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Digital Citizenship in the Frame of Global Change

Michael S. Ribble

Abstract

Digital Citizenship is the focus on the skills needed by all users of technology to work effectively in an ever expanding digital world. This is especially important for children as they become exposed to digital tools, often at very early age. Digital Citizenship provides a structure for the responsibilities, issues, as well as the opportunities that technology provides. The research into this topic was collected through 15 years of international interactions, both qualitative and quantitative, to identify the framework and the subsequent creation of the Nine Elements and their structure within Safe, Savvy and Social constructs. This definition was the first to organize Digital Citizenship into a single cohesive model. From this work, an understanding of the skills necessary for all users of technology has been organized and defined. The original research has been replicated around the globe and have exhibited that the elements are a solid foundation for the skills within Digital Citizenship. The current issue is the continued fracturing of the concepts within Digital Citizenship. This confusion has led to competing definitions identifying various organizations' concept of Digital Citizenship. There is a need for ongoing study of this topic reinforced by the implications of online learning caused by forced school closings. The variance in skills and knowledge (especially Access) by parents, students and educators are evident with required social distancing requirements. The need of Digital Citizenship in a society that has turned to digital technologies to meet the needs of educational isolation is evident.

Keywords: Society, Skills, Elements, Safe, Savvy, Social access, Commerce, Communication, Collaboration, Etiquette, Fluency, Health, Welfare, Law, Rights, Responsibilities, Security, Privacy

Introduction

The past year the situation with the global pandemic have caused all members of society to reevaluate every accepted model of interaction from conferences, business travel and even university lectures. Through these challenging times everyone have had to reimagine how these activities could be accomplished, often with the use of technology as the primary vehicle to lead this change. In doing so, it has exposed the issues that have been occurring in the past decade, of how to understand and implement technology use in responsible ways. It

has expanded the idea of a new citizenship, a digital citizenship which must now be defined and shared to everyone.

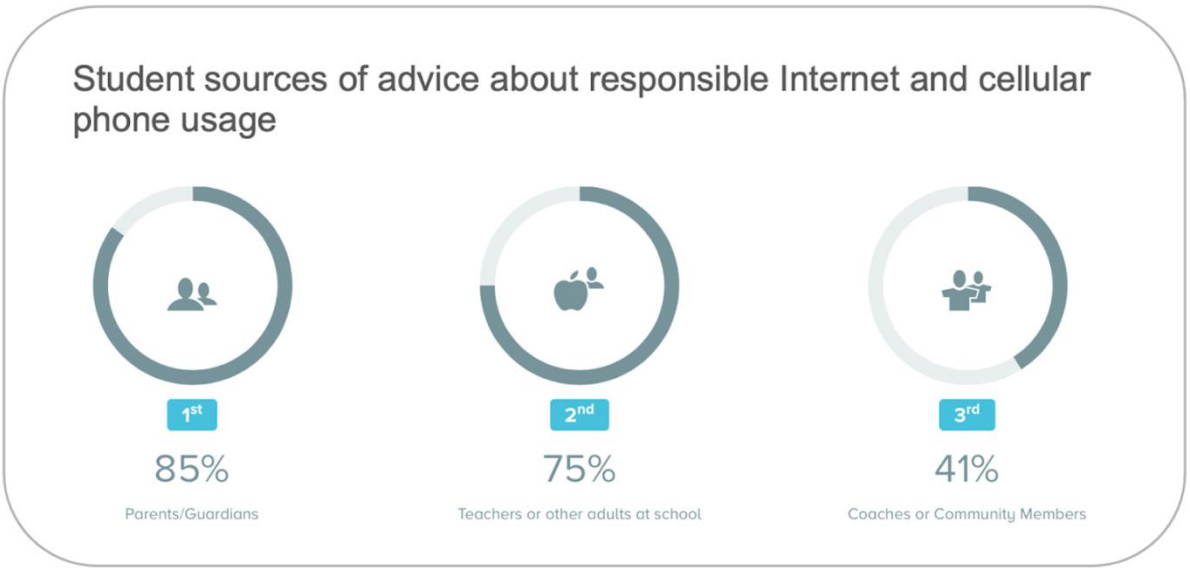
In just a decade and a half concepts such as "netiquette" or online etiquette has changed dramatically. From just making sure the caps locks were off so people didn't think we were shouting to full hate speech on every social media platform available. This is where digital citizenship has begun and continues to change with the existing norms of the times in which we live. As with every generation, looking at the world for their own children there is often a concern with what the future holds.

The concepts of digital citizenship have varied depending on who holds the lens but the core concept of safety remain steady. With the issues today, there needs to be a foundation, a structure, in which users can connect as the issues become more serious and invasive into the culture. As students and young adults are defining their digital presence online they need to be aware of what privacy they might be relinquishing. Students, parents and educators need to realize that often data is being collected of where and what users are doing in the digital space (and clearly defined in the Privacy and Terms of Use for the site). Users are being enticed to share their information without even a consideration because of how we as users are being manipulated, with our consent (see Netflix – *The Digital Dilemma*). It is one thing to treat adults in this manner as they should recognize this, but for children and young adults this is criminal. In the study by Chaudron et al. from the European Union showed that children did not have a clear understanding of their privacy or how to protect it. As users there must be an understanding that *"if we are not paying for a product, we are the product"* (Serra, 1973). Is there a way for us to showcase what we have digitally published and invite others to see without concerns of personal privacy violations?

The concern for educators and parents is the disconnect between what students have with technology and their actions in schools and homes. There has long been a belief of anonymity and separation from others is causing students to act in a way that they do not want adults to view. With the current issues of the worldwide pandemic, these issues are becoming more pronounced. The increased distribution and need for technology has now defined the student activity not only in the home but in school as well. The need for constant contact between students and teachers that cannot be in the same space has expanded the idea of the digital divide. There are also concerns from parents about the amount of screen time for their children with some being educated completely online. The World Health Organization has put out new guidelines for younger children: under two, no screen time and just 60 minutes for those 3 – 4 year olds (World Health Organization, 2019). Now it is no longer who has devices but who has the connectivity to meet the classroom needs each and every day. The spotlight is now on the issue of how technology is to be used appropriately in a situation needing to connect users that are not able or willing to return to work or school. The percentage of students varies by region and country of the number being working or learning remotely. Pew research identifies that only 27% believe that interacting in this method is as effective as in-person contact (Anderson & Vogels, 2020). As the numbers of users that choose to stay at distance there are issues of understanding the technology tools and how to interact effectively.

For educators there is now a need to infuse technology literacy into the established curriculum. These skills pose a unique problem, which is difficult in the digital realm where educators need to be aware that there is a quick leap from being just connected in the classroom to access out to the entire world. A curriculum of appropriate usage will need to be taught at two levels at once—the horizontal (the space immediately around them) and the vertical (the connection to the rest of the world). These will not be easy concepts to master, especially in a synchronous practice, but they need to be taught to prepare students to work and compete in a digital world.

In research from Dr. Marty Park in a statewide five-year longitudinal study with well over 100,000 students and over 10,000 teachers, he has found that *who* students learn how to be participating digital citizens from, is important. As displayed in the figure, students shared that that they primarily get advice about responsible use from parents and guardians, closely followed by teachers and other adults at school. Looking at a 5-year trend, there has been a flip-flop affect between the two leading sources of advice from educators to parents. Interesting, the most recent collection had coaches and community members jumping from being little or no source of advice to students all the way up to the third most important source of advice. While, not represented in figure, another strong point is that friends/ schoolmates (22%), and informational websites (18%), while dropping towards the bottom, as sources of advice, still constitute significant importance (Ribble & Park, 2019).



There is a need to focus on how to prepare students to use technology that will provide a foundation for their future. This structure has often been defined as digital citizenship. This topic has been listed with other names such as “digital safety”, “digital literacy”, and “netiquette”. There is a need for a focus where all of these are a part of the discussion. Each of these ideas only focus on aspects of the whole problem. A more full vision of *digital citizenship is the continuously developing norms of appropriate, responsible, and empowered technology use.*

The goal of understanding digital citizenship is to provide a path to shared and collective understanding and to expand to grasp the human connection to technology is vital. Digital citizens recognize the rights,

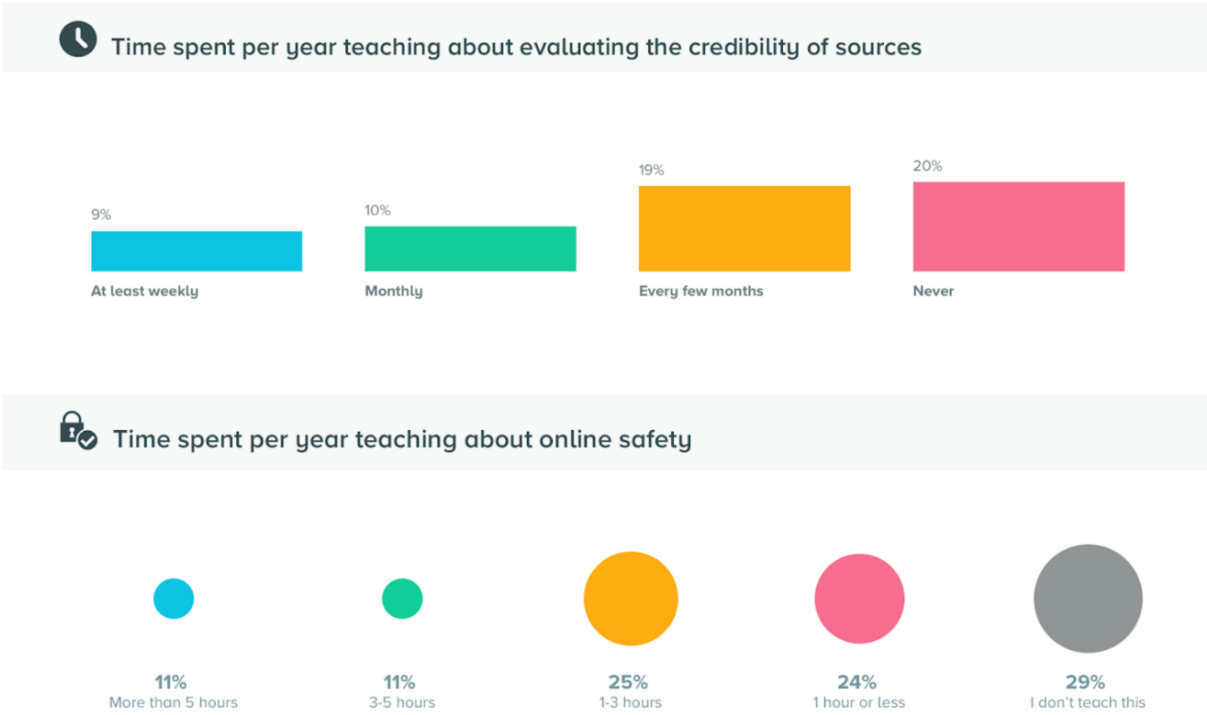
responsibilities and opportunities of living, learning and working in an interconnected digital world. With the changes in the use of technology it has become important for students to be taught the skills which provide a structure of safety and responsible use of technology (Yilmaz, 2011). The goal is to engage in safe, legal and ethical behaviors. Digital citizens are aware of their digital identity and reputation and recognize the permanence of their actions in the digital world. They advocate for themselves and others in their behavior, actions, and choices (Tamayo, 2016). From these ideas has emerged an expanded concept of digital citizenship: To lead others in the understanding and positive use of connected digital experiences.

Famed philosopher Dr. Marshall McLuhan noted in his 1964 book *Understanding Media: Extensions of Man*, that *technology amplifies*. It puts human behavior through a megaphone and magnifies whatever is there, for better or for worse. Now over 50 years later Dr. McLuhan's words are even more appropriate. The goal should be to understand that the Internet and modern technology provide the loudest amplifiers that humanity has ever created. Technology's magnifying properties make it imperative that everyone become digital citizens who are capable of recognizing and understanding how they contribute to this digital society. Yes, they need to develop practical skills such as how to be safe and responsible online, and to practice online etiquette and empathy in virtual worlds. The goal should be to cultivate a larger perspective about the digital lifestyles they lead than just what they post and "like". As McLuhan identified the Internet, and the dependent programs, are now seen as less of a tool and more of an extension to human life (Chiang & Lee, 2011; Shal et al., 2018). That is where digital citizenship needs to start.

As in any society, it is expected that digital citizens act in a certain way, according to accepted norms, rules, and laws. There needs to be balance, to find a level of trust for another and able to share what is important without needing to tear down another's perspective or ideas. The hope is that digital technologies could open us to a vision where we can look past our differences and remove obstacles instead of creating them. To do this all user must begin respecting themselves and others for what they bring to the narrative. To learn and to share with others by recognizing that they have a voice in what is happening in a society. To protect ourselves and others so that everyone can be an equal member of the community.

It is foundational to educators to engaging with students in digital citizenship experiences. To be clear, however, your digital citizenship culture should not be focused on just the teachers or adults inside your school being the only providers of digital knowledge. Building awareness and building comfort in elements digital citizenship should breed a community learning approach.

In addition to awareness must be also looking at the frequency of engagement. One way to position frequency of engagement is to understand teacher perception on the amount of time teaching. The figure details perceived time per year teaching about evaluating the credibility of sources and teaching online safety, as just a few elements and sub-concepts generally connected to digital citizenship. One important fact is the percentage of teachers who never teach about evaluating the credibility of sources (20%) or teachers who don't teach or rarely teach about online safety (78%). That may be a more significant portion of your teachers than you expected (Ribble & Park, 2019).



Digital Citizenship classifies nine foundational elements in the following three guiding principles: Safe, Savvy and Social (or S3). The tenets of S3 are a way to support, as well as reinforce the framework of the themes of digital citizenship. Each theme/element encompasses three levels of support (Safe, Savvy and Social) which could or should be taught as soon as our children begin using a digital device and interact with it.

The first guiding principal; Safety, focuses on protecting yourself and protecting others and creates the base of digital citizenship. The next is Savvy in which focuses on the concepts around educating yourself and connecting with others. These concepts build upon the concepts of Safety. And finally, the Social guiding principle commits to helping everyone make decisions exemplifying our commitment to respect ourselves and respect others. A core skill of a Safe, Savvy, and Social digital citizen is knowing and demonstrating the difference between the digital can and the digital should.

It is here that we fully realize the possibilities of the online experience:

- **Safety (Protect Yourself/ Protect Others)**
- **Savvy (Educate Yourself/ Educate Others)**
- **Social (Respect Yourself/ Respect Others)**

The Nine Elements of Digital Citizenship

The nine elements were identified as a way of understanding the complexity of digital citizenship and the issues of technology use, abuse, and misuse. They were created for educators and other members of the community to break down the issues to make them more understandable. These elements have stood the test of over 15 years

of review. The elements have become the basis for digital citizenship understanding in schools as well as a foundation for research and dissertation study across the globe (World Association for Christian Communication-WACC, 2017). These are the nine elements that comprise digital citizenship:

- **Digital Access** is about the equitable distribution of technology and online resources. Users need to be aware of their community and who may or may not have access, not only in the home but the larger community as well. Leaders need to provide options for free and open access in the community or provide resources for the home.

- **Digital Commerce** is the electronic buying and selling of goods and focuses on the tools and safeguards in place to assist those buying, selling, banking, or using money in any way in the digital space.

- **Digital Communication and Collaboration** is the electronic exchange of information. All users need to define how they will share their thoughts so that others understand the message. For some users there is a struggle to understand their place in the world. Technology has the potential to help them find their own voices and express themselves.

- **Digital Etiquette** refers to electronic standards of conduct or procedures and has to do with the process of thinking about others when using digital devices. How we treat others is a reflection of who we are. Whether in our homes or the community our recognition of others is critical whether online or in the real world.

- **Digital Fluency** is the process of understanding technology and its use. The more "digitally fluent," users are, the more likely they are to make good decisions online, like supporting others instead of making negative comments. Digital literacy includes the understanding of media literacy and the ability to discern good information from poor, such as "fake news" from real news.

- **Digital Health and Welfare** refers to the physical and psychological well-being in a digital world. Technology provides many opportunities and enjoyment, but knowing how to segment use with the needs of others and ourselves is key to a healthy, balanced life. As more devices are provided there is a need to ask the question of how much screen time is appropriate.

- **Digital Law** refers to the electronic responsibility for actions and deeds and has to do with the creation of rules and policy that address issues related to the online world. Just as in the real world, the online world has had to create structure to protect those using these digital devices from harm. Support for issues such as cyberbullying and sexting are available from schools and other community resources.

- **Digital Rights and Responsibility** are those requirements and freedoms extended to everyone in a digital world. This area of Digital Citizenship is about helping students understand that when they are

provided opportunities, such as the access to the Internet and use of online products, they need to be diligent in helping others as well, such as informing adults of potential problems.

- **Digital Security and Privacy** is the electronic precautions to guarantee safety. Viruses, worms and other bots can be passed along from one system to another just like an illness. When using devices in school or at home, understanding and being aware of attacks and how to prevent them are important skills for today and into the future.

The elements serve as the basis for appropriate technology use and form the foundation on which the digital society is based provide a starting place to help all technology users understand the basics of their technology needs. This is not an issue for one country but it is a global issue. In the Council of Europe's Digital Citizenship Handbook 2019, they too define many of the same ideas that were identified. By becoming more aware of the issues related to technology, everyone can become better digital citizens.

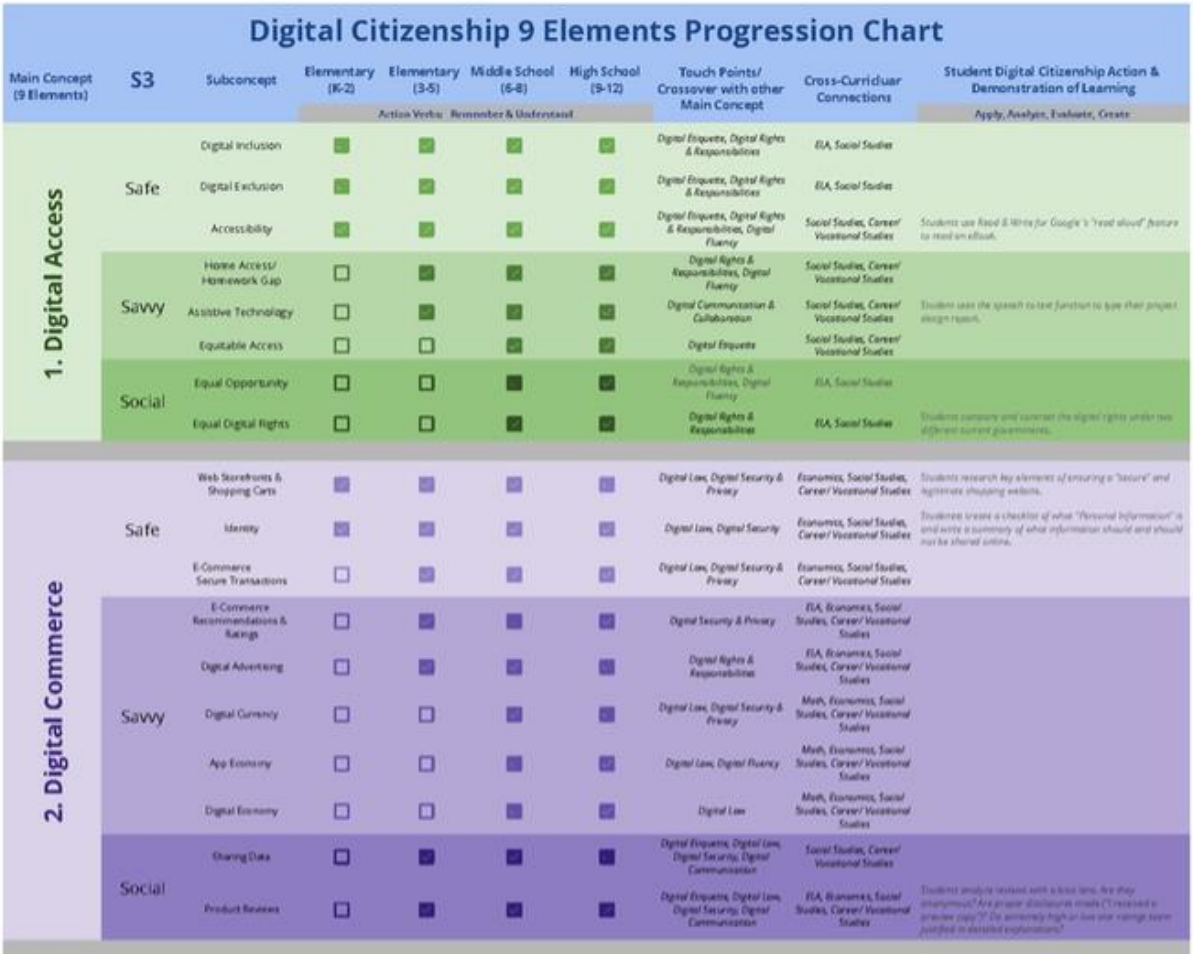
The Nine Elements within the S3 Framework

In an attempt to provide a structure for implementation in the classroom the concepts have been leveled to assist educators. Further within each level is a breakdown of the S3 Framework for the concepts to be covered. The concepts of the S3 Framework (as identified as Respect, Educate and Protect) were used to survey students (Ghamrawi, 2017). It was found in this study that many teachers did not know about the term digital citizenship or its supporting elements. It also identified its importance and need for educating students of these concepts. Now with the S3 Framework they create an organization that can be replicated in the curriculum to address the technology needs along with integrating the ideas in current and revised lessons.

Safety - Protecting Digital Citizens [being protected from or unlikely to cause danger, risk, or injury to yourself or others]

Take a moment and think about the people that are important to you in your life. Can you visualize them? What would you do to keep them safe, protect them from harm? These should be the thoughts that we have when we are on our digital devices, what can we do to protect others when we pick up that device.

Technology is changing students coming to our schools which in turn moves education. The tools that have been provided to students and faculty are making tasks such as creating or sharing information (e.g., a document, presentation or video) much more streamlined. While technology affords users new opportunities the issues that occur are often are the lapses of judgment when the tool is not fully understood. These problems happen with moving to new and different tools that knowledge and rules are not fully established by those who use them. This is an attempt to apply older concepts to new ideas, which do not exactly fit. Now, it is the time to make the shift to how we will be utilizing the technology for the future. It is important that educators now begin making alterations to how technology is viewed and integrated into the classroom. The knowledge we share today will be passed along to the next generation.



Digital Citizenship 9 Elements Progression Chart

Main Concept (9 Elements)	S3	Subconcept	Elementary (K-2)	Elementary (3-5)	Middle School (6-8)	High School (9-12)	Touch Points/ Crossover with other Main Concept	Cross-Curricular Connections	Student Digital Citizenship Action & Demonstration of Learning
			Action Verbs: Remember & Understand						Apply, Analyze, Evaluate, Create
1. Digital Access	Safe	Digital Inclusion					Digital Etiquette, Digital Rights & Responsibilities	ELA, Social Studies	
		Digital Exclusion					Digital Etiquette, Digital Rights & Responsibilities	ELA, Social Studies	
		Accessibility					Digital Etiquette, Digital Rights & Responsibilities, Digital Fluency	Social Studies, Career/ Vocational Studies	Students use Read & Write for Google's "read aloud" feature to read an eBook.
	Savvy	Home Access/ Homework Gap					Digital Rights & Responsibilities, Digital Fluency	Social Studies, Career/ Vocational Studies	
		Assistive Technology					Digital Communication & Collaboration	Social Studies, Career/ Vocational Studies	Student uses the speech to text function to type their project design report.
		Equitable Access					Digital Etiquette	Social Studies, Career/ Vocational Studies	
	Social	Equal Opportunity					Digital Rights & Responsibilities, Digital Fluency	ELA, Social Studies	
		Equal Digital Rights					Digital Rights & Responsibilities	ELA, Social Studies	Students compare and contrast the digital rights under two different current governments.
2. Digital Commerce	Safe	Web Storefronts & Shopping Carts					Digital Law, Digital Security & Privacy	Economics, Social Studies, Career/ Vocational Studies	Students research key elements of ensuring a "secure" and legitimate shopping website.
		Identity					Digital Law, Digital Security	Economics, Social Studies, Career/ Vocational Studies	Students create a checklist of what "Personal Information" is and write a summary of what information should and should not be shared online.
		E-Commerce Secure Transactions					Digital Law, Digital Security & Privacy	Economics, Social Studies, Career/ Vocational Studies	
	Savvy	E-Commerce Recommendations & Ratings					Digital Security & Privacy	ELA, Economics, Social Studies, Career/ Vocational Studies	
		Digital Advertising					Digital Rights & Responsibilities	ELA, Economics, Social Studies, Career/ Vocational Studies	
		Digital Currency					Digital Law, Digital Security & Privacy	Math, Economics, Social Studies, Career/ Vocational Studies	
		App Economy					Digital Law, Digital Fluency	Math, Economics, Social Studies, Career/ Vocational Studies	
		Digital Economy					Digital Law	Math, Economics, Social Studies, Career/ Vocational Studies	
	Social	Sharing Data					Digital Etiquette, Digital Law, Digital Security, Digital Communication	Social Studies, Career/ Vocational Studies	
		Product Reviews					Digital Etiquette, Digital Law, Digital Security, Digital Communication	ELA, Economics, Social Studies, Career/ Vocational Studies	Students analyze reviews with a close lens. Are they anonymous? Are proper disclosures made ("I received a preview copy")? Do extremely high or low star ratings seem justified in detailed explanations?

Safety -- Protect Yourself/Protect Others

Teachers are protective of their students. Whether it is from a bully in the school yard to a threats in a school, teachers have done what is necessary to shield their students from harm. The digital world is adding a new set of potential issues that can happen to students which no longer stops at the school door, but can follow them home. Students who act comfortable using digital tools, do not understand the complexities and risks that are associated with the use of these technologies (James et al., 2010).

With little direction, children and adults will create their own parameters on how to use technology which can cause issues for themselves in this online world. Often the solution is to take it away or curtail its use. Within the digital citizenship elements and bounded by the S3 Framework, teachers are urged to help define what it is to be safe in an online world. Everyone needs to know the harm that can happen with digital devices if users do not understand the issues. But it is just as important to learn of the opportunities that can be realized by students in the digital space.

Savvy - Creating Educated Digital Citizens [wisdom and practical knowledge; the understanding to make good judgments]

In many school or district mission statements or goals there is often some mention of "being lifelong learners". So what does this mean in the age of digital learning? The growth and changing nature of technology teaches everyone that we can never stop learning. And with the opportunities that these tools provide why would anyone?

Savvy -- Educate Yourself/Educate Others

Why is education important? Why are parents and teachers so focused on having their children, and those that they are responsible for learn the skills and lessons taught in schools? Is it to improve them or is it to provide the tools to move on and up? If it is important enough to be taught shouldn't it be important enough to learn? Technology has opened the possibilities of how to learn new skills and our responsibility to understand and maximize the potential of these tools. There has been an expectation that children innately understand technology since they were born in a time of expanding digital information. Children do show a willingness to use these technologies where adults may approach with more anxiety. It has also been discovered that device and app developers are creating these technologies to make them intuitive, "so that even a child could use." In 2001, Marc Prensky wrote about the differences of "Digital Natives" – those brought up around technology and "Digital Immigrants" – those not exposed to the new digital technology from a young age. His theory was that those without the immersion and access to these tools would not as readily embrace the technology. Research shows that there is a positive correlation between student motivation towards digital citizenship and the knowledge of the teachers educating about the topic of digital citizenship (Klassen & Chiu, 2010). With the exposure of technology by so many, it is now become the responsibility of everyone to become "Digital Citizens" and work together to build this new community. By understanding these concepts everyone can enjoy the opportunities that come with the new technology.

Social - Respecting yourself as a Digital Citizen [creating cooperative and interdependent relationships and understanding of others]

When discussing the topic of digital citizenship, digital health, digital safety or whatever it may be called in your school or district there are certain universal themes that seem to surface and be at the heart of the issue. Whether it is through topics of cyberbullying, viewing (or posting) inappropriate content, or plagiarism these and other topics of concern that are discussed most among parents and educators. This section geared towards the "social" element defines the general topic of digital citizenship and its main elements of discussion.

Social -- Respect Yourself/Respect Others

Humans are social by nature. People choosing to group with others like themselves in cities, states, and countries. As members of a community we tend to connect with those like us. This can be the difficult aspect of

trying to interact with others online, everyone is given the opportunity to join this thing called the Internet and even though we try and stay with those most like us, it is almost impossible not to bump into others that want to try and change our minds, our beliefs.

The concept of respect has changed over the past 40 years. In the 1960s children were brought up to listen to adults and follow the directions of their elders and to those in authority without question. While many homes still focus on this goal, society tends to tell the young that respect is something to be earned and not freely given. Even respect for oneself has changed as young boys and girls are being shown on TV and online what is acceptable. If the children believe that they do not measure up then something is wrong with them. This is especially true with physical attributes that if they do not meet the social norms that they should be ashamed and if they do they should share it with everyone. And now we can apply filters, adjust reality that can provide us a skewed representation of reality.

Digital technologies are placing a spotlight on these issues and it provides a forum for youth to discuss these issues. Users in this digital age are often unaware of the digital footprint which provides a record of life online that is accessible by others and near impossible to remove (Fong, 2015). Students must now need to be educated to "be intelligent receivers of information as well as positive contributors" (Fong, 2015: p. 21). For some these can a positive, affirming situation and for others it can be difficult and hurtful. It is easy not to put a face to someone communicating via Instagram, Twitter or a text. Too often youth forget that there are others that are out there and that their words can cause harm that some students cannot recover.

The growth of the concepts of digital citizenship is expanding internationally. In the book *The Digital Citizenship Handbook for School Leaders: Fostering Positive Interactions Online* Dr's. Ribble and Park collected qualitative responses from around the globe on the needs of Digital Citizenship in their country.
From Egypt - Hanan S. shared that there is a need to embed the concepts of Digital Citizenship within the daily practices of citizens specially children and youth.

In Malysia - Fadli I. stated nationwide survey showed that 83% of children aged 7-19 years old did not have adequate access to online protection. *Among those, 40% did not know how to protect themselves online. As such, issues such as cyber bullying are rampant.* For example, another nationwide survey noted roughly 25% of school children experienced cyber bullying at least once.

From Australia - Talitha K. identified that national and state education authorities are reviewing curriculum, assessment and reporting requirements concerning Digital Citizenship. The Australian Curriculum guidelines, essential learnings and standards, and syllabuses now include specific references to Digital Citizenship. National education funding agreements are now including the development of Digital Citizenship as an indicator of quality leadership and teaching in Australian schools.

In China - Qian S. shared that there are three main focal areas of need. First, security measures should be taken in school ICT systems. Second, teachers should be adequately equipped to teach with ICT. Third, Digital

Citizenship resources should be developed for students and parents. There are not enough educational resources especially for children age 0-8.

As members of a digital society, it becomes everyone's responsibility to provide skills and opportunities to work, interact, and use technology without interference, destruction, or obstruction by the actions of uninformed users. It is also an opportunity for digital citizens to help create a society who support others to learn how to use technology in a way that everyone can create, lean and explore the digital space. In the 2019 TOJET (The Turkish Online Journal of Educational Technology) their research found that students needed the skills of how to be an effective online citizen. They identified that these deficiencies in understanding civic concepts. Everyone must work together to identify the needs of technology users and provide opportunities to make them more efficient.

In the end the goal is that our children or students should be "good" digital citizens. Defining good and having that as an endpoint can be difficult; especially if we have not defined what is meant by being good in the digital space. The question must be answered: what should be expected from a digital citizenship (digital safety, digital health, etc.) program? What can be agreed upon?

One, technology has changed us; for good, bad or indifferent; all users have been changed. The good news is that for many users when it comes to technology (digital experiences), many are becoming are less impressed with the new and different. The changing nature of technology is now an expectation, it is the new norm. It is assumed that everyone has equitable access to the tools and connectivity - which is false (and must be realized before embarking on a technology program).

Second, to be good at something takes time. If you want to be a good writer, you have to write. If you want to be a good painter, you must paint. Even the full understanding of technology, beyond intuitive aspects, takes time and effort. In other words, there are often far reaching implications (both intended and unintended) that are uncovered by adoptions of new digital experiences.

Third, technology has been created to give children and young adults an advantage. The tools today have been created to be intuitive or at least understandable if you are willing to 'play'. Which makes these tools easier for "kids" to figure it out, as they are willing to try and perhaps fail. The issue becomes what are the consequences of these failures? Also, adults generally do not have the time or willingness to explore and now it becomes "one more thing" that they have to learn, especially when there are compounding gaps between perceived and realized advantages. There is also the inherit fear of what might go wrong.

References

Anderson, M. & Vogels, E. (2020). *Americans turn to technology during covid-19 outbreak, say an outage would be a problem*. Pew Research Center, March 31, 2020 Available

at: https://www.pewresearch.org/fact-tank/2020/03/31/americans-turn-to-technology-during-covid-19-outbreak-say-an-outage-would-be-a-problem/ (Accessed: 07 August, 2020).

Chiang, L., & Lee, B. (2011). Ethical attitude and behaviors regarding computer use. *Ethics and Behavior, 21*, 481-497. https://doi.org/10.1080/10508422.2011.622181

Chaudron,S., Di Gioia,R.& Gemo,M. (2018). Young children (0-8) and digital technology. A qualitative study across Europe. JRC Science for Policy Report.Luxembourg: Publications Office of the European Union, 1-259.

Council of Europe (2019). *Digital citizenship education handbook.* [online] Available at: https://rm.coe.int/digital-citizenship-education-handbook/168093586f (Accessed 11 October 2020).

Fong, J. (2015). *New citizenship for a digital age: 21st century digital citizenship education*. Master Thesis, Victoria, BC: University of Victoria.

Ghamrawi, N. A. R. (2018). Schooling for digital citizens. *Open Journal of Leadership, 7*, 209-224. https://doi.org/10.4236/ojl.2018.73012

James, C., Davis, K., Flores, A., Francis, J. M., Pettingill, L., Rundle, M., & Garnder, H. (2010). Young people, ethics, and the new digital media. *Contemporary readings in law and social justice*, *2*, 215-284.

Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*, 741-756. https://doi.org/10.1037/a0019237

McLuhan, M. (1964). *Understanding media: the extensions of man*. New York, McGraw-Hill.

Prensky, M. (2001). *Digital natives, digital immigrants*. On the Horizon, October 2001, 9(5). Lincoln: NCB University Press

Ribble, M. and Park, M. (2019). *The digital citizenship handbook for school leaders: fostering positive interactions online*. Portland, International Society for Technology in Education.

Ribble, M. (2015) *Digital citizenship in schools, third edition: nine elements all students should know*. Portland, International Society for Technology in Education.

Ribble, M. (2020). *Digital citizenship: using technology appropriately*. [online] Available at: https://www.digitalcitizenship.net/ (Accessed: 21 October, 2020)

Sanchez, A., Manzuoli, C., and Bedoya, E. (2019). Digital citizenship: a theoretical review of the concept and trends. *TOJET: The Turkish Online Journal of Educational Technology, 18*(2) [online] Available at: http://www.tojet.net/articles/v18i2/1822.pdf (Accessed: 19 October, 2020)

Shal, T., El Kibbi, I., Ghamrawi, N., & Ghamrawi, N. A. (2018b). Principals' differentiated learning through social media: Practices and obstacles. *International Journal of Education and Applied Research, 8*, 19-29.

Shal, T., El Kibbi, I., Ghamrawi, N., & Ghamrawi, N. A. R. (2018a). Web 2.0—A tool for learning or socialization only? Perspectives & experiences of Lebanese school principals. *International Journal of Research in Economics and Social Sciences, 8*, 315-347. http://euroasiapub.org

Tamayo, P. (2016) *Digital citizenship recommendations* [Online]. Available at: https://www.k12.wa.us/sites/default/files/public/edtech/digitalcitmedialit/pubdocs/2016-12-digitalcitizenship-legislativereport.pdf (Accessed: 25 September 2020)

Television Delivers People (1973). *Directed by Richard Serra* [Film] New York, New York, University Community Video.

World Association for Christian Communication – WACC (2017). *Nine elements of digital citizenship*. [Online] Available at https://waccglobal.org/nine-elements-of-digital-citizenship/ (Accessed: 08 January 2021).

World Health Organization (2019). *Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age*. [Online] Available at: https://apps.who.int/iris/bitstream/handle/10665/311664/9789241550536-eng.pdf?sequence=1&isAllowed=y (Accessed: 13 August 2020)

Yilmaz, H. (2011). Cyberbullying in Turkish middle schools: An exploratory study. *School Psychology International, 32,* 645-654. https://doi.org/10.1177/0143034311410262

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