

COMPARING DIGITAL CITIZENSHIP PERCEPTIONS OF ONLINE STUDENTS AND
TEACHERS

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

2020

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2020

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ABSTRACT

The purpose of this study was to identify commonalities or differences between teacher and student perceptions of digital citizenship, defined by the norms of behavior with regard to technology use. The study was conducted with online, secondary students and teachers from the same population using the DCS (Digital Citizenship Scale) instrument created by Choi, Glassman, and Cristol (2017). The study addressed the problem of inconsistent digital skills among online, secondary students and teachers by gathering data about areas where deficiencies may exist for both teachers and students in the same population. Variables included: (1) online, secondary student perceptions of digital citizenship (2) online, secondary teacher perceptions of digital citizenship. Areas of digital citizenship perceptions included digital ethics, media and information literacy, participation engagement, and critical resistance. Results indicated no statistically significant difference in digital citizenship perceptions between online, secondary students and teachers. Targeted training using the common identified need found in the study are recommended for use in future studies promoting relevant and effective digital citizenship education.

Keywords: digital citizenship, online education, perceptions, technology

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List of Abbreviations

International Society for Technology in Education (ISTE)

Information Communication Technology (ICT)

Context and Technological Pedagogical Content Knowledge (TPACK)

Public Service Announcements (PSAs)

Digital Citizenship Scale (DCS)

Exploratory Factor Analysis (EFA)

Institutional Review Board (IRB)

CHAPTER ONE: INTRODUCTION

Overview

Past digital citizenship research involves historical, conceptual, and social dynamics that emphasize the large number of youth using the Internet and the need for authentic, Internet-based education so that students can become good digital citizens (Choi, Glassman, & Cristol, 2017; Gleason, & Gillern, 2018; Hui & Campbell, 2018). The term digital citizenship is used to refer to the norms of behavior with regard to technology use (Choi et al., 2017; Ribble, 2015). The problem is that digital citizenship skills are not consistently and successfully being taught by secondary teachers, and the research available does not identify the specific digital citizenship deficiencies that teacher need to address. The purpose of this study was to help educators provide student centered digital citizenship education based on specific, content focused research. Teachers who model and teach good digital citizenship skills in the classroom can successfully promote authentic learning and ethical identities among students (Choi et al., 2018; Gleason, & Gillern, 2018). This study aims to add to the existing digital citizenship literature by providing a quantitative comparison between the digital citizenship perceptions of online, secondary teachers and students in the same population, identifying differences and similarities, which can lead to targeted improvements in existing practices. This chapter consists of six major sections concerning the study of digital citizenship including background knowledge, a problem statement, a purpose statement, the significance of the study, a research question, and definitions of major terms.

Background

The parameters of a society have moved away from purely geographical boundaries to Internet based communities (Choi et al., 2017; Glassman & Burbidge, 2014). Responsible and

productive members of Internet societies need to be good digital citizens, handling digital tools through the appropriate use of digital ethics, media and information literacy, participation engagement, and critical resistance (Choi et al., 2017; Ribble, 2015). Digital citizenship is conceptually based in a healthy societal character achieved through critical approaches to technology and networked societies (Castells, 2002; Feenberg, 2002; Kirkpatrick, 2018). In the past, successful digital citizenship education occurred when digitally competent teachers modeled and encouraged authentic digital use (Choi et al., 2018; Gleason & Gillern, 2018; Sauers & McLeod, 2018).

Historical

The issues surrounding the appropriate use of digital tools became an educational concern when technological development started significantly affecting schools in 1998. The International Society for Technology in Education (ISTE) developed national standards that concerned the appropriate use of technology for students (Ohler, 2012). In 2000, ISTE added technology standards for teachers. The term digital citizenship appeared for the first time in the second set of ISTE standards in 2008. The revision changed one of the standard headings from social, ethical, legal, and human issues to digital citizenship and responsibility issues. The term digital replaced the word technology in the second set of standards in an effort to emphasize the action of working with technology instead of just emphasizing the technology. The use of the term digital citizenship also emphasized a digital culture and community that transcended the physical communities of students (Ohler, 2012).

Digital citizenship has come to refer to the norms of behavior with regard to technology use, which includes areas such as digital ethics, media and information literacy, participation engagement, and critical resistance (Choi et al., 2017; Ribble, 2015). The category of digital

ethics refers to how Internet user engages in safe, ethical, and responsible online behaviors. The category of media and information literacy indicates Internet user's ability to access the Internet, evaluate information, communicate, and cooperate and collaborate with others using the Internet. The category of participation engagement shows how effectively individuals can use the Internet to participate in the political, economic, social, and cultural place-based activities, either on the local, societal, or national level. Finally, the category of critical resistance refers to transformative participation, which challenges the status quo and promotes social justice via the Internet (Choi et al., 2017, p. 103). All the categories of digital citizenship emphasize digital behavior.

Conceptual

Digital citizenship perceptions are founded in a critical approach to technology. Like a critical approach to technology, digital citizenship contributes to the development of a societal character by interfacing identities in the space of the modern networked world. Critical approaches to technology and networked societies are ultimately concerned with promoting societies that have healthy character and sense of identity (Castells, 2002; Feenberg, 2002; Kirkpatrick, 2018). The behavioral and ethical concerns of digital citizenship find their foundation in a framework that promotes healthy societies. The concept of critical approaches to technology lays a foundation for digital citizenship and incorporates principles of social constructivism with approaches to technology (Feenberg, 2002).

The assumptions of a critical approach to technology include the belief that technology is impacted by society, and that changes in society are reflected in technological advancements. A constructivist view of technology asserts that different kinds of technology are shaped by societies that are specifically relevant in the time frame when they were developed and do not

extend to long-term, future societies (Kirkpatrick, 2018). Feenberg (2002) theorized that societal decisions about how to use technology ultimately determined the influence that technology had on that culture. Under a critical approach to learning, technology use represents an expression of the character of the society in which it is being used (Choi et al., 2017). A networked society mediates individuals and identities, interfacing the values and beliefs of local personal identity with the global interests of individuation. Critical approaches to technology serve as a framework for concepts like digital citizenship, which also concern societal transformations.

Social

The relationship secondary students have with technology is affected by how comfortable teachers are in implementing digital technology use in the classroom. Inconsistent digital skills can exist between teachers when systematic differences in digital knowledge occur between better informed and less-informed teachers (Baran & Davis, 2006; Moon, 2018, p. 296). Teachers may also be afraid of new technologies and hesitant to use new technology in the classroom. In the initial stages of getting used to digital tools, digital citizens go through the process of fearing new technology before they move on to recognizing emerging technology as a valuable tool which can enhance social activities (Glassman & Burbidge, 2014). Digital skills are important because the effective use of digital tools influences how people relate to each other and the world around them (Glassman & Burbidge, 2014). People relate to the customs and belief systems of the physical place where they reside. Digital tools have expanded the relationship of people's space and place, allowing individuals to move from an environment where space is defined by place to a state of being where space has expanded to include the influences of an internet community (Glassman & Burbidge, 2014).

A conflict specifically between secondary students and teachers occurs when teachers do

not have the digital skills necessary to meet the digital needs of students (Dolan, 2016; Fernández-Cruz & Fernández-Díaz, 2016; Gazi, 2016; Tingir, Cavlazoglu, Caliskan, Koklu, & Intepe-Tingir, 2017). For secondary learning environments to be authentic, the character and identity of students must be expressed. The character and identity of a society are reflected in the way that technology expresses societal values and beliefs (Choi et al., 2017). Digital citizenship is concerned with the healthy expression of individual citizens in a digital platform. Effective digital citizenship education, as explored in this study, aim to address specific shortcoming in appropriate digital use among students and teachers. To successfully identify specific shortcoming, student and teacher digital deficiencies must be contextually understood.

Problem Statement

The problem is that is that digital citizenship skills are not consistently and successfully being taught by secondary teachers, and the research available does not identify the specific digital citizenship deficiencies that teacher need to address. A lack of sufficient research concerning content specific digital citizenship education insufficiently addresses digital citizenship awareness and digital abilities among secondary teachers and students. Inconsistent digital skills among secondary teachers can hinder digital inclusion for students. In a study by Kaarakainen, Kivinen, and Vainio (2018), secondary teachers who were given a performance-based skills assessment showed varied levels of Information Communication Technology (ICT) ability, providing inconsistent resources to students. Kaarakainen, Kivinen, and Vainio emphasized how digital inclusion has become the second digital divide among students, with teachers playing a primary role in providing optimal digital learning opportunities. In support of consistent digital skills among teachers, Gazi (2016) reiterated how the quality of secondary education is enriched through the support of digital infrastructure and is negatively affected

when teachers have a low ability to use technology. A study by Tingir, Cavlazoglu, Caliskan, Koklu, and Intepe-Tingir (2017) also emphasized the need for digitally inclusive teachers by showing that negative achievement differences existed among K-12 learners whose teachers did not allow use of mobile devices.

The problem of inconsistent digital skills among teachers directly affects the successful introduction and active use of important educational technologies. Fernández-Cruz and Fernández-Díaz (2016) showed that the digital skills of secondary teachers were important in introducing educational technologies to students. The secondary teachers in Fernández-Cruz and Fernández-Díaz's study had low technology skills, which were connected with an ineffective introduction of educational technologies to students. Dolan (2016) argued that the personal skills, interests, and motivations of teachers regarding technology effects how much technology is supported in the classroom. Dolan also emphasized that digital skills among K-12 teachers are a major factor for successful student use of technology. Dolan showed that the level in which teachers understood and used technology in their classrooms effected whether students became successful and active technology producers. The problem is that digital citizenship skills are not consistently and successfully being taught by secondary teachers, and the research available does not identify the specific digital citizenship deficiencies among secondary teachers and students in the same population.

Purpose Statement

The purpose of this quantitative causal-comparative study was to identify commonalities between the self-perceptions of online, secondary students and teachers in the same population concerning digital citizenship skills. Digital citizenship will be defined in this study as the norms of behavior with regard to technology use (Choi et al., 2017; Ribble, 2015). The purpose of

identifying commonalities between the digital citizenship perceptions of students and teachers is to better identify commonalities in perceived skills, interests, and technology usage between the two related groups. The data can be used to support areas of common digital citizenship need among secondary students and teachers. This study aims to add to the literature base on digital citizenship perceptions by quantitatively comparing how online students and teachers in the same population perceive their digital citizenship skills. Quantitative comparisons between the digital citizenship perceptions of students and teachers were conducted using causal-comparative analysis. The purpose of the causal-comparative analysis is to test the concepts of spatial transformation of a networked society by comparing the digital citizenship perceptions of secondary students and teachers at an online school in Oregon. The independent variables, online, secondary students and teachers, will be generally defined as online students who are enrolled in an online school and teachers who are teaching in an online school. Gazi (2016) also used the independent variables, students and teachers, in a similar study about digital citizenship perceptions. The dependent variable, digital citizenship perceptions, will be generally defined as self-perceptions about one's own behavior with regard to technology use, which includes digital ethics, media and information literacy, participation engagement, and critical resistance (Choi et al., 2017; Ribble, 2015). The study population comes from an Oregon statewide, online charter school enrolling 2000 students. The demographics of the students in the online charter school are 73.5% white, 10.7% Hispanic, 2.15 Asian, 1.1% black, and 12.6% other. The gender population at the school includes 51% males and 49% females. Four percent of the student population receives free and reduced lunch (Oregon Department of Education, 2018).

Significance of the Study

This study, which compares digital citizenship perceptions between online, secondary

students and educators in the same population, will significantly add to the existing literature on digital citizenship. Previous digital citizenship studies have shown qualitative comparisons between the general, none-specific perceptions of students and teachers, while other studies have focused primarily on either students or teachers (Choi, Cristol, & Gimbert, 2018; Choi et al., 2017; Gazi, 2016; Kara, 2018). Gazi (2016) qualitatively compared student and teacher perceptions of digital citizenship and found that students and teachers had varying perceptions of digital citizenship when interviewed. This study was an important addition to Gazi's study. This study also aims to identify possible relationships between the digital citizenship perceptions of students and teachers but this time in a quantitative study. In addition, this current study aims to build on Choi, Cristol, and Gimbert's (2018) quantitative study, which analyzed teacher perceptions of digital citizenship and emphasized the need to equip teachers with the skills needed to be good digital citizens in the current digital and global age. The quantitative study by Choi et al. analyzed 348 teachers and found that teachers demonstrated low political activism and critical perspectives in their role as digital citizens. Since the study only analyzed teachers, an additional comparison is needed showing the digital citizenship perceptions of both students and teachers in the same population. Finally, this study also aimed to extend Kara's (2018) study, which closely ties with Choi et al.'s study. Kara's study used the same quantitative instrument that Choi et al. used, but this time in order to analyze 435 university students' perceptions of digital citizenship. Kara's study found that university students had low political activism but high online critical thinking skills, technical skills, networking skills, and local/global awareness. This study adds to Gazi, Kara, and Choi et al.'s studies by quantitatively comparing both student and teacher perception of digital citizenship in the same population.

This study will benefit stakeholders such as students, parents, teacher, administrators, and

policy-makers by showing a same population comparison of perceptions between student and teachers. Comparisons between the digital citizenship perceptions of students and teachers will provide stakeholders with greater insight and understanding of strengths and needed areas of improvement in digital citizenship education. Students and parents in this study were provided with self-awareness data showing personal digital citizenship perceptions influencing student lives. Teachers, administrators, and policy makers will potentially benefit through recognizing population-specific areas of educational strengths and weaknesses. All stakeholders will benefit from this study, which analyzed and compared a specific population of students and teachers. Since digital citizenship is a dynamic and flexible concept whose manifestations are as diverse as humans, stakeholders will be better able to target instruction that effectively delivers digital citizenship education using the data provided by this study.

Research Question

RQ: Is there a significant difference in digital citizenship perceptions between online, secondary students and teachers?

Definitions

1. *Digital citizenship* – Digital citizenship is the norms of behavior with regard to technology use which include digital ethics, media and information literacy, participation engagement, and critical resistance (Choi et al., 2017; Ribble, 2015).
2. *Digital citizenship perceptions* – Digital citizenship perceptions refer to an individual's perceptions of their abilities and trajectories as active and critical members of online communities as part of their everyday lives on local, national, and global levels (Choi et al., 2017, p. 100).

3. *Digital ethics* – Digital ethics concern Internet users' engagement in safe, ethical, and responsible online behaviors (Choi et al., 2017, p. 103).
4. *Media and information literacy* – Media and information literacy refer to an Internet user's ability to access the Internet, evaluate information, communicate, and cooperate and collaborate with others using the Internet (Choi et al., 2017, p. 103).
5. *Participation engagement* – Participation engagement involves using the Internet to participate in the political, economic, social, and cultural place-based activities of the user, whether local, societal or national (Choi et al., 2017, p. 103).
6. *Critical resistance* – Critical resistance refers to transformative participation, which challenges the status quo and promotes social justice via the Internet (Choi et al., 2017, p. 103).

CHAPTER TWO: LITERATURE REVIEW

Overview

Digital citizenship is conceptually connected to critical approaches to technology and networked societies, which contribute to the healthy development of societal character. Digital citizenship education concerns the appropriate societal use of digital tools. The review of related literature concerning digital citizenship education uncovered themes motivated by social structures and social interactions. The first theme revealed the growing definition of digital citizenship in the expanding digital age, focusing on transformations of self, community, and society through proper Internet usage. Further themes focused on global citizenship and communities of practice interfacing through the Internet. Finally, a central theme throughout the literature emphasized the importance of modeled guidance by teachers in digital citizenship education. Teachers who understand the social importance of the Internet and model good digital citizenship are best able to lead students through authentic learning practices (Gleason & Gillern, 2018; Sauers & McLeod, 2018). This chapter consists of the conceptual framework and related literature pertaining to the study of digital citizenship.

Conceptual Framework

Critical approaches to technology and networked societies play a key role in establishing the roots of digital citizenship education (Choi et al., 2017; Feenberg, 2002; Kirkpatrick, 2018). Through these frameworks, digital citizenship contributes to the healthy development of societal character by interfacing identities in the space of the modern networked world. The conceptual theories of a critical approach to technology and networked societies have advanced the literature on the topic of digital citizenship perceptions by establishing foundational footing for the importance of promoting digital citizenship awareness. Self-awareness of digital

citizenship perceptions can promote healthy character and identity. Advances in digital citizenship education helps students learn to interact with the modern world as positive, proactive, and productive citizens (Choi et al., 2017).

The concept of critical approaches to technology comes from critical theorist Feenberg (2002) who incorporated principles of social constructivism with approaches to technology. Common assumptions about the relationship between society and technology hold that technology impacts society by influencing society from the outside. Feenberg believed that technological advancements are shaped by societal influences. A constructivist view of technology asserts that different kinds of technology are shaped by societies that are only relevant in the time frame when they were developed (Feenberg, 2002). The specific uses of technology in a society may not extend to future societies because of character differences (Kirkpatrick, 2018). The technology that a society uses is made for the unique societal needs of the present time and are especially relevant for only the current time frame. Feenberg theorized that societal decisions about how to use technology ultimately determine the influence that technology has on that culture, thereby making the influences of technology a reflection of societal character.

The concept of a critical approach to technology serves as a foundation for the societal character representative in digital citizenship (Choi et al., 2017). The foundational concept of a critical approach to technology holds that technology use is an expression of the character of the society in which it is being used (Feenberg, 2002). Feenberg (2002) argued that it is not technology that makes the character of a society but rather the other way around. Since the Internet and its uses are an expression of modern society, digital citizenship directly represents modern societal character. Similarly, digital citizenship education teaches right behaviors and

character development with regard to the use of digital tools (Choi et al., 2017; Ribble, 2015).

Digital citizenship is also founded in the concept of the spatial transformation of a networked society. Central to the concept of a networked society is Castells' (2002) theory, which explored the spatial transformation of an information society. The transformation Castells referred to involved three interactions between information technology, globalization, and networking. The theory held that when the elements of technology, globalization, and networking interact, a new social structure is formed called the network society. Key to a networked society is the process of spatial transformation. Castells emphasized that spatial transformation happens with a structural change in society where the space in which people live is reconstructed by transformations in communication, transportation, and telecommunications systems (p. 549). During spatial transformations in networked societies, personal identities are torn between global and local concerns. Digital citizenship similarly represents the global and local identities of individuals. Castells (2002) argued that the expressions of a society lose elements of local identity when globality brings economic competition and productivity. Loss of local identity challenges the values and priorities of society. The main challenge of a network society is when people have the desire to be rooted in local identity but are pulled away by the advantages of globality. A networked society mediates individuals and identities, interfacing the values and beliefs of local personal identity with the global interests of individuation (Castells, 2002).

Networked societies view digital citizenship as an element in the spatial transformation of today's modern information society (Choi et al., 2017). When Castells (2002) described the transformational interactions between information technology, globalization, and networking, he described the social structure of the modern digital world. Digital citizenship likewise is the

concept of normative behaviors and interactions in society through digital tools (Ribble, 2015). Like the network society that Castells described, the space in which people live today has been reconstructed by global economies and communication systems. Identity and the expression of individual interests are being redefined by a global online society (Castells, 2002). The importance of digital citizenship education is founded on the concept of network societies as a space where individual identities interface with interests in a global online space rather than solely in a local physical place (Choi et al., 2017).

The focus of this study relates to the concepts of critical approaches to technology and networked societies by connecting the societal identities of citizens with their technology use. Both the concepts of critical approaches to technology and networked societies lay the foundation for the current study, which also concerns healthy societal development. The current study about the relationship between educator and student perceptions of digital citizenship focuses on specific digital behaviors related to societal health. The conceptual theories of critical approaches to technology and networked societies have advanced the literature on the topic of digital citizenship by establishing foundational footing for the importance of exploring digital citizenship perceptions with the hopes of promoting a modern, digital world that has healthy social character and identity.

Related Literature

The definition of digital citizenship has grown as modern societies develop and use more technology. New forms of use and abuse of technology have led to new definitions of proper use. Digital citizenship is best understood in positive, outcomes based terms regarding appropriate use of technology in the areas of digital ethics, media and information literacy, participation engagement, and critical resistance. The Internet has extended citizenship to a

global arena and creates communities of practice where people interact based on shared common interests, irrespective of geography. Educators play a crucial role in modeling and teaching proper use of technology and healthy digital relationships. For educators to teach healthy digital citizenship to students, self-awareness and a deep understanding of student perceptions must be obtained.

Growing Definition of Digital Citizenship

Throughout the growing body of literature on digital citizenship, there are varying opinions about outcome-based or normative behavior-based definitions of digital citizenship (Bearden, 2016; Choi, 2016; Choi et al., 2018; Hill, 2015; Jones & Mitchell, 2016; Ribble, 2015). Normative behavior-based definitions of digital citizenship tend to focus on guarding against negative behaviors such as technology abuse and misuse (Al-Zahrani, 2015; Ribble, Bailey, & Ross, 2004). In contrast, outcome-based definitions of digital citizenship focus instead on desirable outcomes such as the transformations of self, community, and society through proactive Internet use (Choi, 2016; Choi et al., 2018). The most common definition of digital citizenship describes the "norms of appropriate, responsible behaviors about technology use" (Ribble, 2009, p. 15). This definition, incorporating the normative digital behaviors that make up digital citizenship is the most commonly used definition (Al-Zahrani, 2015; Bearden, 2016; Hill, 2015; Jones & Mitchell, 2016).

The normative behavior-based definition of digital citizenship that Ribble (2009) proposed was made up of nine categories which included etiquette, communication, education, access, commerce, responsibility, rights, safety, and security. These categories of digital citizenship behavior concern the operations and nature of digital citizenship. The main themes of digital citizenship, as categorized by Ribble, can be summed up in behaviors that respect,

educate, and protect others. Each of Ribble's main themes of digital citizenship have corresponding elements that describe appropriate behaviors that model good digital citizenship. For example, the theme of respect includes behavioral elements such as proper etiquette in electronic standards of conduct or procedure. One of the main motivations for using behavior-based definitions of digital citizenship, such as Ribble's, is addressing the dilemma of cyber safety (Al-Zahrani, 2015). Ribble (2015) considered his nine categories of digital citizenship relevant because they reflected a broad range of understanding that comprehensively covered the areas of behaviors particular to digital citizenship. Ribble saw behaviors as the primary concern when trying to understand digital citizenship. Other broad, multidimensional definitions of digital citizenship include elements such as technical skills, local and global awareness, networking agency, Internet political activism, and critical perspectives (Choi, 2016; Choi et al., 2018). Regardless of the definition used, educational settings should have the goal of classroom teachers modeling responsible, informed, and active digital citizenship behavior within a globalized and networked society (Choi et al., 2018).

Outcome-based, multidimensional definitions of digital citizenship are appropriate for studying digital citizenship perceptions. Multiple scholars have used outcome-based definition of digital citizenship in their studies (Choi et al., 2017; Emejulu & McGregor, 2016; Gazi, 2016). Choi, Glassman, and Cristol (2017) described digital citizenship as "abilities, thinking, and actions regarding Internet use, which allow people to understand, navigate, engage in, and transform self, community, society, and the world" (p. 12). Such definitions of digital citizenship focus on the positive outcomes of digital citizenship instead of the reactionary, behavior-based categories that Ribble (2015) proposed. The outcome-based categories of understanding, navigating, engaging, and transforming self are intended to focus the concept of

digital citizenship on the outcome needs of individuals instead of on the general behavior of all digital citizens. Scholars who use these categories choose to focus on desired outcomes within a specific educational context for the purpose of meeting the individual needs of students (Choi et al., 2017; Emejulu & McGregor, 2016; Gazi, 2016). Choi, Glassman, and Cristol emphasized the desired digital citizenship outcomes of successful navigation, engagement, and transformation of self in community, society, and the world. Other scholars have defined digital citizenship and emphasized desired outcomes such as individual development and successful existence in the constantly disrupted modern world of work and leisure (Emejulu & McGregor, 2016; Gazi, 2016). The variations in definitions of digital citizenship together create a multifaceted understanding of digital citizenship that includes elements of psychology, education, technology, and security.

The nine categories that Ribble (2004) used to define digital citizenship were developed as a way to understand the behavioral complexities of digital citizenship and the issues of technology use, abuse and misuse (Ribble, Bailey, & Ross, 2004). Other scholars argued that increasing societal use of digital tools demands that new generations establish definitions of digital citizenship that reflect modern values and digital identities (Jones & Mitchell, 2016; Kim & Choi, 2018). Instead of focusing on negative behavioral issues, complexities, abuses, and misuses of technology, as were highlighted in Ribble's definition of digital citizenship, some scholars have focused instead on positive, outcome-based aspects of respectful online civic engagement (Choi et al., 2018; Jones & Mitchell, 2016). To encourage positive digital citizenship outcomes, digital citizenship measurement scales which focus on positive aspects of digital citizenship instead of negative should be used to identify specific, student focused, and proactive digital citizenship education (Choi, Glassman, & Cristol, 2017; Kim & Choi,

2018).

Global Citizenship and Communities of Practice

The increasing societal use of the Internet has promoted digital citizenship education while advancing global citizenship and communities of practice. With the advances of digital tools, the risks associated with online access have necessitated digital citizenship education as a means of helping individuals understand and successfully interact with the digital world.

Heightened global Internet use has resulted in risks and benefits that make digital citizenship education imperative. Internet risks like Cyber bullying occur in a variety of contexts and preventions are often left in the hands of observers. Digital citizenship education should actively protect students helping them learn digital citizenship skills through authentic digital learning spaces.

Online communities extend worldwide. Digital citizenship includes an extended infrastructure of possible interaction between individuals and organizations from all over the world. Instead of being citizens of a local community, digital citizens become members of communities of practice. Communities of practice are groups of people who care about the same problems and topics, interact regularly, and learn from each other. Through communities of practice, knowledge sharing takes place through active thinking and learning, which results in an investment of identity and personal social formation (Pyrko, Dörfler, & Eden, 2017). Digital infrastructures, made possible through the Internet, play a crucial role in extending the scope of social interactions beyond local communities. Digital citizenship is also a heuristic concept, enabling individuals to discover for themselves how digital infrastructures can contribute to civic culture (Couldry et al., 2014). Digital citizenship promotes digitally based communities of practice, which provide individuals with intrinsically needed recognition as celebrated

contributors to social issues or interests.

Digital citizenship differs from national citizenship because of the global nature of communities of practice. National citizenship is based on circumstances of birth while global digital citizenship is based on voluntary association (Searson, Hancock, Soheil, & Shepherd, 2015). The significance of global citizenship lies within the voluntary associations that individuals make within communities of practice. Associations within communities of practice are not limited to cities, regions, states, nations, and international collectives but to wherever similarly minded individuals exist. Some scholars argue that global citizenship is a purely western point of view that represents priorities that are different in developing countries (Searson, Hancock, Soheil, & Shepherd, 2015). The Internet has created a new globally based social structure by providing a tool for the self-organization of social groups. These new social groups have influence and can rebalance power relationships by moving away from a mass society to localized networked societies that are based on the coexistence of different subcultures (Servaes, 2013).

Internet based communities of practice and other online interactions can put naïve students at risk. However, the risks associated with online access are outweighed by the modern necessity to authentically help students understand and successfully interact socially with the digital world (James, 2014; Moon, 2018; Ribble, 2015). Access to online tools and sites expose youth to a variety of legal and ethical choices. Adequate knowledge of security practices, rights and responsibilities, and online policies and laws are lacking among many modern students (Moon, 2018). Without adequate knowledge, access to online tools can expose unprepared youth to cyber bullying and online predators. Students may unintentionally expose personal information or be taken advantage of as online consumers. Students may also be naïve about

possible manipulation, valid authorship, biases, and misleading information (Baker, 2017; James, 2014; Moon, 2018).

Negative Internet issues include ethical choices such as the invasion of privacy, plagiarism, and racist speech. When these ethical choices occur online in a networked society, negative life consequences occur. Consequences can go deeper and be longer lasting through exposure and online storage databases (James, 2014). Exposure of personal information or photographs to unfiltered audiences can lead to cyber bullying. Cyber bullying, in turn, can lead to youth suicide in light of the humiliating publication and distortion of private acts (Casa-Todd, 2018). The exact nature of cyber bullying is difficult to identify, making prevention complicated. Cyber bullying occurs in a variety of contexts, and is a monolithic practice (Whittaker & Kowalski, 2015). Not only do the contexts vary in cyber bullying, but also the frequency in which it takes place. The venue, or place in which cyber bullying takes place is important, making certain venues more attractive cyber bullies than others. Venues are important because they gives bullies access to particular targets. Aggressive comments that are most often made online are directed toward random people, known only in online spaces. Currently, the most common venues for cyber bullying are social media sites such as twitter, Facebook, YouTube, and chat rooms. Twitter has been known to have the highest occurrences of bullying, whereas chat rooms have the lowest (Whittaker & Kowalski, 2015).

Victims and observers of cyber bullying typically do nothing in response. A primary focus of cyber bullying prevention has been to educate bystanders who hold power in their responses. When cyber bullying happens in social media venues, bystanders who are viewing the negative interaction between other people have the choice to prevent or perpetuate the behavior. Leaders in cyber bullying education, such as the International Society for Technology

in Education (ISTE), know the power that bystanders unwittingly wield and focus on positive stories of transformational interactions when educating the public. To illustrate the importance of bystanders taking action to prevent cyber bullying, real life stories that take place in common contexts have the most impact on educational efforts. An illustration of the power that one comment can make was told in the story of an overweight high school student who wanted to sell her previous year's prom dress. The resourceful student posted a picture of herself wearing the prom dress on a social media site, hoping to sell the dress to younger peers. The initial responses on the post were ones of derision, comments that mocked and put down the overweight girl who had made the social media post. The negative responses were relentless and stacked up until the point when other similarly bullied students might have considered suicide. Finally, one bystander commented on the prom dress post saying, "I think you look beautiful." The positive comments sparked other positive comments and snowballed, inspiring bystanders to take a stand for the bullied girl. In this story the passive onlookers became positive digital citizens and rallied around the prom dress girl, raising money to gift many beautiful dresses to other girls (ISTE, 2019). The story illustrates the power of positive proactive behavior, and teaches good digital citizenship in the common context in which cyber bullying takes place. Using real life stories in cyber bullying education is an effective way that educators, like ISTE, have found promote positive behavior.

Online communication can be indirect and very public, making bullying less personal and longer reaching. The venues in which cyber bullying takes place vary depending on the technology tools most in use by participants (Whittaker & Kowalski, 2015). The alternating nature of cyber bullying venues presents a shifting challenge for digital citizenship educators. Prevention and intervention efforts have the challenge of keeping up with changes in technology,

targeting the venues in which cyber bullying currently takes place. Venues of cyber bullying in common use as of the writing of this paper include electronic communication technologies such as e-mail, instant messaging, social media, online gaming, and digital messaging. The frequency of use of current venues may change in the future, making updated education an ongoing challenge (Whittaker & Kowalski, 2015).

Slanderous, bigoted or racial speech thought to be simply private bantering among online friends, has led to professional ruin when exposed online to the public (Casa-Todd, 2018). Internet users leave a digital footprint when they interact online. Digital footprints such as posts, images, or messages are stored online and can be retrieved years later by college admissions officer and future employers who want to corroborate positive applications. Students who do not understand the seriousness of their actions often overlook the public and permanent nature of online interactions (Martin, Wang, Petty, Wan, & Wilkins, 2018). These students need digital citizenship education with specific instructions on how to protect privacy, respect others' privacy, and how to guard personal information.

The digital footprints left through social media are particularly prevalent. In a study of 593 middle school students, Instagram, SnapChat, and YouTube were shown to be the most frequented social media sites used by students to connect with friends and share pictures (Martin, Wang, Petty, Wan, & Wilkins, 2018). The study reported that students had concerns about social media use, which included uneasiness with inappropriate postings, hacking, hurt feelings, lack of privacy, inappropriate pictures, bullying, and stalkers. Uneasiness with negative aspects of social media emphasize the potential dangers of leaving students without cyber-security education. Students who have a feeling that negative interactions on social media are not acceptable may not know how to take action and protect themselves and prevent unwanted

interactions. Amongst the middle school student studied by Martin, Wang, Petty, Wan, and Wilkins (2018), 40% reported that their parents gave them free access to social media, without supervision. Often, the responsibility for right behavior falls on the young shoulders of unsupervised students. To ensure proper use of technology, digital citizenship education can help students gain the awareness and capability of protecting themselves and their digital footprints.

Internet based privacy and protection issues affect not only vulnerable students but also the files, media, or other content that students access. Without proper education about privacy, copyright, plagiarism, fair use, and creative credit policies, students may illegally use and access Internet-based materials. Plagiarism on the Internet is a common issue that catches some Internet users unaware as to their illegal activities. With easy access to ideas, some Internet users have developed misconceptions of creative rights. Writers and musicians who are uneducated as to creative rights can illegally exercise what they believed were creative remixes (James, 2014). Although online ethical misconceptions have been blamed for digital misconduct, ethical disconnections are to blame when Internet users know the right thing to do, and choose not to obey. Online ethical disconnections occur when individuals consciously understands ethical choices but choose to dismiss them in favor of self-interests. In the gray area between ethical misconceptions and disconnections are online ethical blind spots. Ethical blind spots are when individuals are unconscious or naive concerning ethical choices and are motivated by self-interests (James, 2014). Both online ethical disconnection and blind spots are connected to a morally self-centered mindset in online users who disconnect online and offline ethical decisions (James, 2014).

Digital citizenship concerns impact political, economic, and predator avenues. Changes

and innovations in technology have altered the political and economic risk landscapes across the world and require modern individuals to be technologically aware and competent (World Economics Forum [WEF], 2017; Emmer & Kunst, 2018). According to the World Economics Forum (2017), by 2025, 90% of the world's population is projected to regularly use media devices and access the Internet (p.11). The National Center for Missing and Exploited Children's Cyber Tipline reported that child sexual exploitation is growing exponentially every year. Areas of exploitation include what is referred to as sextortion, involving the act of online coercion and blackmail with the intention of getting sexual photos and videos, money, or sex from children (NCMEC, 2017). The rising incidences of Internet related exploitation of children make Internet safety education a priority in the modern world (World Economics Forum [WEF], 2017).

Digital citizenship is made easier through Information and Communication Technologies (ICTs). Widespread use of ICTs is drastically transforming traditional interpersonal and mass media modes of communication around the world (Emmer & Kunst, 2018; Maguth, 2012). Digital citizens have a variety of options for how to be politically active. Through ICTs, information is easy to access and allows digital citizens to be well informed about political issues. Communication about political issues is made easier by ICTs and can be widely networked and interactive, allowing digital citizens to exert their citizenship roles (Emmer & Kunst, 2018; Maguth, 2012). Global digital citizenship behavior, such as accessing international news and information, collaborating in global networks, and producing digital content for international audiences has been connected to high levels of general technology use (Maguth, 2012). Use of ICTs is a core topic of political communication due to political freedoms that technology has granted digital citizens (Emmer & Kunst, 2018).

Patterns of Internet media use are related to civic engagement (Copeland & Fezell,

2017; Edgerly, Vraga, Bode, Thorson, & Thorson, 2018; Kahn, Lee, & Freezel, 2013; Martelli, 2017; Tang & Lee, 2013). The Internet plays a key role in exposing the public to civic issues. Tang and Lee (2013) argued that the two most prominent factors in civic participation include a direct connection with public political actors and exposure to shared political information. Digital media exposes shared political information and is the second most prominent factor influencing civic participation. In the information-rich world of the Internet, digital media naturally plays a central role in exposing people to shared political information. With such a broad exposure to information, people have the added challenge of safely and conscientiously establishing self-perceptions about their roles in the online world (Edgerly, Vraga, Bode, Thorson, & Thorson, 2018; Tang & Lee, 2013).

Young adults may feel uncomfortable engaging in political activities online (Kara, 2018). The reasons young adults may feel uncomfortable participating in political activities online have been connected to emotional disturbance, pressure from society, and fear of negatively affecting future lives (Kara, 2018, p. 172). In contrast to their fears, however, many young adults feel as though the Internet is effective in addressing social issues and can be an enjoyable environment for social collaboration (Kara, 2018). Kara (2018) studied 434 undergraduate students, the majority of which did not prefer to engage in political activism on the Internet. However, even though the students did not prefer to engage in political activism on the Internet, 57.65% believed in the effectiveness of engaging with political or social issues online. More than half of the students indicated that the Internet led them to reconsider their beliefs and that the Internet was important in helping change unjust or unfair issues. The majority of students studied by Kara indicated that they enjoyed online collaboration and communicating with other people online. Although the majority of students indicated their

enjoyment of online collaborations and interactions, the same majority also indicated that they prefer real-life collaborations. Inferences from the study by Kara suggested that young adults prefer real-life collaborations with the added support of online collaboration.

Youth use the Internet differently from older generations (De Marco, Robles, & Antino, 2014; Edgerly, Vraga, Bode, Thorson, & Thorson, 2018). Youth tend to be exposed to information through an array of media devices, sources, and services, whereas the older generation predominantly uses traditional sources of news (Edgerly, Vraga, Bode, Thorson, & Thorson, 2018). Although some youth use a variety of news sources, many avoid news and political participation (Edgerly, Vraga, Bode, Thorson, & Thorson, 2018). When youth engage in politics, they do so with different behaviors and through different avenues than older citizens. Scholars recommend future studies in the contemporary media environment in which youth are exposed to civic information (Edgerly, Vraga, Bode, Thorson, & Thorson, 2018).

In light of political and social benefits, youth need to be educated about the use of online digital tools (Blevins, 2014; Casa-Todd, 2017; Choi, 2016; Gazi, 2016; Jones & Mitchell, 2016). In an analysis about modern citizenship, Martelli (2017) stated that "Citizens cannot be fully integrated into modern society without a clear image of their position and role in digital spaces" (p. 1). Martelli promoted the need to understand personal digital roles and platforms for online interactions through social networking sites. Social networking sites allow people to come together and experience solidarity about common civic issues or agendas (Baek, 2018; Gleason & Gillern, 2018). A study by Baek (2018) showed that people became interconnected around local and global civic issues through social networking sites and, as a consequence, felt a responsibility toward civic engagement. Baek showed that social networking sites provided a platform for self-perceptions about local and global citizenship to be expressed. Political

researchers promote social media use because of the increased opportunities for citizens to share stories that create trust and build connections that lead to a shared vision for community development (Couldry et al., 2014).

Digital citizenship skills are primarily social and are best taught through social media use in both formal and informal learning spaces (Baek, 2018; Gleason & Gillern, 2018). Digital citizenship curriculum that incorporates use of social media tools emphasizes the real-life experiences, values, and personal interests of students. Social media is made possible through networked communications technology like Facebook, Twitter, YouTube, Instagram, and Snapchat. Online, networked communications increase participation of citizens by giving them a platform for expressing identities. In order to facilitate safe social media education, a strong connection between out-of-school and in-school social media use needs to exist to provide healthy modeling for students (Gleason & Gillern, 2018).

Through the widespread use of the Internet, Global citizenship and online communities require a new kind of digital citizenship. The risks and dangers of the online world necessitate digital citizenship education, teaching naïve students how to safely interact with the digital world. Educators can use authentic environments such as social media sites to model and guide students in safe, proactive behaviors. Through safe exposure to online information, civic engagement fears can be lessened and students can learn how to avoid common dangers such as breaking privacy and copyright laws and become unwitting supporters of cyber bullying. For digital citizenship education to be successful, teachers should be competent in digital skills and comfortable modeling good digital citizenship behavior.

Educator Competency in Digital Citizenship Skills

How can teachers prepare students for real world digital experiences? Educators have

tried simply instituting a 1:1 ratio of computers to students but often have disappointing results. The weight of successful digital education rests not only on access to technology but also on the shoulders of teachers. The digital competency of teachers influences the quality of digital citizenship education that students receive. Teachers who can integrate technological knowledge, pedagogical content knowledge, and learning objectives in the specific contexts of their classrooms can successfully use technology in education. Teacher modeling of good digital behavior is a key factor in digital citizenship education, making teacher deficits in digital skills particularly hindering to students. The literature base on digital citizenship communicates a clear need for improvement in digital citizenship education (Choi et al., 2018; Jones & Mitchell, 2016; Kim & Choi, 2018).

Recent initiatives have spent millions of dollars in efforts to provide every student with their own computer. These initiatives are called 1:1 programs and have varying success rates (Sauers & McLeod, 2018). Simply providing computers to students is not a magic pill that will solve problems in education. Teachers themselves must be competent users and proactive models of appropriate technology use and they instruct students how to use their computers. Initiatives that encourage 1:1 programs have shown that teachers who are required to teach their students through computers have higher competency rates (Sauers & McLeod, 2018). Being required to use technology helps teachers to see technology as a practical and beneficial skill to learn for the sake of their students. The infusion of technology in the classroom encourages teachers help students be better prepared for a technology infused world outside of the classroom.

Efforts to provide Internet content to students have often met with disappointing results (Sauers & McLeod, 2018). Implementations of 1:1 programs where every student receives a

device that can access the Internet, often focus on providing students access to Internet content without following up on appropriate use of content information once it has been accessed (Sauers & McLeod, 2018). Along with 1:1 scaled initiatives, pedagogical changes and learning outcomes should be equally emphasized. Without explicit modeling and instruction from teachers, the potential for technology to transform education will not be realized. Although technology can engage students, desired learned outcomes are not realized by the simple addition of technology. In the past, radio and instructional television were also hailed as a potential panacea or miracle pill for addressing the woes of education, particularly in regard to student engagement (Provenzo, 1986). These past initiatives failed to produce the desired outcomes. Similarly, the 1:1 computer programs today, will fail to achieve desired learning outcomes without being properly applied.

Since 2006, Technological Pedagogical Content Knowledge (TPACK) has been central in teacher professional development regarding technology use in the classroom (Rosenburg, Koehler, & Koehler, 2015). TPACK was developed because of the apparent lack in theory to guide technology applications in the classroom. The knowledge to teach specific content, otherwise known as pedagogical content knowledge, applies to teaching technology as much to as it does to other disciplines. To successfully teach through the medium of technology, classroom teachers not only need to know the subject areas, but also about the specific software and hardware of the technology devices being used. Content and technological knowledge make up technological pedagogical knowledge. TPACK refers the optimal place where technological pedagogical knowledge, pedagogical content knowledge, and learning objectives meet. The context of any given classroom is dependent on the successful interaction of TPACK (Rosenburg, Koehler, & Koehler, 2015).

Technological enhancements in education have a greater chance of successful application when teachers understand and teach the context and pedagogical content of technological resources. Emphasis on Context and Technological Pedagogical Content Knowledge (TPACK) in the classroom is important for effective learning. Teachers must understand how the knowledge of technology, pedagogy and content work together in their instruction. In the educational research regarding TPACK, context was often underemphasized (Rosenburg, Koehler, & Koehler, 2015). The meaning of context differs widely among teachers' educational beliefs. The diverse environment of modern classrooms and the challenges of technological applications, require that TPACK be understood and applied by teachers. Successful application of technology in the classroom requires teachers to transform the way they teach to include technology. Investments of 1:1 programs have been shown to impact teacher behavior, helping teachers understand the importance of competently teaching appropriate technology use. To be able to successfully teach appropriate technology use, not only content but also context and pedagogy must be understood by teachers. The combined interactions of the three components of content, pedagogy, and technology knowledge are necessary for successful instruction delivery through technology.

Digital citizenship education is dependent on educator modeling of appropriate use of technology and digital citizenship (Hicks et al., 2014; Robb & Shellenbarger, 2013). For students to be able to engage with and solve civic problems, they have to be able to learn how to navigate the technological complexities inherent in accessing technology so that they can communicate and collaborate with others in a global society (Hicks et al., 2014). The same argument extends to educators who struggle to use digital technologies in a global context. There are many factors that hinder effective teacher role modeling of digital citizenship skills.

Often, educators focus too much on the integration of technologies that improve teaching and learning not enough time on teaching students positive behaviors related to digital citizenship (Jones & Mitchell, 2016; Kim & Choi, 2018; Ullman, 2017). Digital citizenship should be less about the use of digital tools and more about facilitating and counseling students as they practice activities which encourage active and positive digital citizenship (Kim & Choi, 2018).

Digital citizenship is social in nature and can be effectively taught by teachers who model and guide students in social media use (Baek, 2018; Gleason & Gillern, 2018). Gleason and Gillern (2018) showed that the social media use of twitter in young adults helped development important digital citizenship practices. Students who participated in guided social media platforms, such as Twitter, developed skills that helped them understand political processes, create powerful and persuasive media, participate in political processes, influence legislation, and connect personal commitments and interests to systems, cultures, and histories (Gleason & Gillern, 2018). Gleason and Gillern showed that social media activities such as creating public service announcements and contacting elected officials create valuable opportunities for students to research critical issues and produce persuasive digital media. Through social media activities teachers can provide students with the skills needed to spread ideas through civic participation and engagement while interacting with various communities.

Many educators are deficient in digital skills and knowledge of what appropriate use of technology entails (Choi et al., 2018; Gazi, 2016). Some educators have admitted to knowing little about what the digital citizenship entails (Gazi, 2016). In a study by Gazi (2016) about digital citizenship perceptions, teachers guessed that digital citizenship had something to do with the use of technology, being followers of innovation, economic and information retrieval, appropriate movement towards us of technology, and knowledge of the roles within the Internet

(p. 142). As a result of incomplete understanding, educators sometimes negatively teach digital citizenship through fear-based tactics (Casa-Todd, 2017; Jones & Mitchell 2016). One of the major areas of digital citizenship education that is dominated by fear-based tactics is the proper use of social media. Scholars have gone so far as to argue that the fear of social media is one of the greatest barriers holding educators back from digital leadership. The fear surrounding social media primarily comes from educators who may not know what social media is or how to safely use social media as a learning tool (Casa-Todd, 2017).

Several key factors influence levels of digital citizenship among teachers. Key factors influencing digital citizenship include levels of political activism and critical perspective, levels of Internet self-efficacy, years of teaching experience, use of social networking sites in teaching, and personal Internet self-efficacy (Choi et al., 2018). Teachers need to value digital citizenship and perceive themselves as good digital citizens to effectively model and teach students to harness digital technologies and be digital citizens who avoid trolling and cyber bullying, respect others online, protect privacy and intellectual property, actively communicate with others online, and contact officials about social concerns (Choi et al., 2018). Five levels of conditions reflect good digital citizenship in teachers (Choi et al., 2017). Teachers need foundational levels of technical skills, local/global awareness, networking agency, critical perspective, and Internet political activism to optimally lead students as digital citizens. The five levels of conditions of digital citizenship build on each other. Technical skills in teachers are a condition necessary for using the Internet to interact in online communities as successful digital citizens. The condition of local/global awareness includes the ability to use digital tools to get information about social, political, economic, and cultural issues to raise personal awareness of facts and issues. The condition of networking agency reflects the ability of teachers to communicate, cooperate, and

collaborate on social issues through an Internet based community. The condition of a critical perspective requires critical thinking about political issues and areas of injustice, bias, and power structures. Finally, the condition of Internet based political activism builds on networking agency through engagement in online political actions. When the five levels of personal digital citizenship conditions exist in teachers, effective modeling of digital citizenship is made possible to students.

The five conditions of digital citizenship described above are dependent on subsequent conditions being met. Teacher training often focuses too much on the foundational condition of technical skills and not enough on higher-level conditions (Choi et al., 2018; De Marco, Robles, & Antino, 2014). Some educators consider Internet specific skills and psychological factors such as self-efficacy as the most important areas of emphasis for engaging students in social and civic activities (De Marco, Robles, & Antino, 2014; Paraskeva, Bouta, & Papagianni, 2008; Paul & Glassman, 2017). In contrast, a multidimensional concept of digital citizenship argues that all five conditions of digital citizenship should be emphasized (Choi et al., 2017). A multidimensional concept of digital citizenship extends past the basic conditions and takes a holistic view (Choi et al., 2018).

Teachers' digital citizenship skills directly influence the amount and quality of digital education students receives. Simply having a 1:1 ratio of computers to students in the classroom does not ensure effective student learning. Instead, teachers should integrate technological knowledge, pedagogical content knowledge, and learning objectives in the contexts of their unique classrooms. Effective teacher modeling incorporates positive, multidimensional digital citizenship education, which teaches technical skills, local/global awareness, networking agency, critical perspective, and Internet political activism. Without digitally competent teachers who

knowledgably integrate authentic digital learning spaces into lessons, students may not be prepared to be safe and proactive digital citizens.

Student Perceptions of Digital Citizenship

Seven out of every 10 teenagers engage with peers through social media multiple times a day (Herold, 2018). Social interactions are fundamental to good citizenship making digital citizenship education particularly important in the light of the high social media use among teens. The attitudes of students concerning digital citizenship concepts affect student digital behavior outside of the classroom. The impact of online social interactions can positively or negatively affect students. Social support mechanisms, such as respectful online communities, positively influence the digital self-efficacy and well being of students. The reverse is also true of negative online communities. Prevalent use of social media among youth requires that social media to be brought into the classroom to promote authentic learning and digital citizenship education. The wide range of digital skills and knowledge about digital citizenship among students makes targeted digital citizenship education imperative for equitable and effective learning.

Students care deeply about their online social interactions but are often unaware of appropriate use of digital tools (Blevins, LeCompte, & Wells, 2014; Choi et al., 2017; Glassman & Burbidge, 2014). Young adults may not be directly familiar with the term digital citizenship or the concepts involved (Kara, 2018). A recent study by Kara (2018) concerning the digital citizenship perceptions of undergraduate students showed that when students were introduced to the concept of digital citizenship, they initially thought that digital citizenship referred to individual online identities. Only a few undergraduate students understood some general concepts of digital citizenship, identifying elements of online services, online political activities,

online social and cultural activities, online ethical and moral issues, safety on the Internet, networking activities on the Internet, and online digital rights (p. 180). By paying attention to the opinions and perceptions that students have toward appropriate digital use, educators can ascertain targeted areas of digital citizenship that are important to students.

The attitudes and opinions of students about digital citizenship concepts shed light on student online behavior outside of the classroom (Hui & Campbell, 2018). Out of school use of the Internet by students makes digital citizenship education particularly important. In recent years, many schools have implemented digital citizenship education (Casa-Todd, 2018; 2014; Hill, 2015; Hui & Campbell, 2018). Some of the main digital skills crucial for modern students to possess include finding reliable information online, recognizing suspicious content, following online information privacy policies, and responsibly participating in the online, worldwide community (Hui & Campbell, 2018). Digital ethics is a central component of digital citizenship and includes honoring digital content, intellectual copyright, and the civil social environments of online communities (Brown, 2014). The concept of digital ethics closely relates to the concept of digital citizenship. Both are necessary for good digital citizenship and are sometimes understood conceptually by students but are not implemented outside of the classroom. At the heart of digital ethics is the goal of having adaptive and inclusive dialogue. Scientific, religious, ethical, and cultural perspectives should all be bridged through digital ethics, working to reconcile diverse viewpoints through shared values (Brown, 2014). Inclusive and respectful digital ethics can be challenging for student who have a closed mindsets, being comfortable in their own traditions and values. Originally, the Internet was intended as a digital space where ordinary people could read and produce professional materials (Brown, 2014). Ideas, beliefs, opinions, and passions are all readily accessible through the Internet. Anyone who is a part of

digital spaces has freedom to create and share their ideas or materials. However, same potential for sharing diverse ideas also creates the potential for amplifying biases and prejudices.

Students and society as a whole naturally adhere to the social paradigm of their home culture (Brown, 2014). The worldviews of students solidify biases because people are naturally attracted to others who have the same perspectives. In social media, the dominant social paradigm rules and often captivates digital interactions in both good and bad ways. The gravitation of people toward digital spaces that reflect homogenous worldviews creates a bubble of frequently visited sites, which reinforces biases. Web browsers often work on the assumption that viewers like homogenized content. User algorithms are based on particularities such as locations and recent searches to create filter bubbles of homogenized content (Brown, 2014). Instead of the Internet helping students to broaden their perspectives, often the reverse is true. Ideally, digital ethics education challenges students to act as good digital citizens, pushing open the doors of minds to respect and value the opinions of others. Sustainable digital citizenship education aims to provide students with the knowledge of how to use the Internet with an open and respectful mindset. In this way, students will not simply act ethically in class but will carry their ethical practices out into the world, sustaining the digital citizenship lessons learned in the classroom. Brown (2014) suggested a series of activities specifically intended to build sustainable education through digital ethics. The first step of Brown's lessons requires students to search and synthesize the content pertaining to a chosen issue on a website. The students then write down any initial responses and biases to the content that they felt. The next stage has students further explore and analyze their resource by tagging and categorizing content according to the perspectives of the authors. Central to this step is when students identify the content creators own biases. In the final state, students look deeply at their own responses and consider how their

posts may enrich the discourse and encourage dialogue through consensus of common challenges. Through such methods, self-awareness of student perspectives concerning digital ethics can be better understood.

Student perceptions that are listed on a survey do not always match up with student behavior outside the classroom (Hui & Campbell, 2018). It is one thing for students to say they believe something, but another thing to put beliefs into action when authority figures are not watching. In a study by Hui and Campbell (2018) student perceptions about digital citizenship were shown to reflect an appreciation of ethical and right behavior concerning digital access and digital communication. However, outside of the classroom, the students were shown to disagree about digital law and trivialized digital etiquette, health, and wellness. The challenge of connecting classroom digital citizenship behavior with digital behaviors outside of the classroom is one of the primary challenges in education (Gleason & Gillern, 2018). Good digital citizenship behavior outside of the classroom is of particular concern to educators because the personal motivations and engagements of students naturally flow into online public participation and social activities. Students want to post about their own opinions concerning socially relevant topics. These posts in turn contribute to and inform public dialogue. Students engage civically and influence civic awareness whether or not the students are aware of their impact. For this reason, successful student centered education that impacts out of the classroom behavior are of particular interest in digital citizenship education. Gleason and Gillern (2018) connected student engagement with the incorporation of social media in the classroom. Student engagement was shown to extended from inside of the classroom to outside of the classroom when social media and relevant social topics were incorporated in the formal education. The use of social media in the classroom was shown to develop learning networks that connected students' online

engagement with formal classroom based citizenship curriculum.

Successful digital citizenship manifestations outside of the classroom are tied to the inherently social nature of digital citizenship. Students have shown successful digital citizenship engagement through relevant social activities that were first taught in the classroom (Gleason & Gillern, 2018). These relevant social activities tapped into the interests of students and were carried from the classroom to students' private lives. Activities that successfully transferred out of the classroom included creating and distributing Public Service Announcements (PSAs), contacting government representatives, and communicating values and commitments through Twitter (Gleason & Gillern, 2018). The action of commitment that students demonstrate when they publically distribute PSAs or contact government officials solidifies emotions concerning opinions. Motivation stems from a foundation of action, helping students formulate in their own hearts, minds, and values personal values. When students publically stand for personal values, they impact societal issues as active citizens.

Although student may have good intentions concerning using online resources, digital laws can be unintentionally broken. Opinions and awareness among students about digital law vary in regard to legal areas such as Internet freedom, ownership of data, policy development, digital law enforcement, fair punishment for digital lawbreakers, and international regulations regarding online laws (Hui & Campbell, 2018). Plagiarism is one of the primary areas of digital law that is commonly broken by students. Sometime students may not even realize they are plagiarizing. Free access to large databases of Internet content have shaped students' perceptions of ownership. Plagiarism involves copying other peoples' ideas without given the original author credit. However, plagiarism is not technically illegal unless a copyright infringement occurs (Moorman & Pennell, 2017). Various schools police plagiarism differently, making

plagiarism education inconsistent. The reason that student opinions differ about digital law is due to confusion about proper digital etiquette. The concept of digital etiquette not only refers to plagiarism infringement but also concerns issues like cyber-bullying, online slandering, and data privacy (Hui & Campbell, 2018). Digital etiquette inside and outside the classroom is a primary concern of digital citizenship education.

When students confidently believe they understand when and how to use digital resources, they have good digital self-efficacy. Young adults who have good digital self-efficacy also tend to have good digital citizenship skills (Al-Zahrani, 2015; Chiu, Huang, Cheng, & Sun, 2015). When students perceived themselves as being able to confidently use technology, they also trust themselves to effectively integrate technology into daily lives, respecting others in online environments (Al-Zahrani, 2015). Self-efficacy positively affects digital citizenship, reflecting the importance of self-perceptions in digital citizenship. Computer self-efficacy has been connected to the concept of respect in online communities and environments (Al-Zahrani, 2015; Chiu, Huang, Cheng, & Sun, 2015). Students who have high levels of computer self-efficacy also value respectful, and proper online communities where respect is shown and given (Al-Zahrani, 2015; Chiu, Huang, Cheng, & Sun, 2015). Respectful environments are a repeated priority of digital users (Al-Zahrani, 2015; Kassam, 2013). Students who most actively promote respectful environments have higher computer self-efficacy as well as high levels of computer experience (Al-Zahrani, 2015). With high levels of computer experience, increased instances of safely seeking and exchanging information follow (Al-Zahrani, 2015; Kassam, 2013). Social support mechanisms, such as respectful online communities, affect the digital self-efficacy and well being of individuals (Al-Zahrani, 2015; Chiu, Huang, Cheng, & Sun, 2015). When external prestige and community distinctiveness are perceived in online support communities, positive

online interactions results (Chiu et al., 2015). Online community citizenship refers to unpaid support of online communities (Chiu et al., 2015, p. 504). Scholars argue that happiness and satisfaction in online social lives play a crucial role in representing subjective well-being in the virtual world (Chiu, Huang, Cheng, & Sun, 2015; Ong, Chang, & Lee, 2015). In addition to the benefits of happiness and satisfaction, social support through online communities is crucial in buffering stress by protecting community members from the pathogenic effects of stressful situations (Chiu, Huang, Cheng, & Sun, 2015).

At the forefront of digital citizenship education is the proper use of social media (Bearden, 2016; Casa-Todd, 2016; Xu, Yang, MacLeod, & Zhu, 2018). Social media is a widely used digital tool, which allows students to connect in online settings. Educators often try to limit social media use in the classroom (Bearden, 2016; Casa-Todd, 2016; Kara, 2018; Xu, Yang, MacLeod, & Zhu, 2018). Prevalent use of social media among youth outside of the classroom requires social media to be brought into the classroom to promote authentic learning. Students will likely use social media whether or not they are taught appropriate use in the classroom. One student who was asked not to use social media replied to his teacher saying, "Sir, social media is like water. It is everywhere. You can either let us drown or teach us to swim" (Casa-Todd, 2017, p. 103). The student's sentiment appropriately expressed the value that youth place on being socially connected through digital platforms such as social media. In support of social media, a study of undergraduate perceptions of digital citizenship found that the majority of students indicated that social media was their most preferred online activity (Gazi, 2016). Digital citizenship education is necessary to help youth appropriately navigate the world of social media and other digital platforms (Choi et al., 2017; Gazi, 2016).

Students bring a wide range of digital skills and knowledge about digital citizenship to

the classroom (Choi et al., 2017; Gazi, 2016; Hicks et al., 2014). Digital citizenship education in schools can help equalize digital skills in students. In modern classrooms, one to one device programs are becoming a required tool for learning (Moon, 2018). One to one device programs provide each student with a personal digital device that is intended as a digital platform supporting online testing, collaboration, and the development of critical research and thinking skills. The inclusion of personal devices in education can expose students to harmful digital dilemmas like cyber bullying, online predators, and negative digital reputations (Common Sense Education, 2018; Moon, 2018). Educational institutions that integrate mandatory one to one device programs can unintentionally provide their students with unlimited access to digital environments where digital knowledge gaps among students exist (Hui & Campbell, 2018; Moon, 2018). In school and out of school digital environments expose students to online risks that educators can mitigate by closing the digital knowledge gap through digital citizenship education that gives students and teachers tools for keeping themselves aware and safe in online environments (Hui & Campbell, 2018; Moon, 2018).

Students view digital citizenship through social lenses (Casa-Todd, 2016; Gazi, 2016). In a study by Gazi (2016), students who were asked to define citizenship guessed that it had something to do with being able to express themselves better through social communication. This response confirms the strong adolescent need to socialize. Most students use digital tool to access social media (Herold, 2018). Digital tools are an avenue of socialization that educators often want to take away from the classroom environment but instead should be using as a learning tool in the classroom (Bearden, 2016; Casa-Todd, 2016; Xu, Yang, MacLeod, & Zhu, 2018). Adolescents need ongoing adult help in sorting out and processing feelings even as they attempt to separate from adults into their own social identities (Barth, 2015;

Wang & Xing, 2018).

Social identities among students can be aided through digital citizenship education, which incorporates appropriate use of social media. Social interactions through social media can reduce communicative conflicts through social ties. Communicative conflicts may arise through digital spaces where many different types of people may interact. Social media users often choose digital spaces, which reflect personal interests. For example, the interactions of diverse individuals in a sports-centered digital space focus on common interests instead of differences. Successful interactions with heterogeneous individuals in digital spaces can serve as further motivation for future communication with diverse populations. In a study by Kim and Kim (2019), social media usage was positively related to collective self-esteem. The study studied social media spaces in college sports as a measurement of communicative effects. Findings showed that group identity and willingness to interact with diverse individuals were increased by shared interactions through social media. The digital perceptions and priorities of students can be used to an advantage in the modern classroom (Hill, 2015; Tingir, Cavlazoglu, Caliskan, Koklu, & Intepe-Tingir, 2017). Using the digital skills that many modern students possess, such as familiarity with mobile phones and video game navigations, can meaningfully connect learning to students' lives. Higher achievement scores have been documented in groups that used mobile devices in the classroom (Tingir, Cavlazoglu, Caliskan, Koklu, & Intepe-Tingir, 2017). Video game creation, which has been incorporated into educational lessons, has resulted in higher engagement, innovation, and motivation of completed tasks by students (Hill, 2015). By using the digital skills and priorities of students, higher levels of learning can be accomplished (Hill, 2015; Tingir, Cavlazoglu, Caliskan, Koklu, & Intepe-Tingir, 2017).

Students naturally long to identify with a group to develop meaningful beliefs, attitudes,

and behaviors. Social identity theory suggests that the beliefs attitudes, and behaviors of individual do not fully form until the person becomes a member of a group (Kim & Kim, 2019). As a result of social identity, people tend to describe themselves in terms of the shared beliefs and interests inherent in the group in which they belong. When identity is strongly linked to community groups, emotional attachment is naturally placed on the identities found within the group. Emotional identities include a commitment to defend one's groups as well as one's self-perception of personal group membership (Kim & Kim, 2019). As groups interact, identities are formed when common ideas are identified and consensual grounding of similar social and political views are solidified. An individual's identity is derived from their group's identity, making the social structure of groups a fundamental space for social development and collective self-esteem.

The widespread rate of teens using the Internet for social interactions makes digital citizenship education a fundamental element in helping students use their social interactions as platforms for positive community growth. Student perceptions of digital citizenship reflect unfamiliarity with the term digital citizenship together with a deep interest and concern for digital interactions. Challenges in digital citizenship education occur in connecting digital behaviors both inside and outside of the classroom. Social support mechanisms, such as respectful online communities, affect the digital self-efficacy and well being of individuals, making the proper use of social media important in digital citizenship education. With the wide range of digital skills among students, equitable education efforts must be made to even the digital playing field, helping every student gain technical and conceptual knowledge of how to be good digital citizens.

Summary

Digital citizenship education is like a survival kit for students as they navigate the potential beauty and dangers of the Internet jungle. Digital citizenship education teaches students how to appropriately use digital tools, particularly in online social interactions. As online interactions have increased through the years, the definition of digital citizenship has grown to represent transformations of self, community, and society through proper Internet usage. Social online interactions have created global citizenship through communities of practice, which are not tied to common geography but rather to shared interests. Teachers serve as fundamental models for students as they take digital citizenship skills learned in the classroom out into the unsupervised digital world. It is not enough for 1:1 initiatives to simply give every student their own computer or device. Digitally competent teachers must understand the context of their unique classrooms, discover the digital needs of their students, and deliver targeted and authentic lessons. Real life, digital lessons are necessary because student identities are tied with contributions to online communities. Understanding context specific digital deficiencies and strengths amongst teachers and students can lead to effective digital citizenship education.

CHAPTER THREE: METHODS

Overview

To promote effective digital citizenship education, this study used a causal-comparative design to identify commonalities between teacher and student perceptions of digital citizenship. A self-report questionnaire using Choi, Glassman, and Cristol's (2017) Digital Citizenship Scale (DCS) was used to survey online, secondary students and teachers from an Oregon statewide, web-based school. An independent sample *t*-test was used to compare the two naturally occurring, independent groups. This chapter details the procedures followed when collecting the data and analyzing the results from the DCS questionnaire.

Design

A quantitative causal-comparative design was used in this study to identify commonalities between student and teacher perceptions of digital citizenship. A causal-comparative design was used because the statistical differences among the means of the two dependent variable groups was analyzed (Warner, 2013). The two dependent variables were online, secondary students and online, secondary teachers. Online, secondary students are defined as students in grades 6-12 who are enrolled in an online school. Online, secondary teachers are defined as teachers who instruct students in grades 6-12 in an online homeroom class or other online setting. The independent variable is digital citizenship perceptions referring to how an individual perceives his or her own level of digital citizenship. Individuals demonstrate digital citizenship through their abilities to use technology and through their active involvement as critical members of online communities. Digital citizenship occurs during everyday life when individuals make digital decisions that can impact local, national, and global issues (Choi et al., 2017). The dependent and independent variables were compared to determine

if there was a significant difference of perceptions between the two groups. The two dependent variable groups are naturally occurring groups and have not been controlled, making a quantitative causal-comparative design appropriate.

Research Question

RQ: Is there a significant difference in digital citizenship perceptions between online, secondary students and teachers?

Null Hypothesis

H₀: There is no statistically significant difference in digital citizenship perceptions between online, secondary students and teachers.

Participants and Setting

The student participants in the study were drawn from a convenience sample of online, secondary students currently attending an Oregon, web-based schools during the 2019/2020 school year. According to the Oregon Department of Education (2018), about half of the students at the Oregon, web-based school were lower income with 51% of students receiving free and reduced lunch. Within the student body, 17 languages were spoken with 5% of the students being English language learners. Students with disabilities constituted 12% of the student population. The web-based school was well attended with a 95% regular attendance rate. The gender population of the entire student body was 51% males and 49% females.

The teacher participants in the study were drawn from a convenience sample of online, secondary teachers currently teaching in an online, Oregon school during the 2019/2020 school year. There were 102 total online, secondary teachers at the participating school. The teacher population consisted of 77 females and 25 males (see Table 2). The expressed interest and

willingness to support the study on the part of the school administrators of the Oregon statewide school influenced its selection in this study.

A sample size consisting of 114 students and 93 teachers was conveniently selected from an online Oregon school. Potential participants were selected based on the criteria that participating students and teachers were secondary students or teachers currently enrolled or teaching at the participating online school. The participating student group consisted of 80 females, 31 males, and 3 who preferred not to disclose. The teacher group consisted of 72 females and 21 males. The student group consisted of 89 White, 0 Black, 4 Hispanic, 3 American Indian, 2 Asian/Pacific Islander, 12 Bi-racial, 2 other, and 2 preferred not to disclose (see Table 1). The teacher group consisted of 87 White, 0 Black, 2 Hispanic, 0 American Indian, 1 Asian/Pacific Islander, 2 Bi-racial, 1 other, and 1 preferred not to disclose (see Table 2). A sample size of 207 total participants satisfies the requirements of a medium effect size with an alpha level of $\alpha = .05$ and a statistical power of .7 (Gall, Gall, & Borg, 2007).

Table 1*Student Demographic Characteristics*

Variable	% (N)
Age (N=114)	
13-15	54% (62)
16-18	46% (52)
Gender (N=114)	
Male	27% (31)
Female	70% (80)
Prefer not to answer	3% (3)
Ethnicity (N=114)	
White	78% (89)
Black	0% (0)
Hispanic	3% (4)
American Indian	3% (3)
Asian/Pacific Islander	2% (2)
Bi-racial	10% (12)
Other	2% (2)
Prefer not to disclose	2% (2)

Table 2*Teacher Demographic Characteristics*

Variable	% (N)
Age (N=93)	
25-45	66% (61)
46-65	34% (32)
Gender (N=93)	
Male	22% (21)
Female	77% (72)
Prefer not to answer	0% (0)
Ethnicity (N=93)	
White	92% (86)
Black	0% (0)
Hispanic	2% (2)
American Indian	0% (0)
Asian/Pacific Islander	1% (1)
Bi-racial	2% (2)
Other	1% (1)
Prefer not to disclose	1% (1)

Instrumentation

With permission, Choi, Glassman, and Cristol's (2017) digital citizenship scale (DCS) was used as the survey instrument in this study (see Appendix F). The DCS instrument was appropriate for this study because the questions appropriately measured the abilities, perceptions, and levels of participation of young adults in an Internet based population. In addition, the DCS

was chosen for this study because it had been used in other similar studies, which aimed to show common characteristics in a specific population (Choi et al., 2018; Kara, 2018). Researchers who used the DCS emphasized that more focused analysis of common characteristics in a population resulted in better understanding of digital citizenship needs in target groups (Choi et al., 2018). Some researchers have measured digital citizenship using less focused questions and found a broader range of results (Al-Zahrani, 2015; Jones & Mitchell, 2016; Nordin et al., 2016). Studies that have used more specific questions produced a more consistent range of results (Choi et al., 2018; Kara, 2018; Kim & Choi, 2018). Through comparisons of these studies, the simpler digital citizenship scale developed and used by Choi et al. presented the most specific range of questions appropriate for the online, secondary students and teachers sampled in this study.

The instrument consisted of a two-part questionnaire (see Appendix F). The first part of the questionnaire contained nine multiple-choice background and Internet usage questions. The second part contained Likert scaled questions from one to five, where one was strongly disagree and five was strongly agree. The DCS contained the four categories of digital ethics (questions 1-6), media and information literacy (questions 7-21), participation engagement (questions 22-32), and critical resistance (questions 33-37).

An exploratory factor analysis (EFA) conducted on the DCS resulted in the 26-item, five-factor model that Choi, Glassman, and Cristol (2017) developed. Nine items measure Internet political activism, four items measure technical skills, two items measure local/global awareness, seven items measure critical perspective, and four items measure networking agency. The five-factor categories were calculated for reliability. The first factor of Internet political activism had a Cronbach's alpha of 0.83. The second factor of technical skills had a Cronbach's alpha of 0.84. The third factor of Local/Global Awareness had a Cronbach's alpha of 0.89. The fourth

factor of Critical Perspective had a Cronbach's alpha of 0.80. The fifth factor of networking agency had a Cronbach's alpha of 0.67. Altogether the Cronbach's alpha for all five items was 0.88. Construct validity was tested on the DCS using correlation analysis with Internet self-efficacy and Internet Anxiety Scales. Positive correlations were shown between the DCS and Internet self-efficacy (0.57, $p < 0.01$), confirming construct validity. Significant negative correlations were found between the DCS and Internet anxiety (-0.22, $p < 0.01$). When measured, the magnitude between the DCS and Internet self-efficacy was moderate whereas the magnitude between the DCS and Internal anxiety was weak. Confirmatory factor analysis cross-validated the five-factor, 26 item DCS with the second half of the sample ($n = 254$) originally tested by Choi, Glassman, & Cristol. Most items were found to have moderately high loadings on their respective factors, and the final model resulted in a good fit of a relative chi-squared ($X^2/d.f. < 0.20$).

Procedures

The superintendent of the participating Oregon web-based school was contacted through email with a letter explaining the parameters of the study as well as possible benefits to participating stakeholders (see Appendix B). Approval for the research proposal was obtained from the Institutional Review Board (IRB). All necessary participant consent forms were obtained. Access to the emails and phone numbers of participating teachers were obtained through staff directories. The school registrar provided access to the emails of participating students. Student privacy and safety were guarded through emails sent using blind carbon copy group emails. Access to the emails of the parents of participating students was obtained through the Student Information System of participating schools. Parent privacy and safety were guarded through emails sent using blind carbon copy group emails. Consent from participating teachers

were gathered through an email containing an explanation of the study and consent form delivered through a Google form (See Appendix E). Parents of participating students were emailed an explanation of the study with consent form delivered through a Google form (see Appendix C). Participating students received an emailed explanation of the study along with an assent forms delivered through a Google form (see Appendix D).

After consent forms were obtained from participating students and teachers, a questionnaire was delivered through staff meetings, school newsletters, homeroom course content, and school email addresses. Questionnaires were delivered to participating teachers through staff meetings, school newsletters, and school email addresses. Teachers and students only completed questionnaires by accessing a private Google form link accessible through Google compatible school email accounts. Questionnaires were delivered to students through school email addresses and online, homerooms classes. Participating homeroom and content area teachers included the student questionnaire as an optional assignment in their digital course content using a private link to a Google form. Teachers or students were not able to see the personal questionnaire answers of other participants. Teachers who agreed to participate and deliver questionnaire forms received training through emailed directions on how forms should be introduced, delivered, and collected (see Appendix E). Collection of the study consent forms and questionnaires were automatically delivered through Google forms to the secured email of the researcher. When an insufficient sample of participants was initially collected, additional requests were delivered to potential participants through additional emails, newsletters, and phone calls until a sufficient sample size fulfilling a medium effect size was obtained. The data was securely stored in a password secured digital file or in a locked file cabinet.

Data was collected in spreadsheet form through Google sheets. The data was composed of the responses to the Likert scale questions on the study questionnaire. The Google form used was configured so that participants had to answer every question. Questionnaire forms were sent to participants through email, link, or embed code. Responses to the questionnaire were kept private and were only viewable to the researcher who generated the form. Data was displayed in Google sheets in rows and columns with timestamps displayed in a spreadsheet format. The researcher received an email generated from a Google forms notification setting when questionnaires were completed. Once the questionnaires were completed, data from the Google sheets was downloaded as Excel/CSV files and then loaded in SPSS statistic for analysis.

Data Analysis

In this causal-comparative study, the mean scores of two groups, student perceptions and teacher perceptions, were compared to determine whether the two groups were significantly different from each other. An independent sample *t*-test was appropriate for this study because it determines the level of statistical significance of an observed difference between sample means, such as the two group means in this study (Gall, Gall, & Borg, 2007). The sample *t*-test, using the large sample size in this study, was appropriate because it is fairly robust to violations of the four assumptions mentioned. The null hypothesis of this educational study was to be rejected if the *t* value reached a significance level of $p < .05$. In this study, the dependent variables, digital citizenship perceptions of students and digital citizenship perceptions of teachers, were compared to each other to determine if a statistical difference between the two groups existed. The independent sample *t*-test was appropriate because the two samples that were compared were independent from each other, the participants having been assigned to just one group (Warner, 2013, p. 189). Within group correlations were guarded against by private, computer-based

completion of a questionnaire by participants. Opportunities for influence within groups were limited by private answering of questions from home-based computers.

The use of the *t*-test in this study was based on four assumptions about the obtained scores from the sample groups (Gall, Gall, & Borg, 2007). The first assumption was that scores from the two sample groups formed an interval/ratio scale of measurement. The Likert scale method of measurement used in the DCS instrument fulfills the ratio scale measurement requirement. The second assumption tested normality to determine if the population distributions in the study were normal. Histograms of scores were used to examine and assess normality of distribution. A Kolmogorov-Smirnov test, chosen because the sample size was greater than 50, was used to test whether the shape of the distribution of scores differed significantly from a normal curve (Warner, 2013, p. 153). The quantitative data from the dependent variables were examined to assess the normality of distribution and to identify any outliers (Warner, 2013, p. 221). The third assumption of extreme outliers was tested using box and whisker plots of scores within each group. The fourth assumption of Equal Variance was assessed using the Levene test to determine if the population variances were equal. Non-significance was determined through a Levene test, which determined the F ratio or the ratio of between-groups variance to within-groups variance (Gall, Gall, & Borg, 2007). In addition, the assumption of random sampling was used to test if the participant sample was a random sample from the population. A convenience sample was used for this test. A sample size of 207 total participants satisfied the requirements of a large effect size with an alpha level of $\alpha = .05$ and a statistical power of 0.70 (Warner, 2013). The convention used to report the effect size was the Cohen's *d*, describing the difference between two means through the terms of standards deviations (Warner, 2013, p. 104).

CHAPTER FOUR: FINDINGS

Overview

This study was conducted with the purpose of better understanding the commonalities or differences between teacher and student perceptions of digital citizenship, defined by the norms of behavior with regard to technology use. The study's one research question asked if there was a significant difference in digital citizenship perceptions between online, secondary students and teachers. The study analyzed student and teacher perceptions pertaining to four main categories including digital ethics, media and information literacy, participation engagement, and critical resistance. Attention was given to the differences in mean responses within questions and within overall categories. The standard deviation was also studied to show how uniform student and teachers were in their responses. Student and teacher perceptions were disaggregated for the purpose of examining any differences among subgroups pertaining to gender, where Internet was accessed, main purpose, frequency of use, ethnicity, and device used. Results indicated that the majority of participants were white females. Histogram charts with normal curve displayed were utilized to visually reflect differences in student and teacher digital citizenship perceptions concerning categorical questions. Results confirmed the null hypothesis, that there is no statistically significant difference in digital citizenship perceptions between online, secondary students and teachers.

Research Question

RQ: Is there a statistically significant difference in digital citizenship perceptions between online, secondary students and teachers?

Null Hypothesis

H₀: There is no statistically significant difference in digital citizenship perceptions between online, secondary students and teachers.

Descriptive Statistics

Online, secondary student and teacher perceptions of digital citizenship were examined to determine if there was a statistically significant difference between the two groups. To determine student perceptions of digital citizenship, 1330 parents from one online school were invited to have their secondary students participate in the study. Of the 1330 parents invited, 114 students participated, for a return rate of 8.65%. To determine teacher perceptions of digital citizenship, 102 secondary teachers from one online school were invited to participate. Of the 102 teachers invited, 93 participated, for a return rate of 91%.

Continuous data was taken from Likert scale questionnaire responses with a range from one to five, where one was strongly disagree and five was strongly agree. The 37 perception questions represented four main categories of digital citizenship including digital ethics (questions 1-3), media and information literacy (questions 4-21), participation engagement (questions 22-32), and critical resistance (questions 33-37). The 37 digital citizenship perception questions were examined to determine mean differences between groups. Standard deviation of means showed variations in the uniformity of responses (see Table 3).

Table 3

Descriptive Statistics

	Position	N	Mean	Std. Deviation	Std. Error Mean
DCS	Student	37	2.5495	1.02323	.16822
	Teacher	37	2.9268	1.09647	.18026

The demographic characteristics from the student sample included information about age, gender, and ethnicity (see Table 1). The ages of student participants include 54% within the age range of 13-15, and 46% with the age range of 16-18. The gender of the student participants included 70% (n = 80) females, 27% (n = 31) males, and 3% (n = 3) who preferred not to answer.

The demographic characteristics from the teacher sample included information about age, gender, and ethnicity (see Table 2). The ages of teacher participants include 66% within the age range of 25-45, and 34% with the age range of 46-65. Both student and teacher participants responded to questions about what devices they used to access the Internet, what websites they visited to find out about political, economic, social, and cultural issues, how frequently they accessed the Internet in different locations, and the main purpose of their Internet use. In response to questions about what devices they used to access the Internet, students most commonly used mobile/smart phones while teachers most commonly used both mobile/smart phones and laptop computers (see Tables 4 & 5). In response to what websites they most often visited to find out about political, economic, social, and cultural issues, students primarily answered that they used the TV/radio, while teachers answered that they used new websites (see tables 6 and 7). In response to how frequently they accessed the Internet in different locations, students and teacher both answered that their home was the most frequent location (see tables 8 and 9). In response to the main purpose of their Internet use, students most frequently used the Internet for entertainment while teachers most frequently used the Internet for homework/research (see Tables 10 & 11).

Table 4*Student Device Usage*

Device	Frequency	Percent
Mobile/Smart Phone	51	44
Tablet PC	8	7
Laptop Computer	43	38
Desktop Computer	9	8
Other	3	3
Total	114	100

Table 5*Teacher Device Usage*

Device	Frequency	Percent
Mobile/Smart Phone	46	49
Tablet PC	1	1
Laptop Computer	45	48
Desktop Computer	1	1
Other	0	0
Total	93	100

Table 6*Student Sources of Information*

Device	Frequency	Percent
News Websites	24	21
Social Networking Sites	31	27
Blogs	1	1
TV/Radio	39	34
Other	19	17
Total	114	100

Table 7*Teacher Sources of Information*

Device	Frequency	Percent
News Websites	51	55
Social Networking Sites	22	23
Blogs	1	1
TV/Radio	16	17
Other	3	3
Total	93	100

Table 8*Student Frequency of Internet Access by Location*

Frequency	Home % (N)	School % (N)	Work % (N)	Public Places % (N)	Other Places % (N)
Multiple times a day	88% (101)	34% (38)	5% (5)	7% (8)	9% (10)
Daily	9% (10)	23% (26)	8% (8)	11% (12)	14% (15)
Weekly	2% (2)	6% (7)	7% (7)	15% (17)	14% (15)
Monthly	1% (1)	3% (3)	0% (0)	15% (17)	15% (16)
Less than once a month	0% (0)	4% (4)	2% (2)	28% (31)	27% (29)
Never	0% (0)	30% (34)	79% (83)	23% (26)	21% (22)
Total	(114)	(112)	(105)	(111)	(107)

Table 9*Teacher Frequency of Internet Access by Location*

Frequency	Home % (N)	School % (N)	Work % (N)	Public Places % (N)	Other Places % (N)
Multiple times a day	91% (85)	51% (42)	73% (68)	11% (10)	7% (6)
Daily	6% (6)	6% (5)	10% (9)	13% (12)	12% (10)
Weekly	2% (2)	2% (2)	6% (6)	38% (35)	33% (28)
Monthly	0% (0)	5% (4)	4% (4)	10% (9)	8% (7)
Less than once a month	0% (0)	1% (1)	2% (2)	15% (14)	23% (20)
Never	0% (0)	34% (28)	4% (4)	13% (12)	17% (15)
Total	(93)	(82)	(93)	(92)	(86)

Table 10*Student Main Purpose of Internet use*

Purpose	Frequency	Percent
Entertainment	64	56
Homework/Research for school	37	33
Searching for news	0	0
Visiting social media sites	12	11
Total	113	100

Table 11*Teacher Main Purpose of Internet use*

Purpose	Frequency	Percent
Entertainment	23	24
Homework/Research for school	36	39
Searching for news	15	16
Visiting social media sites	19	20
Total	93	100

Results

To analyze whether there were significant differences between the mean perception scores of students and teachers, an independent samples *t*-test was performed using mean responses of digital citizenship perception scores as the dependent variable. Survey data was screened for data entry errors before running statistical tests. Data entry errors were found in 14 teacher answers and 48 student answers because of apparent confusion surrounding some questions. For example, when participants were asked how much they disagreed or agreed with the statement, I sometimes download materials (e.g., music, movie, software, etc.) illegally on the Internet, they answered four times to match the four examples given in the question. In these cases, data entry errors were adjusted to show the averages of the four answers. When two answers were mistakenly given, the average of the two answers rounded to the nearest whole number was taken. One data entry error was produced by a student who was not in the required age category and therefore was unqualified to take the survey. The unqualified student data was removed from the sample.

Assumption Testing

The four main assumptions included the assumption that the two sample groups formed an interval/ratio scale of measurement, the assumption that the population distribution was normal, the assumption that there were no extreme outliers, and the assumption that the population variances were equal. The first assumption was fulfilled through the Likert scale method of measurement used in the DCS instrument. The Likert scale used ratio scale measurements to determine the digital citizenship perceptions of students and teachers based on scaled responses to 37 questions with answers ranging from one to five, where one was strongly disagree and five was strongly agree.

The second main assumption was that the population distribution of the sample was normally distributed. Descriptive statistics showed that the valid number of student participants (N = 96) was comparable to the valid number of teacher participants (N = 91). A Kolmogorov-Smirnov test was used to determine normal distribution because the sample size was greater than 50 (Warner, 2013, p. 153). Based on the results of the Kolmogorov-Smirnov test, the dependent variables had a necessary *p*-value greater than .05, suggesting that the dependent variable data was normally distributed (see Table 12).

Table 12

<i>Tests of Normality</i>			
	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
DCS	.080	74	.200*

*. This is a lower bound of the true significance.

The third assumption of outliers was checked using box and whisker plots for each group (see Figure 1). No extreme outliers were found in the student group or the teacher group.

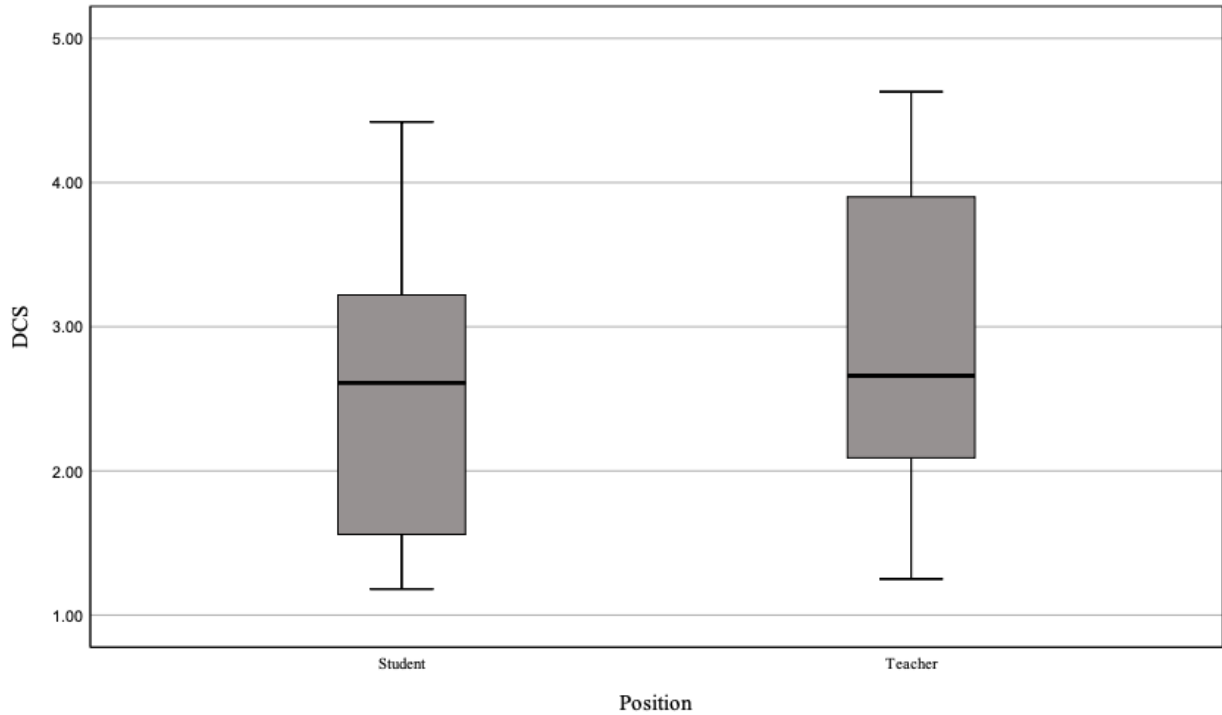


Figure 1. Box and Whisker plot of student and teacher groups.

The fourth main assumption of the independent samples *t*-test was that the population variances were equal. The Levene's test was used to determine non-significance through the F ratio or the ratio of between-groups variance to within-group variance (Gall, Gall, & Borg, 2007). The Levene's test indicated that the assumption of equal variance was met ($p > .05$) signifying no difference between the variance of the student group and the variance of the teacher group (see Table 13). The sample size of the study was relatively large ($n > 30$ in each group) with fairly equal groups (student $N = 96$, teacher $N = 91$), making the independent sample *t*-test a fairly robust choice (Warner, p. 192).

Table 13
Levene's Test

		Levene's Test for Equality of Variances	
		F	Sig.
DCS	Equal variances assumed	.316	.576

Hypothesis

An independent *t*-test was used to test the null hypothesis based on a two-tailed critical value of ± 1.671 ($\alpha = .05$, $df = 72$) no significant differences in student and teacher perceptions were found, and the null hypothesis was not rejected. Student and teacher digital citizenship perceptions did not differ significantly $t(72) = -1.530$, $p = .130$, $d = -.353$, 95% CI [-.869, .114]. The mean for the Student group ($M = 2.55$, $SD = 1.02$) was not significantly different from the Teacher group ($M = 2.93$, $SD = 1.10$). These findings do not support the idea that there is a significant difference in digital citizenship perceptions between online, secondary students and teachers (see Tables 3 & 14). The researcher failed to reject the null hypothesis that there is no statistically significant difference in digital citizenship perceptions between online, secondary students and teachers.

Table 14*Independent Samples Test*

		t	df	Sig.	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
DCS	Equal variances assumed	-1.530	72	.130	-.37730	.24656	-.86880	.11421

Teachers and students responded similarly in the four digital citizenship categories of digital ethics, media and information literacy, participation engagement, and critical resistance (see Figure 2). Answers were based on a Likert scale from 1-5 where one was strongly disagree and 5 was strongly agree. In the category of digital ethics, average teacher responses were 3.69 (SD = .77) and average student responses were 3.44 (SD = 1.147). In the category of literacy information, average teacher answers were 3.13 (SD = .96) and average student answers were 2.84 (SD = 1.17). In the category of participation engagement, average teacher answers were 2.41 (SD = 1.15) and average student answers were 1.84 (SD = 1.03). In the last category of critical resistance, average teacher responses were 2.87 (SD = 1.06) and average student responses were 2.53 (SD = 1.60). When scores from all four digital citizenship categories were averaged together, no significant difference in digital citizenship perceptions between online, secondary students and teachers was found.

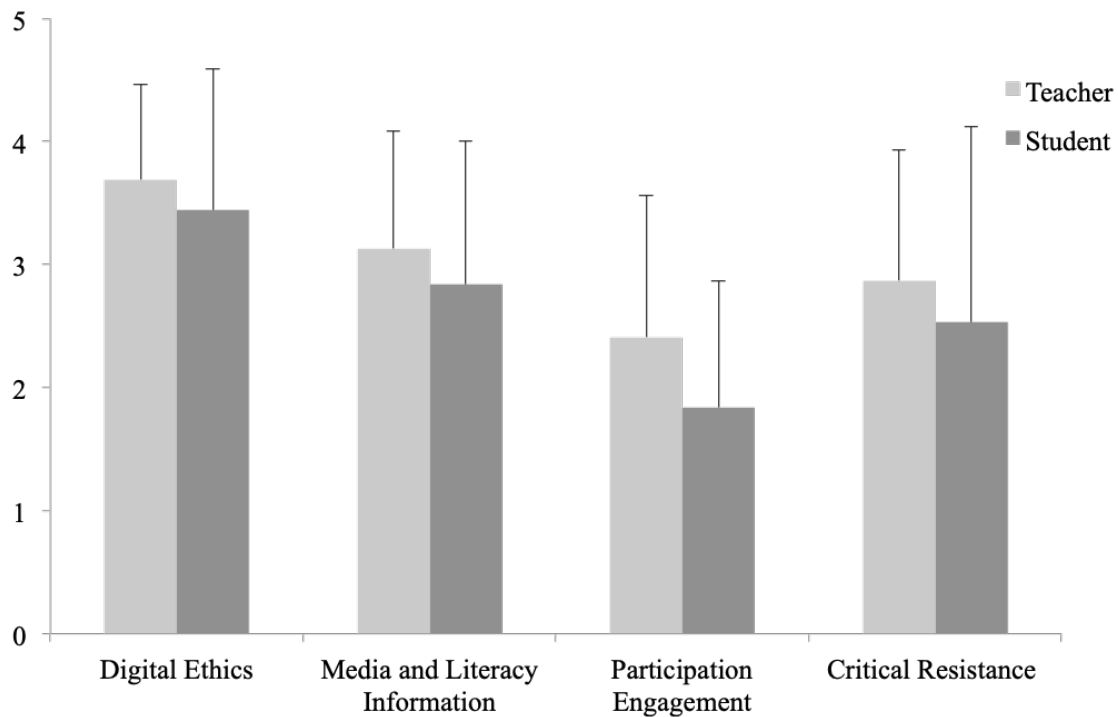


Figure 2. Bar chart of student and teacher mean scores in the four categories of digital citizenship.

The study was conducted with the purpose of analyzing the commonalities or differences in the digital citizenship perceptions between online, secondary students and teachers in the same population. Descriptive statistics of the 114 student participants and 93 teacher participants indicated that the majority of student and teacher participants were white females. Continuous, ratio scaled measurements from Likert scaled responses were used to measure the mean responses between two comparable, large sample groups. No significant differences were found between the overall mean digital citizenship perceptions of online, secondary students and teachers.

CHAPTER FIVE: CONCLUSIONS

Overview

The digital citizenship perception of online, secondary students and teachers were analyzed to determine if a significant difference existed. The results of the study supported theoretical concepts pertaining to digital citizenship. The concepts of critical approaches to technology and networked societies are reflected in the societal character of participants in this study. The results of the study both affirmed and questioned conclusions from other digital citizenship studies. Results of the study imply areas of specific need in the four categories of digital citizenship. The area of most need implies that both students and teachers are deficient in proactive digital citizenship activities concerning social or political issues. Limitations of the study included unclear instrument questions and potential online compromises such as non-optimal conditions, possible parent involvement, and limiting technological competence among participants. Recommendations for future research include targeted follow up research on each of the four categories of digital citizenship. Follow up research could provide targeted training in one of the four categories and use the same instrument as was used in this study or other similar measurements to determine growth. The data gathered from this study opens a window for targeted improvements in digital citizenship education.

Discussion

The purpose of this study was to identify commonalities or differences between teacher and student perceptions of digital citizenship, defined by the norms of behavior with regard to technology use. The study used an independent sample *t*-test to measure the mean responses between students and teachers regarding digital citizenship skills and participation. The research question asked if there was a significant difference in digital citizenship perceptions between

online, secondary students and teachers? In light of the results, literature, other studies, and theory, the research question can be answered, showing that there is no statistically significant difference between online, secondary student and teacher perceptions of digital citizenship.

The results of the study relate to other theoretical concepts. The theoretical concepts of critical approaches to technology and networked societies relate to the concept of digital citizenship because they both promote the healthy development of societal character through interfacing identities in the space of the modern networked world (Choi et al., 2017; Feenberg, 2002; Kirkpatrick, 2018). The results from the study are in line with the concept of critical approaches to technology and networked societies because the study indicates the level of awareness and involvement of students and teachers regarding digital citizenship issues.

Feenberg (2002) argued that technology use is an expression of the character of the society in which it is being used. Modern technology, specifically the use of the Internet and social media sites, reflects the identity and social character of a modern global society. The results of the study showed that a subset of society, students and teachers in a specific population, used digital technology with similar degrees of confidence and competency. Both students and teachers in the study indicated that they somewhat enjoy communicating with others online, but the two groups also indicated that they do not enjoy collaborating with others online more than offline. This sentiment was supported in other responses where both students and teachers indicated that they do not often express their own feelings, thoughts, ideas or opinions through Internet posts. Both students and teachers in the study expressed that they do not often comment on other people's writings in news, websites, blogs, or social networking sites that they visit. Students and teachers also both responded that they do not regularly post thoughts related to political or social issues online. Neither did students or teachers say that they often express their opinion

online to challenge dominant perspectives or the status quo with regard to political or social issues. Results of the study showed that both students and teacher feel like the Internet somewhat represents their culture and ethnicity and that the Internet reflects the biases and dominance present in offline power structures. These results suggest that although digital technology use and the mainstream content on the Internet somewhat reflects the character of modern society, students and teachers may contribute marginally.

The results of the study confirmed the concept of the spatial transformation of a networked society. Similar to the concept of critical approach to technology, spatial transformation of a networked society holds that when the elements of technology, globalization, and networking interact, a new networked society is formed (Castells, 2002). Spatial transformation happens when the space in which people live is reconstructed by transformations in communication, transportation, and telecommunications systems such as transformations made possible by widespread Internet use. Castells argued that one of the main challenges of a network society is when people have the desire to be rooted in local identity but are pulled away by the advantages of globality, such as social and economic competition. Results of the study reflected this pull but also reflected the desire of students and teachers to be rooted in local identity. The study showed that both students and teachers did not enjoy collaborating with others online more than they do offline. Results also showed that both students and teachers did not think that online participation was a very effective way to engage with political or social issues. In addition, both students and teachers indicated that they were not more politically engaged online than offline. This response reflects the conflict inherent in the concept of spatial transformations, suggesting that students and teachers really do want to be rooted in local identity.

Digital infrastructures, made possible through the Internet, can facilitate digital citizenship and extend social interactions beyond local communities, providing online communities of practice made up of people who care about the same problems and interact regularly (Couldry et al., 2014; Pyrko, Dörfler, & Eden, 2017). Study results indicated that students and teachers do not often participate in communities of practice surrounding political or social issues. Both students and teachers largely said that they do not belong to online groups that are involved in political or social issues. Study results also suggested that students and teachers do not often work with others online to solve local, national, or global issues. In addition, neither students nor teachers thought that online participation was a very effective way to make change to something they believed to be unfair or unjust. Both groups did not consider the Internet as very influential in making them rethink beliefs regarding a particular issue or topic. Study results showed that students do not actively collaborate with others online about political and social issues. Also, students indicated that they do not often organize or sign petitions about social, cultural, political, or economic issues online. Neither did students indicate that they work or volunteer for a political party or candidate via online methods. In contrast, Kara (2018) argued that many young adults feel as though the Internet is an effective way to address social issues and can be an enjoyable environment for social collaboration. Kara caveated that young adults may feel uncomfortable engaging in political activities online because of emotional disturbance, pressure from society, and fear of negatively affecting future lives.

To successfully interact with the digital world as good digital citizens, students need to be able to handle the Internet ethically. In a study by Moon (2018), adequate knowledge of security practices, rights and responsibilities, and online policies and laws were shown to be lacking among students. In comparison, the results from this study show that students believe similarly

to teachers that their private information is somewhat secure when they use the Internet. Students and teachers also indicated that they do not often download materials (e.g., music, movies, software, etc.) illegally from the Internet. These results suggest that students and teachers are confident in their personal Internet security and generally obey ethical guidelines surrounding illegal downloading of Internet materials. Similarly, students and teachers indicated that they do not post pictures or videos of people they know online without their permission and are careful with others' feeling when they write online. These responses reflect a positive self-perception of digital ethical among the online, secondary students and teachers in this study.

To promote digital citizenship education, millions of dollars have been spent to provide students with their own computers in 1:1 program initiatives (Sauers & McLeod, 2018). The current study was conducted on a sample population of students who attended an online school and, consequently, all the students had their own computers. Sauers and McLeod (2018) argued that simply providing computers to students does not magically solve problems in education. Instead, competent teachers who are models of appropriate technology use play a larger role in good digital citizenship education. The current study results suggested that students wanted to connect to others about issues in an offline environment more than online. These results align with Sauers and McLeod, and their emphasis on the importance of a teacher role model. Even though the students in the current study all had their own computers and were regularly participating in online schooling, the students still indicated the desire to connect offline about issues, suggesting that online environments were not personal enough. Sauers and McLeod argued that without explicit modeling and instruction from teachers, the potential for technology to transform education could not be realized. Results in the current study agree and showed that students did not strongly believe that Internet-related issues (e.g., privacy, censorship,

information access, networking) affected their lives. These results suggest that effective modeling, such as that promoted by Sauers and Mcleod, may not be happening. Other similar studies agree, arguing that digital citizenship is social in nature and is effectively taught by teachers who model and guide students in appropriate technology use (Baek, 2018; Gleason & Gillern, 2018).

The social nature of digital citizenship and the importance of direct teacher modeling was emphasized by Gleason and Gillern (2018) and promoted by the results of the current study. Good digital citizenship can be enhanced by appropriate social media use but needs to be coupled with the effective modeling and guidance of teachers (Baek, 2018; Gleason & Gillern, 2018). In the study by Gleason and Gillern, students who participated in guided social media platforms were shown to develop skills that helped them understand political and social issues and use effective avenues to promote change. In the current study, 31% of students said that social networking sites were their primary means of finding out about political, economic, social, and cultural issues. Similarly, 22% of teachers said that social networking sites were their primary means of finding information. If social networking sites play an influential role in informing both students and teachers about issues, then personal participation and engagement in these sites is important for good digital citizenship. In contrast to the students in Gleason and Gillern's study, the students surveyed in the current study responded that they did not regularly post thoughts related to political or social issues online. Similarly, teachers in the same population responded that neither do they regularly post thoughts related to political or social issues online. Both students and teachers also indicated that they do not express their opinion online to challenge dominant perspectives or the status quo with regard to political or social issues. The current study also indicated that neither students nor teachers believed that online

participation was a very effective way to engage with political or social issues. Consequently, neither students nor teachers indicated that they often participated in online groups that are involved in political or social issues. This appears to be a deficit in both the student and teacher population and may indicate the lack of modeling by teachers with regard to the participation engagement aspect of digital citizenship, as Gleason and Gillern's study suggested was important.

The results of the current study showed a lack of digital skills in students, which contrasted the digital skills deemed crucial by Hui and Campbell (2018). A study by Herold (2018) showed that seven out of every ten teenagers engaged with peers through social media multiple times a day. The current study similarly showed that 88% of students accessed the Internet multiple times a day from their homes. Hui and Campbell emphasized that the out-of-school use of the Internet by students makes digital skills crucial. Hui and Campbell argued that the crucial digital skills that students need for appropriate at-home Internet use includes finding reliable information online, recognizing suspicious content, following online information privacy policies, and responsibly participating in the online, worldwide community. Students in the current study indicated that they had varied confidence in all the crucial digital skills indicated by Hui and Campbell. In regard to the skill of finding reliable information online, students in the current study indicated that they do not often evaluate the news, blogs, and other content they read or watch online in terms of reliability, truth, or accuracy. In regard to the digital skill of following online information and privacy policies, students in the current study indicated that they hardly ever download materials illegally from the Internet. Students in the current study also indicated that they hardly ever post pictures or videos of people they know online without their permission. In Hui and Campbell's study, students surveyed in the classroom indicated that

they appreciated online ethical and right behavior, but outside of the classroom they were shown to disagree about digital law and trivialized digital etiquette. Students in the current study indicated that they somewhat enjoy communicating with others online, but do not post comments or participate in online groups concerning political or social issues. The results of the current study emphasized that students regularly use the Internet but may not have all the necessary digital skills deemed crucial by Hui and Campbell.

Results from the current study relate to research by Brown (2014), which argued that algorithms on the Internet are based on particularities such as locations and recent searches, creating filter bubbles of homogenized content. This same filtered content may be the reason why student and teacher participants in the current study felt like their culture and ethnicity were somewhat represented when they accessed the Internet. Concerning Internet content, the current study showed that students and teachers only believe somewhat that a few people or organizations control most of the information received through the Internet. The ability to recognize biases is an element of digital citizenship called critical resistance. The current study may indicate that the critical resistance of the students and teachers surveyed is lacking in comparison to the awareness promoted by Brown. Brown suggested that teachers, such as those in the current study, could promote critical resistance through activities, which require students to identify personal biases and then intentionally post responses that enrich discourse and encourage dialogue through consensus of common challenges. The current study showed that although student and teacher participants were somewhat aware of biases, they did not often participate in online discussions of social or political issues. These results suggest that students and teachers may be passive in their digital citizenship, not actively expressing critical resistance through actions, such as those promoted by Brown.

The digital self-efficacy reflected in the current study contrasts the digital citizenship correlations found in the study by Al-Zahrani (2015). Students in Al-Zahrani's study, who had high levels of digital self-efficacy, most actively promoted respectful environments where increased instances of safely seeking and exchanging information occurred. Al-Zahrani argued that to achieve good digital self-efficacy, students must have social support mechanisms such as respectful online communities. The current study indicated that students and teachers were somewhat confident in their ability to use digital technologies, find information online, and find and download applications online. The apparent digital self-efficacy of the students and teachers in the currently study did not fit with the correlations in Al-Zahrani's study which argued that students with digital self-efficacy were also actively involved in respectful online communities. In contrast, students in the current study indicated that they had somewhat good digital self-efficacy but did not often participate in online groups involved in political or social issues, neither did students indicate that they often worked with others online to solve local, national, or global issues. These findings may contradict Al-Zahrani's argument that good digital self-efficacy promotes good digital citizenship.

The current study asked whether there was a significant difference in digital citizenship perceptions between online, secondary students and teachers. Results indicated that there was no statistically significant difference in digital citizenship perceptions between the online, secondary students and teachers studied. Student and teacher responses did not differ significantly, specifically indicating that both groups had moderate to low levels of digital citizenship awareness and engagement. The results of the current study both supported and contrasted concepts, literature, and research surrounding digital citizenship, suggesting that the digital world is as unique as it's digital citizens.

Implications

The null hypothesis of the study was not rejected, indicating there is no statistically significant difference in digital citizenship perceptions between online, secondary students and teachers. Implications of these findings are found in the similarly low perceptions of both students and teachers. The responses of each question were based on a Likert scale from 1-5, where one indicated that the participant strongly disagreed with the statement and 5 indicated that the participant strongly agreed with the statement. Implications were drawn from the level of mutual disagreement or agreement between groups. Responses indicated a moderate to low level of digital citizenship perception between both groups regarding specific areas of digital citizenship. Implications regarding digital citizenship needs were gathered when the digital citizenship perception questions were analyzed according to their category. Specific similarities in digital citizenship perceptions regarding digital ethics, media and information literacy, participation engagement, and critical resistance implied strengths and areas of needed growth among online, secondary students and teachers.

Digital Ethics Implications

In the digital citizenship category of digital ethics, students gave an average response of 3.44, and teachers gave an average response of 3.69, implying that students and teachers are moderately aware of Internet related issues such as privacy, censorship, information access, and networking. The implications are that both students and teachers are somewhat aware of Internet related issues but would benefit from increased instruction and mentorship. Further implications are that students and teachers are only somewhat aware of the privacy dangers of the Internet and somewhat confident of their own security. The lack of complete confidence by students and teachers implies that they have not set up adequate security measures when providing private

information online, resulting in unease. Implications are that proper education and implementation regarding Internet security measures is needed. Both student and teacher groups have moderate perceptions of digital ethics but could both improve through heightened awareness of Internet related issues and increased application of security measures.

Media and Information Literacy Implications

In the category of media and information literacy, students responded with an average answer of 2.84. Similarly, teachers responded with an average answer of 3.13. The implications of these answers are that students and teachers are moderate in awareness and application of media and information literacy. Although some existing competency exists, increased awareness and application of media and information literacy is needed. Implications can be drawn from the similar level of responses to questions concerning student and teacher ability to confidently utilize technology.

Higher responses were gathered in questions regarding confidence in technology use. Both students and teachers were confident in their own ability to access the Internet through digital technologies. Students and teachers were also moderately confident in their ability to use digital technologies to achieve goals. Similarly, students and teachers were moderately confident in their ability to use the Internet to find the information they needed. These responses imply that students and teachers are fairly confident in their ability to utilize technology for the purposes of achieving goals, finding information, downloading applications, or ordering goods. Needs in the category of media and information literacy must then come from other areas. Both students and teachers also answered fairly confidently that they were aware of global or political issues online. The lower responses occurred when both students and teachers indicated that they were not very proactive participants online regarding social or political issues. The low online

participation responses among students and teachers imply that both groups are deficient in digital citizenship activities surrounding social or political issues and need encouragement and training in this area.

In the study, students and teachers answered with moderate confidence with threes and fours that they regularly evaluated online materials such as news, blogs, and other content that they read or watched online in terms of reliability, truth or accuracy. Implications are that students and teachers sometimes evaluate online materials, but not always. In the study questions regarding the representation of culture and ethnicity, students and teachers answered moderately with threes that their ethnicity was represented on the Internet. To the same degree, both students and teachers answered moderately with threes that they thought their culture was somewhat represented online. Demographic information revealed that the study population was predominately white. Demographic questions showed that 78% of student participants were white, 10% biracial, 3% Hispanic, 3% American Indian, 2% Asian/Pacific Islander, and 4% other or prefer not to disclose. Similarly, demographic questions showed that 93% of teacher participants were white, 2% Hispanic, 2% biracial, 1% Asian/Pacific Islander, and 2% other or preferred not to disclose. The similarity in student and teacher answers regarding culture and ethnicity, together with demographic information, indicates that both groups share a common culture and similar ethnicity. The answers to the cultural and ethnicity questions, together with the demographic information imply that the Internet may represent white ethnicities more than other ethnicities.

Participation Engagement Implications

In the category of participation engagement, students and teachers answered low with an average answer of 1.84 for students and an average answer of 2.41 for teachers. The implication

of these low answers is that both students and teachers have room for improvement in the digital citizenship category of participation engagement. For example, students and teachers answered low, with one and twos, regarding participation in online groups or meetings involved in political or social issues. Similarly, students and teachers indicated low with ones and two that they attended online political meetings or public forums on local, town, or school affairs. Both students and teachers indicated with low ones that they did not often work or volunteer online for political parties or candidates. Both the student and teacher answers were low on the Likert scale, implying that neither group participated often in online groups or meetings, and both groups could improve. Similar low responses of ones and twos were given to questions regarding actively working with others online to promote change. Students and teachers indicated that they do not often work with others online to solve local, national, or global issues. Neither did students or teachers indicate that they often contact government officials or sign online petitions about social, cultural, political, or economic issues. Both student and teacher responses were low, but the reasons for the low scores may be answered by subsequent questions concerning belief in the effectiveness of online activism. When asked, students and teachers indicated by ones and twos that they were not more socially or politically engaged online than offline. Students indicated, with ones and two, similarly to teachers that they do not think online participation promotes offline engagement. In addition, both students and teachers gave similarly low responses when asked if they thought online participation was an effective way to engage with political or social issues. Low responses to these questions imply that students and teachers have little belief in the effectiveness of online activism, which is a possible reason for the low participation of students and teachers in online groups or activities.

Critical Resistance Implications

In the category of critical resistance, overall students answered moderately with an average answer of 2.53. In comparison, teachers similarly answered moderately, with an average answer of 2.87. These answers imply that both students and teachers have a moderate grasp and application of critical resistance but have room to grow. With these responses, students and teachers implied that they do not often resist or challenge the status quo and promote social justice online. Students and teachers indicated unbelief that only a few people control most of the information on the Internet, through moderate answers in the twos and threes. Similarly, students indicated with twos that they were not very given to rethink beliefs regarding a particular issue when they used the Internet. The implications are that students and teachers do not strongly believe in the influential power of the Internet on their lives. The moderate answers of the students and teachers also imply that the belief needed to promote social justice is not strong in students and teachers and may be the reason for inaction. In confirmation of this implication, students and teachers indicated with low ones that they did not use the Internet to participate in social change or protest.

The implications from the four main categories of digital citizenship suggest the need for targeted improvements in digital ethics, media and information literacy, participation engagement, and critical resistance. The low scores of both groups implies that there is room for growth within both student and teacher groups. Implication for specific areas of action are drawn from analyzing the low responses to specific questions. Out of the four digital citizenship categories, both students and teachers in the category of participation engagement gave the lowest answers. Implications are that the greatest area of need for online, secondary students is promotion of participation engagement activities.

Limitations

The previously presented results and discussion of this study contained several limitations concerning causal-comparative design limitations, unclear question structure, and potential online compromises. The causal-comparative design has inherent limitations in that there are often variables other than the independent variable that can have an impact on the dependent variable. In addition, causal-comparative research designs are limited in that they cannot build random samples because the participants have already been influenced, making the results only applicable to the population being studied, not to the general public (Salkind, 2010). A causal-comparative design was justified for this study because of convenience and an inability to manipulate the variables.

Another limitation of this study was the unclear structure of the chosen instrument's survey questions. Initial results of the study questionnaire revealed that many students misinterpreted the number of answers required for particular questions, such as questions that included examples at the end. Participants misinterpreted these types of questions as needing multiple responses for each of the examples given at the end of the question. Students misunderstood that they only needed one overall answer for each question. There was justification in using the structure of the survey questions because of the pre-existing validity of the instrument chosen for the study. In the future, adding additional directions specifically describing the number of required answers per question could mitigate confusion surrounding the unclear structure of the survey questions.

Another limitation of this study concerned the limited ability to enforce conditions for survey completion. The survey was delivered online and consequently had potential for non-optimal conditions, such as a loud environment or parent input. Another similar limitation of the

online survey involved constraints surrounding parent involvement and technological competence. The survey required parent permission, so the study was potentially limited to youth who had parents who were technologically competent and involved enough to check their email and follow the survey directions for their child. Using an online survey was justified because of the geographically dispersed student population in the participating online school. The online survey was further justified under the assumption that students and parents were likely accustomed to participating in school instruction and activities online, mitigating the limiting parent competency factor of the technologically based survey. In the future, online survey limitations, such as controlling conditions for completion and parent competency, may be possible to overcome through comprehensive phone calls following the emailed survey invitation. Through personalized follow-up phone calls, parents can be encouraged to follow optimal survey condition. Follow-up phone calls can also be used to help less technologically confident parents access the survey and understand the online questionnaire process.

Recommendations for Future Research

After considering the results and conclusions of this study, it is recommended that the field of education make targeted follow up research based on data found in the four main areas of digital citizenship. The purpose of this study was to investigate the potential commonalities or differences between educator and student perceptions of digital citizenship or norms of behavior with regard to technology use. The study aimed to add to existing literature that emphasized the importance of digitally competent and inclusive teachers, and their impact on student digital citizenship (Gazi, 2016; Kaarakainen, Kivinen, & Vainio, 2018; Tingir, Cavlazoglu, Caliskan, Koklu, & Intepe-Tingir, 2017). This study and key existing studies, measured digital citizenship perceptions of teachers and students for the purpose of identifying areas of need in both

populations (Choi, Cristol, & Gimbert, 2018; Choi et al., 2017; Gazi, 2016; Kara, 2018). Unlike previous studies, this study quantifiably studied teachers and students together in the same population to better identify common or differing digital citizenship needs. The main needs found in the four categories digital citizenship in this study could further encourage and guide education.

The first recommendation for a future study could be a targeted causal-comparative study on the digital citizenship categories of digital ethics and critical resistance. In the category of digital ethics, study results indicated that students and teachers were moderately confident, answering with threes and fours, in their awareness of Internet related issues such as privacy, censorship, information access, networking, and security. In the category of critical resistance, students and teachers indicated lower confidence, with high twos and threes, that they resisted or challenged the status quo on the Internet and were aware of controlled information on the Internet. Both student and teacher groups answered in the moderate range, implying that increased education and engagement with digital ethics and critical resistance is needed. Future researchers could use the data collected and conduct targeted training to see if training makes a difference. Recommendations for future research would be to conduct specific digital ethics and critical resistance training where teachers lead students in training materials specifically concerning Internet related issues. The same digital citizenship scale instrument used in this study could also be used as a follow up measurement tool provided before and after training, indicating digital ethics and critical resistance growth among the same sample population.

A second recommendation for a future study could be solely targeted on the practices and challenges of teaching media and information literacy. This study indicated that students and teachers had moderate confidence in their awareness and application of media and information

literacy. Future research could build on the preexisting competency of students and teachers as a springboard for specific media and literacy education studies. A future study could solely focus on media and information literacy education, surveying teachers with the aim of identifying challenges in teaching and modeling appropriate use of media and information literacy to students.

A third, and most needed recommendation for future study could be conducted on the digital citizenship category of participation engagement. In the study, neither group indicated high belief in the effectiveness of online activism in political or social issues. Both students and teachers also indicated low participation engagement in groups or activities surrounding political or social issues. These results imply that belief in the effectiveness of online activism may be to blame for low student and teacher participation engagement. Recommendation for future study would be to specifically teach about the effectiveness of online activism and then re-administer the digital citizenship scale used in this study to determine growth.

The results of this study provide targeted data, which could aid future research relevant to the specific digital citizenship needs of students and teachers. The purpose of this study was to identify areas of commonality or difference in digital citizenship skills between students and teachers. Now that those areas have been identified, future studies can target digital citizenship needs and apply relevant training, studying the affects of such training against the comparative data found in this study. The identified digital confidence of students and teachers shown in this study can also be utilized in future studies, helping to build on existing knowledge and strengthen digital citizenship education.

Conclusion

The digital citizenship perceptions of online, secondary students and teachers measured in this study indicated no significant difference between the two groups. The digital citizenship categories of digital ethics, media and information literacy, participation engagement and critical resistance used in this study will likely change as new technology use is shaped by societal influences. Feenburg (2002) theorized that societal needs are especially relevant only for the current time frame in which they are being used because technology use is a reflection of societal character. The character of society today can be understood through studies like this one, which measure how educators and their students perceive their own digital citizenship behaviors. The results of this study may only be relevant for a limited window of time as society continues to change, making action imperative for relevantly meeting digital citizenship needs. This study indicated that the digital citizenship needs of both students and teachers are relevant. Students and teachers are stronger in some areas of digital citizenship than other areas, implying that areas of focus could be applied to areas of greatest need. Study results for the population surveyed indicated that perception pertaining to digital ethics and media and information literacy of both students and teachers were moderate, implying that both groups have a fair grasp of these areas already. In contrast, results from the digital citizenship category of participation engagement indicated that students and teachers were low. These results imply that focus should be placed on modeling and relevant education for both students and teachers in the category of participation engagement. The highest digital citizenship need was found in the category of participation engagement. Both students and teachers indicated low proactive engagement in addressing social and political issues online. Similarly both groups indicated a moderately low grasp and application of critical resistance online, implying that participation engagement and

critical resistance are the most needed area of targeted digital citizenship growth for both students and teachers. Educators wishing to improve digital citizenship among both their students and teachers should target instruction and future research on these identified areas of need.

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APPENDIX A. INSTRUMENT PERMISSION LETTER

June 28, 2018

Tamarack Grammon,

Doctoral Candidate at Liberty University

906 Virgil Ave. Eugene, OR 97404

541-519-7408 tgrammon@liberty.edu

Dear Moonsun Choi,

I am requesting permission to use your digital citizenship Scale. This request is for permission to include the digital citizenship Scale developed in your dissertation and published works as part of my doctoral dissertation. Your dissertation, *Development of a Scale to Measure digital citizenship among Young Adults for Democratic Citizenship Education*, and your published work, *What it means to be a citizen in the Internet age: Development of a reliable and valid digital citizenship scale*, are valuable resources in studies about digital citizenship . I believe that you are currently the holder of the copyright, because the original work states that copyright is held in your name. If you do not currently hold the rights, please provide me with any information that can help me contact the proper rights holder. Otherwise, your permission confirms that you hold the right to grant this permission. This request is for a non-exclusive, irrevocable, and royalty-free permission, and it is not intended to interfere with other uses of the same work by you. I would be pleased to include a full citation to your work and other acknowledgments as you might request. I would greatly appreciate your permission. If you

require any additional information, do not hesitate to contact me. If you agree with the terms as described above, please sign below. Thank you for your time and consideration.

Sincerely,

Tamarack Grammon

Permission

Signature: {



Name & Ti

5/1

Date: _____

APPENDIX B. LETTER TO SUPERINTENDENT

Dear Dr. Huld,

My name is Tamarack Grammon, and I am a doctoral student at Liberty University. I am conducting research on digital citizenship perceptions in online schools. I am approaching your school for research participation in my study. The aim of my research on digital citizenship perceptions is to investigate the potential differences between student teacher perceptions of digital citizenship. The study was important based on previous research that showed the importance of digital citizenship skills in modern youth, and the problematic disconnect between how educators process and use digital tools in student classrooms. The benefit of the research to schools is through understanding specific areas of mutual awareness or unawareness between educators and students with the intent of targeting problematic areas. The results will inform curriculum development in digital citizenship skills and bring self-awareness to students and educators.

Permission will be sought from the students and their parents prior to student participation in the study. Only those who consent and whose parents consent will participate. Perceptions of digital citizenship will be measured using a digital citizenship questionnaire. The questionnaire will be delivered through staff email, staff meetings, and canvas course content during the course of one semester. All information collected will be treated in strictest confidence and neither the school nor individual learners will be identifiable in any reports that are written. Participants may withdraw from the study at any time without penalty. The role of the school is voluntary and the School Principal may decide to withdraw the school's participation at any time without penalty.

Once I have received your consent to approach teachers and students to participate in the study, I will arrange for informed consent to be obtained from participants.

If you would like your school to participate in this research, please complete and return the attached form.

Sincerely,

Tamarack Grammon

I give consent for Tamarack Grammon to approach learners in grades 6 through 12 to participate in the described digital citizenship study.

I have read the research information explaining the purpose of the research project and understand that:

- The role of the school is voluntary
- I may decide to withdraw the school's participation at any time without penalty.
- Secondary teachers will be asked to participate in the study.
- Students in grades 6-12 will be invited to participate and permission will be sought from students and parents.
- Only students who consent and whose parents consent will participate in the project
- All information obtained will be treated in strictest confidence.

- The students' and teachers' names will not be used, and individual students and teachers will not be identifiable in any written reports about the study.
- The school will not be identifiable in any written reports about the study.
- Participants may withdraw from the study at any time without penalty.
- A report of the findings will be made available to the school.

I may seek further information on the project from Tamarack Grammon by writing to tgrammon@liberty.edu or calling 541-519-7408.

School Superintendent printed name: _____

School Superintendent Signature: _____

Date: _____

6/7/2019 | 1:20 PM PDT

APPENDIX C. PARENT CONSENT FOR STUDENT PARTICIPATION

Title of the Project: Comparing Digital Citizenship Perspectives of Online Students and Teachers

Principal Investigator: Tamarack Grammon, doctoral candidate, Liberty University

Invitation to be Part of a Research Study

Your student is invited to participate in a research study. Participants must be in grades 7-12 and be enrolled in an Internet based school. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why are we doing it?

The purpose of my research is to investigate the potential differences between educator and student perceptions of digital citizenship or norms of behavior with regard to technology use.

The study is significant based on previous research that shows the importance of digital citizenship skills in modern youth.

What will participants be asked to do in this study?

If you agree to allow your student to be in this study, I would ask them to fill out a questionnaire through a secure Google forms link. It should take approximately 15 minutes to complete the questionnaire. Participation will be completely anonymous and no personal, identifying information will be collected.

How could participants or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

The benefit of the research to schools is through understanding specific areas of mutual awareness or unawareness between educators and students with the intent of targeting problematic areas. The results may inform curriculum development in digital citizenship skills and bring self-awareness to students and educators.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks your student would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

What conflicts of interest exist in this study?

The researcher serves as a teacher at Baker Charter Schools. To limit potential or perceived conflicts, the study will be anonymous so the researcher will not know who participated. This disclosure is made so that you can decide if this relationship will affect your willingness to allow your student to participate in this study. No action will be taken against an individual based on her or his decision to allow his or her student to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to allow your student to participate will not affect your or their current or future relations with Liberty University or Baker Charter Schools. If you decide to allow your student to participate, they are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your student from the study, or your student chooses to withdraw from the study, please have them exit the survey and close their Internet browser. Your student's responses will not be recorded or included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Tamarack Grammon. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at 541-510-8052 or at tgrammon@liberty.edu. You may also contact the researcher's faculty sponsor, Dr. Baer, at dnbaer@liberty.edu.

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Your Consent

Before agreeing to allow your child be part of the research, please be sure that you understand what the study is about. If you have any questions about the study later, you can contact the researcher using the information provided above.

APPENDIX D. STUDENT PARTICIPATION CONSENT

Title of the Project: Comparing Digital Citizenship Perspectives of Online Students and Teachers

Principal Investigator: Tamarack Grammon, doctoral candidate, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be a student or teacher of a student in grades 7-12 who is enrolled in an Internet based school. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of this research is to investigate the potential differences between teacher and student perceptions of digital citizenship or norms of behavior with regard to technology use.

The study is significant based on previous research that shows the importance of digital citizenship skills in modern youth.

What will happen if you take part in this study?

If you agree to be in this study, please fill out the following questionnaire through the private Google forms link. It should take approximately 15 minutes to complete the questionnaire. Participation will be completely anonymous, and no personal, identifying information will be collected.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. The benefit of the research to schools is through understanding specific areas of mutual awareness or unawareness between educators and students with the intent of targeting problematic areas. The results may inform curriculum development in digital citizenship skills and bring self-awareness to students and educators.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Does the researcher have any conflicts of interest?

The researcher serves as a teacher at Baker Charter Schools. To limit potential or perceived conflicts the study will be anonymous, so the researcher will not know who participated. This disclosure is made so that you can decide if this relationship will affect your willingness to participate in this study. No action will be taken against an individual based on his or her decision to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or Baker Charter Schools. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please exit the survey and close your Internet browser. Your responses will not be recorded or included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Tamarack Grammon. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at 541-510-8052 or at tgrammon@liberty.edu. You may also contact the researcher's faculty sponsor, Dr. Baer, at dnbaer@liberty.edu.

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Your Consent

By taking the survey, you agree to be in the study. Make sure you understand what the study is about before participating. If you have any questions about the study, you can contact the study team using the information provided above.

APPENDIX E. TEACHER CONSENT AND INSTRUMENT INSTRUCTIONS

Title of the Project: Comparing Digital Citizenship Perspectives of Online Students and Teachers

Principal Investigator: Tamarack Grammon, Doctoral Candidate, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be the instructor of a student in grades 7-12 who is enrolled in an Internet based school. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of my research is to investigate the potential differences between educator and student perceptions of digital citizenship or norms of behavior with regard to technology use. The study is significant based on previous research that shows the importance of digital citizenship skills in modern youth.

What will happen if you take part in this study?

If you agree to be in this study, I would ask you to fill out a questionnaire through a secure Google forms link. It should take approximately 15 minutes to complete the questionnaire. Participation will be completely anonymous, and no personal, identifying information will

be collected.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

The benefit of the research to schools is through understanding specific areas of mutual awareness or unawareness between educators and students with the intent of targeting problematic areas. The results may inform curriculum development in digital citizenship skills and bring self-awareness to students and educators.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Does the researcher have any conflicts of interest?

The researcher serves as a teacher at Baker Charter Schools. To limit potential or perceived conflicts, the study will be anonymous so the researcher will not know who participated. This disclosure is made so that you can decide if this relationship will affect your willingness to participate in this study. No action will be taken against an individual based on his or her decision to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or Baker Charter Schools. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please exit the survey and close your Internet browser. Your responses will not be recorded or included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Tamarack Grammon. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at 541-510-8052 or at tgrammon@liberty.edu. You may also contact the researcher's faculty sponsor, Dr. Baer, at dnbaer@liberty.edu.

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. If you have any questions about the study later, you can contact the researcher using the information provided above.

APPENDIX F. INSTRUMENT

1. Are you a teacher or a student?

Teacher

Student

2. What is your year of birth? (_____)

3. Please identify your gender.

Male

Female

Prefer not to answer

4. Please specify your ethnicity.

White

Black

Hispanic

American Indian

Asian/ Pacific Islander

Bi-racial

Other

Prefer not to disclose

5. What type of a device do you usually use to access the Internet? (Please select one)

- Mobile/ Smart Phone
- Tablet PC
- Laptop Computer
- Desktop Computer
- Other

6. Where do you read and watch social, political, economic, or cultural issues?

(Please select one and if you check others, please identify them)

- News Websites (e.g., New York Times, BBC)
- Social Networking Sites (e.g., Facebook, Twitter)
- Blogs
- TV and/ or radio
- Others (_____)

7. How frequently do you access the Internet from the following places?

	Multiple times a day	Daily	Weekly	Monthly	Less than once a month	Never
From home						
From school						
From work						
From a public place (e.g., cafe, bus, street)						
From other places						

8. What is your main purpose for using the Internet? (Please select one and if you check others, please identify them)

- Entertainment (e.g., playing games, watching video clips, listening to music)
- Homework/research for school
- Searching for news
- Visiting social media sites (e.g., Facebook, Twitter, Instagram)

Please Mark the number on the scale that best reflects your opinion and behavior for each of the statements below.		Strongly Disagree			Strongly Agree	
		1	2	3	4	5
	Questions	1	2	3	4	5
1	I think Internet-related issues (e.g., privacy, censorship, information access, networking) affect my life.	1	2	3	4	5
2	I feel my private information is secure when I use the Internet.	1	2	3	4	5
3	I am careful with others' feelings when I write online.	1	2	3	4	5
4	I sometimes download materials (e.g., music, movie, software, etc.) illegally on the Internet.	1	2	3	4	5
5	I sometimes use offensive language in online spaces that guarantee anonymity.	1	2	3	4	5
6	I sometimes post pictures or videos of people I know online	1	2	3	4	5

	without their permission.					
7	I can access the Internet through digital technologies (e.g., mobile/smart phones, Tablet PCs, Laptops, PCs) whenever I want.	1	2	3	4	5
8	I am able to use digital technologies (e.g., mobile/smart phones, Tablet PCs, Laptops, PCs) to achieve the goals I pursue.	1	2	3	4	5
9	I can use the Internet to find information I need.	1	2	3	4	5
10	I can use the Internet to find and download applications (apps) that are useful to me.	1	2	3	4	5
11	I enjoy communicating with others online.	1	2	3	4	5
12	I enjoy collaborating with others online more than I do offline.	1	2	3	4	5
13	I am more informed with regard to political or social issues through using the Internet?	1	2	3	4	5
14	I am more aware of global issues through using the Internet.	1	2	3	4	5
15	I post original messages, audio, pictures, or videos to express my feelings/thoughts/ideas/opinions on the Internet.	1	2	3	4	5
16	Where possible, I comment on other people's writings in news websites, blogs, or SNSs I visit.	1	2	3	4	5
17	I regularly post thoughts related to political or social issues online.	1	2	3	4	5
18	I evaluate the news, blogs, and other content I read or watch	1	2	3	4	5

	online in terms of reliability, truth, and accuracy.					
19	I express my opinions online to challenge dominant perspectives or the status quo with regard to political or social issues.	1	2	3	4	5
20	I feel my culture is represented on the internet.	1	2	3	4	5
21	I feel my race/ethnicity is represented on the Internet.	1	2	3	4	5
22	I think online participation is an effective way to engage with political or social issues.	1	2	3	4	5
23	I belong to online groups that are involved in political or social issues.	1	2	3	4	5
24	I sometimes contact government official about an issue that is important to me via online methods.	1	2	3	4	5
25	I attend political meetings or public forums on local, town, or school affairs via online methods.	1	2	3	4	5
26	I work or volunteer for a political party or candidate via online methods.	1	2	3	4	5
27	I order/purchase/exchange goods online (e.g., Amazon, Target, eBay).	1	2	3	4	5
28	I work with others online to solve local, national, or global issues.	1	2	3	4	5
29	I sign petitions about social, cultural, political, or economic issues online.	1	2	3	4	5
30	I organize petitions about social, cultural, political, or economic	1	2	3	4	5

	issues online.					
31	I am more socially or politically engaged when I am online than offline.	1	2	3	4	5
32	I think online participation promotes offline engagement.	1	2	3	4	5
33	I think only a few people or organizations control most of the information we get through the Internet.	1	2	3	4	5
34	I think online participation is an effective way to make a change to something I believe to be unfair or unjust.	1	2	3	4	5
35	I use the Internet in order to participate in social movement/change or protest.	1	2	3	4	5
36	I think I am given to rethink my beliefs regarding a particular issue/topic when I use the Internet.	1	2	3	4	5
37	I think the Internet reflects the biases and dominance present in offline power structures.	1	2	3	4	5