenkins investigated three different online tools—streamd.in, Twitonomy, and Creepy—to collect Twitter information with geo-location enabled from three different users. This experiment was to see how much personal information could be collected and what could be learned about each user. The outcome was that through the information gathered the intended user was identified on other networking sites such as Instagram, Facebook, and Google+, where more could be learned about them. With all the information collected when their privacy settings were on default, the subjects were easily tracked (Gan and
Jenkins 88). Their homes were located and a path outlined to each school and work site with
the times they started and ended on their route.

Students made aware of how privacy settings within Twitter and other social networking
sites work can learn to protect their identity. Kuzu, Odabasi, and Gunuc used Twitter to teach
digital citizenship and found it to be beneficial to the learning process of social networking
skills. The lesson consisted of students using Twitter to send tweets pertaining to the lesson
weekly over a five-week period. At the end of each week, students were evaluated against
certain criteria related to digital citizenship (304). This type of lesson allowed teachers the
ability to guide students through a social networking site that many students already use (308).
Teachers could become role models of appropriate behavior by teaching the importance of
privacy settings, online etiquette, and responsibility.

Cyberbullying

The social networking community has given students an opportunity to communicate
freely with others, not only allowing the relationships among “friends” to flourish but also
providing the venue for bullies to turn comments into mean or harassing posts. This is referred
to as cyberbullying. Davison and Stein have defined cyberbullying as “an aggressive, intentional
act distributed by an individual or group, using contact in an electronic medium, continuously
and relentlessly against someone who cannot stand up for himself or herself easily” (595). It has
been found that Facebook is the most common place for a student to experience cyberbullying
followed by text messaging (Rice et al., par. 24); but cyberbullying can be accomplished through
any electronic device with any form of digital communication such as blogs, emails, instant
messaging, gaming, video chatting, webcams, and websites. This type of bullying can happen
anywhere a student is able to receive an Internet connection such as school, library, home, or restaurant.

Cyberbullying has been compared to “regular” bullying except that it is performed using electronic devices. By using technology, many students believe that whatever they post is anonymous, unlike “regular” bullying. Ilene and Michael Berson explain that the sense of anonymity arises because of the lack of feedback from the victim and little harm done to the person doing the bullying online. The reduced fear of punishment and disregard for existing rules contributes to poor decision-making by students in an online environment. “When children cannot validate the physical location or identity of an individual on the other end of the message, they may believe that their activity causes no perceptible harm and that there is limited chance for detection or punishment” (8). Unlike bullying the person face to face, some teenagers believe that they cannot be caught or punished for typing something in the computer. Many teenagers that have been cyberbullied can also be a bully themselves. In a 2010 survey of more than 4,400 randomly selected 11 to 18-year-old students, it was discovered that 20% were cyberbullying victims at some point in their life. About the same amount admitted to cyberbullying others, and around 10% said they were both the victim and the bully (Hinduja and Patchin par. 3). A student might email unkind messages to a fellow classmate or encourage gossip or rumors by texting their entire set of friends about that person. They can now make videos and a page on social media to harass another student or they can post pictures of classmates and have them rated in terms of their looks (par. 3-4). These types of actions tend to lead to bullied students feeling depressed, sad, and angry. They are embarrassed or frightened to go to school (Patchin and Hinduja 7). Discussing the schools’
bullying policy as a whole and teaching cyberbullying through digital citizenship lessons helps send a clear message to students that the behavior is not allowed. These actions aid in the ability to make the victim feel more secure (8).

A positive school environment where bullying is not tolerated fosters good behavior (Patchin and Hinduja 8). Patricia Agatston suggests that addressing cyberbullying in schools will improve attendance and help students to focus on their schoolwork (Levy par. 7). A positive school climate promotes a safe and respectful atmosphere, which in turn reduces the amount of problem behavior at school and online (Patchin and Hinduja 8). Patchin and Hinduja found that those students who admitted to being cyberbullied and bullied themselves perceived a poorer climate at their school than those who were not cyberbullied (8). Teachers who focus on education, a caring atmosphere, and healthy self-esteem for students are critical to the healthy climate of their schools. Students who know what is and is not appropriate at school and home and behave accordingly do better in school (8).

Use of technology among students keeps growing whether it is for schoolwork, communication, gaming, or information; and cyberbullying is directly related to using the Internet. Students continue to use social networking sites and the Internet, and teachers and school librarians could have a major effect on students’ responsible use by properly equipping them with the knowledge needed to make informed decisions when using digital applications. Awareness of the statistics in the rise of technology use among students and the risk-taking that is involved confirms that teaching digital citizenship is an important lesson for students.
Incorporating Digital Citizenship into Every Day Lessons

The International Standards of Technology in Education (ISTE) and the American Association of School Librarians (AASL) standards indicate that digital citizenship is a learned responsibility that can be incorporated within other lessons. Their standards are meant to raise awareness of the issues for students, school staff, and administrators. This section explores how knowledge of ISTE standards, AASL standards, and online resources enhances a teacher’s and school librarian’s ability to produce responsible online students.

International Society for Technology Standards

The National Educational Technology Standards (NETS) have existed since 1998 and were revised into what we now know as the ISTE standards. ISTE standards provide educators with a set of guidelines and protocols to incorporate into their lessons and the curriculum. “In 2009, The International Society for Technology in education provided guidance by updating the National Education Technology Standards for educational leaders, teachers, and students. Widely adopted and recognized in the United States and increasingly adopted in countries worldwide, the NETS integrated educational technology standards across all education curricula” (Ribble and Miller 139). ISTE is a trusted source for professional development, advocacy, and leadership for innovation. This membership organization for educators and leaders is dedicated to improving teaching and student learning by using technology effectively in the K-12 classroom. There are different sets of standards; one for students, teachers, and administrators. Laurie Sharp reports that the ISTE standards define best practices. Student knowledge of technology along with the ubiquity of technology, both in and out of school,
requires adjustments to traditional educational practices (74). ISTE guides educators by providing publications and materials that can be used in the classroom and library lessons.

Mike Ribble breaks down the ISTE standards into nine elements: digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibilities, digital health and wellness, and digital security. He suggests that learning the principles of digital citizenship is the only way a person can become a more productive and responsible digital citizen (In Schools 12). Ribble also goes on to say that when people become good digital citizens, they will create a society of technology users who help others learn to use technology appropriately (10). He gives suggestions on promoting digital citizenship in the classroom by showing how to incorporate effectively the nine different elements into the curriculum. Using the ISTE standards is one way to teach students good digital citizenship by adding them to everyday school lessons and by modeling the behavior in the educator’s actions.

American Association of School Librarian Standards

ISTE standards are not the only guidelines used for teaching students digital citizenship. The American Association of School Librarians also has a set of standards that address using technology responsibly in the lessons teachers and librarians use. Teachers and librarians use these standards to promote skills that guide students to be curious, critical, self-evaluative thinkers, and good digital citizens who show responsibility in a society saturated with technology. According to the AASL Standards for the 21st Century Learner, “In this increasingly global world of information, students must be taught to seek diverse perspectives, gather and use information ethically, and use social tools responsibly and safely” (11). The AASL sets the
standards for learning in the 21st century by promoting digital citizenship as a responsibility that all students learn on their own. They state, “Learners have a responsibility to themselves and must follow ethical and legal guidelines, respect the principles of intellectual freedom and pursue multiple perspectives and a balance of viewpoints before making decisions or drawing conclusions; practice safe behaviors in the use of social tools” (AASL 48). Under the “Responsibility” strand, stage 3, AASL states that students will “Use appropriate digital tools and websites independently in a safe and ethical manner” (51). AASL standards are a companion to the ISTE standards. AASL standards are geared toward use in the school library, but work with the ISTE standards to guide teachers in covering the spectrum of what good digital citizenship looks like. The goal of these standards and those of the ISTE are to prepare and teach students and educators to be responsible in the school setting and outside of school so that they may function successfully in a digital society. Both AASL and ISTE standards are published online to provide students and teachers immediate and convenient access.

Educators are swiftly increasing classroom technology use, which makes it more imperative that students learn digital responsibility. According to Ribble, more schools are moving to 1:1 computer initiatives, and the Children’s Internet Protection Act, along with the Protecting Children in the 21st Century Act passed in 2011, requires schools to address the issues of digital citizenship or lose funding. This has made it a necessity to teach responsible technology skills (For Educational Change 149). “The digital age beckons us to usher in a new era of character education, aimed directly at addressing the opportunities and challenges of living a digital lifestyle” (Ohler 26). This type of character education can happen if educators understand the technology around them and are prepared to teach their students responsible
use. Educational training for students and teachers is an ongoing process throughout the school year (Ribble and Bailey, *Focus Questions* 13). Professional development on new technology and incorporating digital citizenship lessons with popular student online activities helps teachers apply responsible technology use as an aspect of everyday life.

**Online Resources**

Organizations such as Common Sense Media provide an online media education program that incorporates digital citizenship skills into the curriculum on such topics as Internet safety, privacy, relationships and communications, cyberbullying, and copyright (Jones and Mitchell, par. 1). Common Sense Media believes that focusing on teaching students how to behave online appropriately rather than how not to will allow them to assume responsibility for their own learning and actions (Levy par. 3). Free teacher resources on their website include Common Sense Graphite and Common Sense Digital Citizenship. Graphite provides edtech tools including Common Core Explorer, a program that aligns digital apps, games, websites, and curricula for the classroom to the Common Core State Standards. Common Sense Digital Citizenship offers lessons by grade, professional development materials, and student interactivities. This organization’s online site, other free programs such as Media Smarts and Netsmartz.org, and subscription sources like BrainPop and Learning.com provide a plethora of resources for students and teachers to address digital citizenship issues (par. 4). The immediate availability of these online sites provides support for teachers, and online activities such as Digital Compass and Digital Passport engage students as they learn about and experience responsible online behavior.
Mike Ribble and Theresa Miller believe that because parents and members of the community are not actively educating children, schools become the gatekeepers and educate not only students but also parents and community members about digital citizenship skills (138). American students who work with other technology users from around the world can use a common framework such as digital citizenship to provide a starting point in order to understand each other universally (Ribble, *In Schools* 14). Raising awareness of safe and unsafe activities on the Internet and social networking sites includes teaching students to act responsibly and respectfully to others. The ISTE and AASL standards along with resources from organizations such as Common Sense Media provide websites and lessons that are readily available as guides to teach digital citizenship.

**The Role of Educators in Implementing Digital Citizenship**

The school librarian and teacher both play instrumental roles in the planning and implementation of instruction in digital citizenship. This section will describe the roles of these educators and how they are responsible for preparing students to become safe digital learners in the 21st century. The collaboration of the school librarian and teacher reinforces to the student that the ability to make informed decisions about technology use is important.

**School Librarian’s Role**

School librarians are instrumental in planning and executing digital citizenship throughout the school by co-teaching, providing professional development, and being school leaders. As co-teachers and professional developers among school personnel, school librarians positively influence the teaching within the school. Fifty-two percent of school librarians identify themselves as the teacher of digital citizenship within their schools (American Library
The success of incorporating digital citizenship into the school setting is often dependent on the school librarian alone. The school librarian integrates digital citizenship into the curriculum as part of the information literacy curriculum. Integrating the AASL and ISTE standards into lessons benefits students by promoting responsible technology use while making informed, knowledgeable decisions about online information. School librarians are in a position to collaborate with teachers to incorporate digital citizenship skills into lessons where technology is being used. Incorporating these standards while co-teaching allows teachers to learn by the example of the librarian how to intertwine digital citizenship into the lesson.

Digital citizenship skills cover more than learning to cite sources and avoid plagiarism, which are the lessons most often thought of when a school librarian collaborates with the teacher. Even though these skills are important, many other aspects of technology use can be incorporated into instruction. A survey performed by Hollandsworth, Dowdy, and Donovan asked over 500 school librarians what specific digital citizenship skills were being taught in their schools. The results were that over 90% of school librarians teach students to avoid plagiarism, respect copyright, and evaluate electronic information. About three quarters of school librarians teach students about the dangers of sharing personal information online and about online safety. Over half teach about cyberbullying, getting different perspectives, and recognizing creative rights. Fewer than half of teachers and school librarians teach about social networking sites, texting, or email etiquette (40-41). Cyberbullying and safe Internet usage are often overlooked as important skills to incorporate into a lesson. Cathy Oxley believes that teachers and librarians have a duty to make students aware of the effects of inappropriate
online behavior and bad decision-making, and to guide them into making wise choices in this digital era (5).

The school librarian is in a position to co-teach and lead in implementing digital citizenship skills. The school librarian may also serve teachers by becoming part of a technology committee and as an in-service trainer. The school librarian is an advocate for teaching digital citizenship skills and a leader within the school community helping shape a digital culture by collaborating with administrators, teachers, and technology professionals in the school.

**Teacher’s Role**

 Teachers play a major role in the teaching of digital citizenship skills by integrating technology into daily lessons, becoming a role model for responsible Internet usage, and educating themselves and students on current digital applications. Using technology in the classroom provides an opportunity to hone digital citizenship and communication skills and teach students invaluable lessons. Jared Keengwe and Grace Onchwari found that young students who had teachers who used computers in the classroom had significantly greater gains in verbal and nonverbal skills, problem solving, abstractions, and conceptual skills compared to classrooms where no computers were used (210). Technology use in the classroom not only improves communication skills between the students using the computers, it also empowers them to analyze, interpret, and create information dispersed in a digital environment. It allows students to decipher complex messages in an informed, educated way. (Berson and Berson par. 13). Learning communication skills and online etiquette within applications in a classroom setting gives the practice needed to apply this knowledge in a real world setting.
Technology use in the classroom gives teachers the ability to be role models for responsible technology usage by guiding students to become independent thinkers and showing them through actions and lessons what appropriate Internet usage looks like. Being a role model is just one of the many proactive approaches teachers implement in their classrooms to teach responsible online behavior. Other opportunities consist of peer mentoring programs and an effective digital citizenship curriculum (Hollandsworth, Dowdy, and Donovan 39). Educators also need current information on new digital applications that are popular with students. Larson, Miller, and Ribble believe that a school administration has the ability to provide ongoing, consistent support for educators through professional development in order to equip them with updated technology skills and the confidence needed to teach new literacies (14).

The Online Safety and Technology Working Group released its report, *Youth Safety on a Living Internet*, in June of 2010. This group submitted recommendations to the National Telecommunications and Information Administration and suggested that schools find ways to incorporate educational social-technology tools in the classroom to enhance learning and provide pre K-12 educators with an opportunity to, in the process of teaching regular subjects, teach the constructive, mindful use of social media enabled by digital citizenship and new-media-literacy training—using the media and technologies familiar and compelling to students. (20)

Students today are different kinds of learners; they multitask, use digital technology for communication and information, and are engaged and motivated in a new way (Larson, Miller,
This new type of learning environment provides a reason for educators to incorporate digital citizenship standards into lesson plans. Teachers agree that school administrators can do a better job of training them to infuse online responsibilities within classroom lessons. Dian Schaffhauser found that 68% of American teachers said they think schools could improve in providing training on Internet use; and 70% suggest that Internet usage be a part of the school curriculum (par. 3). School administrators use district technology committees, professional development sessions, and in-service classes to train educators or teachers and school librarians educate each other using social networks such as EduCanps. EduCamp is an event where ideas are shared about education and learning between educators in an open environment. Everyone participates in some way, whether it be presenting, organizing a discussion, or publishing notes from a talk (“EduCamp”). A teacher’s role of digital citizenship starts with using technology in the classroom responsibly, guiding students by being role models in Internet usage, and educating students on new Internet applications.

**Conclusion**

Most of society has embraced the digital world. Students use the Internet in their everyday lives more than ever and the amount of time daily spent on the Internet is increasing. The teaching of digital citizenship helps students embrace responsible behavior while using technology. Teachers and librarians working together provide guidance to students on how to be safe, responsible, Internet users.

Student use of the Internet and communications on social networking sites has risen significantly. Teaching responsible behavior and online etiquette within digital communication
may help students avoid unsafe activities on personal devices. Digital citizenship is the key to teaching and guiding students to think for themselves, apply knowledge to decipher the information, and to use the Internet responsibly. Organizations such as ISTE, AASL, and Common Sense Media have created standards and lessons to guide educators in incorporating digital citizenship into classroom and school library curriculum. Collaboration to incorporate digital citizenship standards into lessons provides students with opportunities to practice and use technology responsibly and ethically. The more students and educators apply these skills in school, the more students will use them in their everyday lives. Producing 21st century learners is the ultimate goal for educators. This type of learner needs skills to interpret information and use it responsibly, have the knowledge to recognize reliable information, be safe online, and show respect to other technology users. Students have the ability to develop into 21st century learners by becoming good digital citizens when using technology responsibly in and out of school.
Teaching digital citizenship concepts to students is more important than ever before. Changes in technology use and a student’s capability to readily access the Internet provide them with resources for instant communication and creative projects, but these also have the ability to lead to risk-taking behaviors, which enhance the need to incorporate digital citizenship content into the school curriculum. The teacher and school librarian play a major role in developing the skills needed to navigate the online world properly. The research reviewed when examining digital citizenship in the school environment led to many questions. The following questions are the ones addressed in this research and chapter. First, what is digital citizenship and why should we teach these skills to students? The data used to answer this question will include references to technology use, risks taken among students, and cyberbullying among peers. Second, what resources are available to help educators incorporate digital citizenship skills into the school curriculum? The answer to this question will discuss the International Standards of Technology in Education (ISTE) standards, American Association of School Librarians (AASL) standards, and other online tools such as the Common Sense Media Organization. Third, what is the role of the school librarian and teacher in incorporating digital citizenship into the school environment?

**Digital Citizenship and Student Technology Use**

Digital citizenship is a life-long process, which consists of the ability to use technology safely and responsibly, and to research, create, and communicate online respectfully. Intellectual property and copyright are often thought of when digital citizenship is mention, but many other aspects are addressed in classroom lessons. Examples of these are safety
purchasing materials online; using social networking sites’ privacy settings, texting or email etiquette, and cyberbullying. Many students are unaware that what they post, snap, or tweet could directly affect their well-being, college applications, and job prospects in the future.

Technology use among students is higher than ever before. Wi-fi is readily available and makes it easy to access the Internet in most restaurants, doctor offices, schools, and homes. Personal devices such as tablets and smart phones are rising in popularity among students and used almost constantly for communicating with friends and family. Texting and social networking sites such as Facebook and Twitter are the most popular way of conversing with others. Keeping up with friends on social media and staying in “the loop” of conversation is of major importance to students. They do not want to feel that they are left out.

Online conversations are an instant way for students to stay in touch, but with this comes risks and new forms of bullying that were not prevalent with past generations. Sexting, when students text inappropriate pictures of themselves to others they think are trustworthy, privacy settings in social networking sites that are not programmed correctly allowing strangers to see personal information, conversing with people that they do not know, and bullying others through mean or harassing posts on any online outlet are a few examples of the risks and issues related to technology use among students.

Online harassment or cyberbullying is a major concern for students. Students harassed online are often bullies themselves. Many students believe they will not be caught, and there will be no punishment for their online actions. Students who are cyberbullied become depressed and often feel embarrassed to go to school. A positive school environment that addresses bullying in general and focuses on a climate that promotes a safe and respectful
atmosphere can reduce the amount of online behavior issues. Through digital citizenship lessons, educators are able to address cyberbullying to help tackle issues related to hurtful behavior. The attractiveness and hazards of Internet usage are not going away. Use is increasing and because of this, teaching students to be responsible and respectful online by applying digital citizenship skills and standards to school lessons could make them aware of how they are affecting themselves and others.

**Digital Citizenship Resources for Educators**

International Standards of Technology in Education (ISTE), the American Association of School Librarians (AASL), and online sources such as the Common Sense Media Organization have standards used as guidelines and activities readily available to assist school librarians and teachers in incorporating digital citizenship skills throughout their lessons. The ISTE organization is dedicated to providing standards and guidance to students, teachers, and administrators. These standards are in place to improve teaching and lessons when using technology in the classroom. Mike Ribble, a major advocate for digital citizenship, has broken down the standards into nine elements that can be easily incorporated into the curriculum. Ribble believes learning these nine elements is a way for students to become more productive and responsible digital users. Applying the nine elements may also allow the teacher to model the proper online behavior to the student, therefore, teaching by example.

The American Association of School Librarians (AASL) also has a set of standards that incorporate the need for responsible technology use in and outside of the classroom. These standards are for teachers and school librarians and are meant to be a companion to the ISTE standards. AASL standards work towards the goal that students become creative, self-
evaluative thinkers who learn to be responsible digital citizens. Guiding students to be accountable for their online actions is the objective to using the standards set by the AASL and ISTE. Both organizations are committed to helping educators with guidelines, lessons, and ideas for their classrooms.

Online organizations such as the Common Sense Media Organization provide programs and services readily available to use in the classroom setting. Topics such as Internet safety, communications, cyberbullying, privacy, and copyright are addressed in the different programs. Common Sense Media believes teaching students what to do online instead of what not to do will teach them to learn responsibility for their digital actions. The organization has many free programs, such as Digital Compass and Digital Passport, which teachers use as stand-alone lessons for technology classes or within another lesson. They also provide programs like Common Core Explorer, which connects digital apps, games, and websites to Common Core State Standards. Other Web-based subscription sources that have online resources are BrainPop and Learning.com. The convenience of lessons and resources readily available online is an asset for teachers and librarians.

**The Role of Educators in Implementing Digital Citizenship**

The teacher and school librarian both play a major role in the implementation of digital citizenship skills into the curriculum. The school librarian’s role within the school environment is crucial to executing responsible online behavior by co-teaching, professional development, and being a school leader. The collaboration of the teacher and school librarian allows students to see that it is important to make informed technological decisions when using online sources. As school librarians collaborate and integrate AASL and ISTE standards into lessons they will
provide a model of responsible technology use to teachers and staff. Their position allows them to teach copyright and intellectual property aspects of being a responsible online user, but it also gives them the ability to incorporate digital citizenship awareness beyond plagiarism in professional development meetings and in-service training. A school librarian also becomes a school leader and advocate to preparing students for a technological 21st-century life by becoming part of technology committees and becoming the expert who staff comes to with questions and concerns about applying technology use within lessons. A librarian is essential to making the school community aware of digital citizenship guidelines, standards, and resources.

Teachers incorporate digital citizenship skills into the school setting by using technology daily in class, being role models on how that technology is used, and educating themselves on new and current applications. Using technology in the classroom allows students to practice the digital citizenship skills needed to survive a tech savvy world. Students are able to see what behaviors are acceptable and what are not. They will also see how technology affects their lives and that it is important to use responsible skills in the classroom and on their own. Teachers can also be role models for online use by teaching students the correct way to communicate, tweet, and set up accounts. Staying up-to-date on current online applications and social networking programs and applying them to lessons will help teach students proper use of those sites. Using technology that is already familiar to students, holds their attention, and motivates them in a different way will help them transition skills in responsible technology use to outside of the school day. Students are multitaskers; they communicate electronically and are used to having information readily available. A learning environment where technology is used regularly makes it easier to incorporate digital citizenship skills into the curriculum.
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