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DIGGING INTO DIGITAL CITIZENSHIP: DESCRIBING THE CO-CREATION OF AN IMPLEMENTATION PLAN WITH FIFTH- AND SIXTH-GRADE INTERMEDIATE SCHOOL TEACHERS

by

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education in

Curriculum and Instruction

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DEDICATION

This is dedicated to:

Daniel.

Mom and Dad.

My friends and family who kept pushing me along.

Aunt Terry and Uncle John. Rest in peace. I still can’t fathom that I lost you both. I will see you when I get there.

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To Daniel. The real MVP. How could I have been lucky enough to find someone who could make a pandemic feel as much like a normal year as possible as I finished up this monstrous amount of work? Thank you for being the dear, sweet man you are. Love you.

To my parents. I love you.

To Jill Rogan for all the proofreading, moral support, and being a great friend. Thank you!

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ABSTRACT

The study's purpose was to describe the processes, experiences, and beliefs of individuals involved in an action research project to co-create a digital citizenship plan in Upstate Intermediate School. Teachers there did not systematically teach digital citizenship skills at the fifth- and sixth-grade levels. Facilitating the development of responsible online behaviors is vital. The study examined three research questions: (a) fifth- and sixth-grade teachers' perceptions of barriers to integrating digital citizenship skills in their instruction; (b) their perceptions of the essential components of a digital citizenship curriculum in the context; and (c) their perceptions of being involved in co-creating a digital citizenship implementation plan.

Using social constructivism as a theoretical framework, a design team created a digital citizenship plan based on participants' (n = 38) perspectives related to digital citizenship. Data sources included surveys, interviews, document review, a research journal, and design team exit discussion. Quantitative data from descriptive statistics were calculated and analyzed. Most participants self-reported medium to high frequencies of technology use, comfort levels with technology, and awareness of digital citizenship. Qualitative data were analyzed using inductive analysis. Results supported answering the research questions. Teachers understand the importance of digital citizenship skills and expressed concern about students' understanding of their digital footprint. Students need support as they begin establishing their digital identities.

Barriers to skills instruction were related to access, time, beliefs, and awareness. Solutions included prioritizing the skills, having one location for teaching the skills, reinforcing them in the classroom, and inviting parents to support. Design team members (n = 6) reported that they gained more insight into the depth of digital citizenship concepts, despite high ratings overall in their self-reported data for digital citizenship awareness. They recognized that it was "more than [they were] originally thinking." Implications, recommendations, and limitations are included in chapter five.

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LIST OF ABBREVIATIONS

BOCES ..... Board of Cooperative Educational Services

CIPA ..... Children's Internet Protection Act

DC ..... Digital Citizenship

DTED ..... Design Team Exit Discussion

SAM ..... Successive Approximation Model

CHAPTER 1

INTRODUCTION

National Context

Tablets, smartphones, and other Internet-connected devices are gateways to useful information and interactivity. The Internet provides opportunities for learning, socializing, sharing, and searching for information, playing games, and other valuable activities. “Our students live in a connected world where they will be expected to engage and interact with peers and experts online, create and design with digital tools, and be exemplary digital citizens” (U.S. Department of Education, 2014, p. 66). That quote from the U.S. Department of Education contains examples of the digital citizenship (DC) skills our students need for the appropriate use of online tools and digital environments. Children need to learn how to use digital tools appropriately, and DC instruction helps to focus on the skills necessary to participate in Internet-connected environments effectively (Hobbs & Jensen, 2009).

Children are using the Internet beginning at very young ages. The majority of children in a study of 350 children ages six months to four years were given a device of their own by age four (Kabali et al., 2015). According to a report from the United States Department of Education’s Office of Educational Technology (2014), 65% of children in grades six through eight have an Internet-connected smartphone. A Pew Research Center poll revealed that 94% of 13- to 17-year-olds who have smartphones use them to access the Internet “daily or more often” and 24% of those who have a smartphone are on it

"almost constantly" (Lenhart & Page, 2015, p. 2). Children are given Internet-connected devices and begin to develop digital identities at young ages that define unique aspects of a person's culture and experiences (Common Sense Education, n.d.a). Guidance needs to be an integral part of that development (Hollandsworth et al., 2017). Educators need to embed these skills into teaching and learning to help prepare students to approach DC issues independently and build positive digital identities (McGillivray, McPherson, Jones, & McCandlish, 2016; Monterosa, 2017; Simsek & Simsek, 2013).

Information literacy, the ability to identify, locate, and critically evaluate information (Mackey & Jacobson, 2011), is an element of DC that is crucial to the development of digital age skills (Gretter, 2018). Demands on students to approach the media they encounter online with information literacy skills are expanding due to increased communication and information sharing on devices, such as tablets and smartphones (Livingstone & Brake, 2010). Approximately 75% of Americans cannot distinguish real news from fake news (McCarthy, 2016). A Pew Research Center report finds that 64% of Americans acknowledged that fake news causes confusion (Barthel, Mitchell, & Holcomb, 2016). Information literacy has become particularly vital to all citizens, young and old, since the advent of social media and other forms of collaborative technologies have changed the way people "consume information and form opinions" (Schmidt et al., 2017, p. 1). Currently, DC skills, including the development of digital literacy and information literacy skills, lack authentic experiences (Gleason & von Gillern, 2018). Students need support in the development of DC skills to communicate effectively and enhance their ability to locate and critically evaluate the information they

encounter through web searches and other Internet-connected environments (Mackey & Jacobson, 2011; Monterosa, 2017; Ribble, 2015).

Districts filter the Internet and block various websites, preventing teachable moments that could help to address students' digital-citizenship-related mistakes. Teachers often select websites for students, so they use what they believe is relevant information without giving students a chance to search for and evaluate online information and make mistakes with guidance. Mistakes help students test boundaries when developing digital literacy and citizenship skills (Hope, 2007), and that is often missing from the learning process. Filtering and blocking websites, as well as providing students with web resources instead of teaching them how to locate credible sources, lead to a "false sense of security" (Payne, 2016, p. 69). Children are not exposed to real-world experiences when accessing the Internet at school as a result. Hope (2007) suggests allowing children to experience a small amount of risk-taking behavior because it supports the development of digital identity. DC curriculum and a school culture conducive to developing those skills are vital because filtering tools are not reliable 100% of the time (U.S. Department of Education, 2014).

Teachers need more resources, training, and time to plan for DC instruction to effectively guide students and support the development of students' DC skills (Kopcha, 2012). When DC instruction and support is lacking, the resulting student behavior can be "problematic, even dangerous" (Hollandsworth, Dowdy, & Donovan, 2011, p. 37), such as cyberbullying or sexting (Hollandsworth, Donovan, & Welch, 2017; Jones & Mitchell, 2016). Teachers need guidance in the form of resources, such as suggested instructional strategies and guides that reflect authentic DC issues in which students find value and

interest (Gleason & von Gillern, 2018). Educators also need support to develop their own sense of DC (Choi, Cristol, & Gimbert, 2018) to create a DC plan that cultivates a depth of knowledge of those skills and invites students to engage in them authentically. Research indicates teacher and administrator awareness of DC concepts is generally lacking (Hollandsworth et al., 2011; Lindsey, 2015; McGillivray et al., 2016). Increasing teacher awareness of DC with professional development could foster increased confidence in their DC "thinking, skills, and behaviors" (Choi et al., 2018, p. 143).

Local Context

The Upstate New York School District is a small suburban district in the southern tier of New York State. Elementary schools in the district consist of pre-kindergarten through fourth-grade, an intermediate school with grades five and six, a middle school, and high school. In our district, there are 205 teachers and 4,147 students. At the intermediate school, where this study will take place, there are 31 teachers and 606 students, a ratio of approximately one teacher to 20 students. There are 315 laptops on mobile carts and 84 Apple iPads available for technology integration in classrooms at the intermediate school.

Our district did not have a systematic plan for teaching DC skills to strengthen students' depth of knowledge of this essential topic before this inquiry. Teaching DC skills is optional for teachers in the district. Teachers can choose to integrate the skills in-depth or not to teach them at all. The local Board of Cooperative Educational Services (BOCES), a regional information center, administered a BrightBytes survey in the region, including the Upstate New York School District. The results contained self-reported data from administrators, educators, students, and parents around the region and their

perspectives on a variety of technology-related topics, including DC skills. According to the professional development report from the BrightBytes (2016b) survey, only 18% of teachers in the region felt well-informed about DC skills. At the intermediate school in the district, 25% of teachers spent more than three hours per year teaching students to create an online presence (BrightBytes, 2016d). The BrightBytes (2016a) curriculum report for the district shows that only 11% of students are taught DC skills "at least monthly" (p. 2). Student respondents to the BrightBytes (2016c) survey reported that 66% of intermediate school students have never been asked to collaborate with their teachers in digital spaces.

For approximately ten years, I visited classes, taught DC lessons, and offered professional learning opportunities for teachers to encourage integrating those skills into the curriculum from pre-kindergarten through grade twelve. I periodically shared information and resources about DC with teachers and model lessons in classrooms. My efforts, in addition to other instructional technology specialists, have not been effective in making DC instruction more widespread and consistent across the district.

Previous Survey Findings

In April 2018, I conducted an anonymous, informal survey of teachers at the Upstate New York Intermediate School about their DC practices and their needs. Thirteen out of 18 fifth- and sixth-grade teachers who were asked to participate responded. Based on the results of my informal survey, it was evident that the teachers at the intermediate school teach DC skills in different ways and to varying depths of study. One of my questions was: *What digital citizenship topics do you focus on with students when you teach digital citizenship skills?* Their responses were enlightening. Some

elements of DC were covered at least in an introductory way by most or all teachers. Internet safety and cyberbullying were topics all teachers who responded said they teach their students to some degree. There were two DC elements in the informal survey related to *health and wellness* and *civics and citizenship issues* that none of the respondents selected as having taught. Information and media literacies received minimal attention based on the survey results.

When I asked what prevented them from thoroughly teaching students DC skills, the most common response was the lack of time to teach it thoroughly. One teacher shared that teaching DC is *often skipped over unless one of us finds it necessary to discuss* and that teaching these skills was *inconsistent across the board*. Another teacher commented that *digital citizenship is constantly changing, and teachers do not have the resources provided, nor the time to seek the resources and knowledge*. They realized that DC instruction was inconsistent and that change was necessary, based on their responses to the informal survey.

Available Resources and Support

Teachers in the region have received a regional newsletter from BOCES with resources and information about DC for four years. My teammates and I also offered resources and support in classrooms. Periodically, we provided training on elements of DC, though they are not well-attended. In the district, we had other training priorities unrelated to DC during the 2017-2018 school year. As a result, we did not offer professional learning sessions on DC skills that school year. During the 2018-2019 school year, I provided two classes related to DC skills and had 11 teachers from K-12 in each session. Two teachers from the intermediate school attended both sessions. My

training offered suggested strategies that help teachers immerse students in learning experiences and embed DC skills into their instruction. Limited training is provided regionally on some DC topics with a focus on a premade curriculum from Common Sense Education (n.d.b). A DC plan in the fifth- and sixth-grade levels could help students develop these skills to support the development of positive digital identities. A co-created vision for implementation would help ensure that teachers feel supported when integrating DC elements in a way that supports consistently embedding DC into instruction to facilitate the development of those skills. Educators worked collaboratively to co-create "some or all aspects of the planning… of the learning experience" (Bovill, Cook-Sather, & Felten, 2011, p. 137).

Statement of the Problem

The Upstate New York Intermediate School does not currently use a systematically designed approach to teach DC skills at the fifth- and sixth-grade levels.

Evidence of the Problem

DC involves a "broad range of behaviors and skills needed in today's society" (Bearden, 2016, p. 1). We need to collaboratively define DC and establish a clear vision (Jones & Mitchell, 2016; Zhang & Zhu, 2016). Fifth- and sixth-grade teachers could design a DC plan that guides students in the development of their digital identities (Flores & James, 2013). Teachers in the district individually determine the methods they will utilize to teach DC and the DC elements they will choose as their focus, resulting in varying levels of attention to the topic. In our district, 11% of 2,570 students who responded to a technology-related survey report learning about DC "at least monthly"

(BrightBytes, 2016a, p. 2), while 18% of teachers in our region feel highly knowledgeable in this area (BrightBytes, 2016b).

Despite the support that has been offered through training, resources, and classroom support, DC is not taught consistently throughout the building. For over ten years, I have been reacting to teacher requests to support their students by offering DC overviews and lessons about certain digital behaviors as the needs arise. However, I have not looked at the problem from the teachers' perspectives to gauge their attitudes and perceptions about the topic to determine how to help them integrate DC into the curriculum based on their perspectives.

There are many ways to approach DC skills when teaching, but "the lack of conceptual clarity of the term [digital citizenship] has hindered educational initiatives" (Jones & Mitchell, 2016, p. 2076). Teachers should be invited to contribute to a shared vision for DC education at each grade level to help students build a foundation in those skills (Albion, Tondeur, Forkosh-Baruch, Peeraer, 2015; Duncan, 2004; Holland, 2017; Loughran, 2014; Tondeur, Forkosh-Baruch, Prestridge, Albion, & Edirisinghe, 2016). Involving them in the planning process will provide ownership of the process and offer materials and methods they can use to quickly embed the skills into their instructional practice while giving them a significant role in the planning process.

Purpose Statement

The study's purpose was to describe the processes, experiences, and beliefs of individuals involved in a collaborative action research project to develop a DC curriculum in Upstate Intermediate School.

Research Questions

1. What do fifth- and sixth-grade teachers individually and collectively perceive as barriers to integrating digital citizenship skills in their instruction?
2. What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a digital citizenship curriculum in the instructional context?
3. What are teachers' perceptions of being involved in the co-creation of a plan for digital citizenship implementation at the fifth- and sixth-grade levels?

Researcher Subjectivities and Positionality

I have been an educator for approximately twenty-five years. Educational technology has changed dramatically during that time. Since my tenure as a classroom teacher, my goal has been to "empower students to develop critical thinking abilities [and] enhance… communication skills" (Gleason & von Gillern, 2018, p. 203). As a classroom teacher, I had limited access to educational technology in schools where I taught due to financial constraints. In July 2000, when I was hired as a sixth-grade teacher in a small private school and shown my classroom, I noticed a new computer that was not connected to the Internet. Though using the Internet with students was a new concept to me at that time, I felt the need to make it available to my students because I believed it was vital for them to learn strategies for using it properly.

Another new teacher and I convinced the principal to provide funding for the materials, and our family members would volunteer to run the wiring and connect each classroom computer to the Internet. We received the funding and had Internet access when school began in September 2000 because of our desire to provide Internet access to

our students. Though I was unaware at the time that I was focusing on DC concepts, we worked together in my classroom to develop "digital literacy" skills (Ribble, 2008, p. 15), and ways to utilize the Internet "productively and responsibly" (Hollandsworth et al., 2017, p. 524). I believed that it was necessary to teach my students responsible use of the Internet for research and working collaboratively face-to-face to complete projects.

Based on my classroom experiences, my interest in the Internet and its use with students has grown over time. I have developed a more informed awareness of the concept of DC since becoming an instructional technology specialist in 2001. My understanding of DC has continued to evolve because of my passion for the topic. I continue to learn more about it from colleagues, researchers, and authors as I expand my knowledge base related to the topic. A background in educational technology was not required when I was hired as a specialist because it was a relatively new concept in 2001. Though I have researched and received training on DC and other educational technology skills for many years in my role as an instructional technology specialist, there is much more to learn. That is the reason I chose to pursue a postgraduate degree in educational technology. There is a need to examine teachers' awareness of DC and their level of comfort with the concept in the United States (Choi et al., 2018) to improve instruction of DC skills. I have offered many professional learning sessions on DC skills during my career as a specialist. Despite my enthusiasm for teaching DC concepts, I am not making the type of impact that I desire for the benefit of teachers and students. More formal research methods could support collaboratively developing a DC plan.

My positionality in this study will reflect an "insider in collaboration with other insiders" (Herr & Anderson, 2005, p. 31), and I will act as a facilitator to the design team

as they co-create the DC plan. I am a district employee and work with teachers and students at our intermediate school often. Though I am not a staff member at the school directly, my role as a specialist allows me to collaborate with teachers in that building frequently, and I have developed close relationships with the teachers at the school as a result. The epistemology of the constructivist-interpretivist paradigm I have chosen for this study aligns with my interest in "co-created findings [and] meaning" by working with teachers and students to incorporate their insights into the plan we develop (Frels & Onwuegbuzie, 2013, p. 186). Being an instructional technology specialist who is passionate about this topic, I must resist the urge to interject my views when participants offer input during data collection and analysis. I need to monitor my subjectivities during this study to reflect the ethical practice of justice. I want the teacher and student participants to contribute their thoughts without my voice becoming an overriding influence, so their views are equitably represented in the outcome of the study (Mertens, 2010; U.S. Department of Health, Education, and Welfare, 1979).

The paradigm I have chosen provides an "interactive link between the researcher and participants" and allows for a "balanced representation of views" (Mertens, 2010, p. 11), which is aligned with the ethical imperative of reciprocity (Creswell, 2014). That interactive link between my participants and me is bound by the ethical principles of research that involve *respect for persons*, *beneficence*, and *justice* (U.S. Department of Health, Education, and Welfare, 1979). The representation of teacher and student voice in the co-creation of the DC plan will establish ownership of the plan and demonstrate the need to focus on DC with their students consistently (Bakah, Voogt, & Pieters, 2012; Huizinga, Handelzalts, Nieveen, & Voogt, 2014).

My participants' personal and professional reputations were protected throughout the inquiry by storing the data resulting from their input in a safe location to maintain confidentiality and exhibit beneficence during the study (U.S. Department of Health, Education, and Welfare, 1979). I will demonstrate transparency in data collection and analysis by involving my participants in the process, which will exhibit the ethical practice of respect for persons (U.S. Department of Health, Education, and Welfare, 1979). Once I have concluded the data collection and analysis, participants will view study results before it is shared with others so they can check the summary for accuracy to offer feedback to demonstrate reciprocity for their participation (Creswell, 2014). Additional forms of reciprocity, such as maintaining the confidentiality of participant contributions, and raffles for gift cards, will help me avoid "exploitation of the participants" to demonstrate my appreciation for their participation (Creswell, 2014, p. 98).

My goal is to co-create a DC plan to initiate a lasting change in the building. I hope that our collaboration has a significant impact on the teachers and students in my educational setting (Herr & Anderson, 2005). Co-creating a plan to move teachers closer to a shared vision for teaching DC skills is essential for helping students to develop positive digital identities.

Definition of Terms

Barriers to Integration: *Barriers* to integrating DC skills are generally defined as a "lack of time, resources, and training to use classroom technology for instructional purposes" (Kopcha, 2012, p. 1110). Teachers' "own deeply held beliefs" about

technology integration can also be a significant barrier to their approach to DC-related skills with their students (Ertmer, 1999, p. 58).

Co-creation: *Co-creation* is generally defined as educators working collaboratively "to create components of curricula and/or pedagogical approaches" (Bovill, Cook-Sather, Felten, Millard, & Moore-Cherry, 2016, p. 196).

Digital Citizenship and Online Behaviors: *Digital citizenship* is generally defined as "the ability to participate in society online" (Mossberger, Tolbert, & McNeal, 2008, p. 1) using "appropriate, responsible behavior with regard to technology use" (Ribble, 2008, p. 15).

Digital Citizenship Elements: DC consists of smaller components, or elements, that help examine the characteristics of the concept. Depending on the organization or research, the concept of DC can be broken down in different ways. Ribble (2015) offers nine elements of DC that he considers "the basis for appropriate technology use and form the foundation on which the digital society is based" (p. 16). His elements include digital access, commerce, communication, literacy, etiquette, law, rights and responsibilities, health and wellness, and security (Ribble, 2015). The elements that Ribble (2015) offers are related to components of DC found in the work of other researchers and organizations (Choi, 2015, 2016; Common Sense Education, n.d.a, n.d.b; Kim & Choi, 2018).

Digital Footprint: The *digital footprint* is defined as a "trail of online activities" (Ghosn-Chelala, 2019, p. 51) that is "persistent" (McGillivray et al., 2016, p. 728).

Digital Identity: *Digital identity* is generally defined as "literacies which [enable] the citizen to act as a person with culture and independence [using] critical abilities" (Simsek

& Simsek, 2013, p. 133). “Digital literacies enable one to acquire a digital identity” (Simsek & Simsek, 2013, p. 133).

Digital Literacy: *Digital literacy* is the “process of teaching and learning about technology and the use of technology” (Ribble, 2015, p. 16), including “Internet and computer skills” (Jones & Mitchell, 2016, p. 2064). Digital literacy requires students to “[understand] the critical thinking skills necessary for operating technology,” such as locating online information using websites and other digital sources (Boechler, Dragon, & Wasniewski, 2014, p. 4).

Information Literacy: *Information literacy* has its foundations in information studies in the field of library science (Boechler et al., 2014), “takes many forms online and is produced and communicated through multiple modalities” (Mackey & Jacobson, 2011, p. 62). It is a “metaliteracy” that “promotes critical thinking” and encompasses different types of literacy that are “transient, collaborative, and free-flowing, requiring a comprehensive understanding of information to critically evaluate, share, and produce content in multiple forms” (Mackey & Jacobson, 2011, p. 62).

CHAPTER 2

LITERATURE REVIEW

This study's purpose was to describe the processes, experiences, and beliefs of individuals involved in a collaborative action research project to develop a digital citizenship curriculum in Upstate Intermediate School. The questions that guided this inquiry are numbered below.

1. What do fifth- and sixth-grade teachers individually and collectively perceive as barriers to integrating digital citizenship skills in their instruction?
2. What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a digital citizenship curriculum in the instructional context?
3. What are teachers' perceptions of being involved in the co-creation of a plan for digital citizenship implementation at the fifth- and sixth-grade levels?

Based on the research questions, four main variables guided the search for literature for this review: (1) aspects of DC, (2) cognitive development of students in grades five and six, (3) factors and barriers affecting DC instruction, and (4) co-creation through professional learning and support. Resources obtained for the literature review were gathered using various methods. The literature review consists of an extensive exploration of sources located using multiple databases and search tools. The keywords and phrases I used to search came from the variables in the research questions and were used in the initial searches. I added other keywords as new information came to light

from reading each article. Initial keyword searches were conducted using *Google Scholar* to develop familiarity with the variables in the study. Titles from *Google Scholar* were located using library databases to see if they were available through a peer-reviewed journal. Moving from *Google Scholar* to the databases was helpful initially because I was able to eliminate several articles not found in academic journals. Some sources, such as books, texts from seminal authors, and dissertations from university library databases found in Google Scholar, were kept as sources. After locating and reading the information in the articles from initial searches, the searches moved to the University of South Carolina library databases. In the library databases, I completed keyword, author, and title searches for articles found in *Google Scholar*. As I wrote the annotated bibliographies, I used reference sections from the articles to mine additional resources and identify keywords to do more in-depth searches of the topics and related subtopics. Table 2.1 below lists the library databases, the number of articles or books found using each database, and the keywords used to locate information in each database.

Table 2.1. *Library Databases Used for Research*

Search tools and databases	Number of sources found	Keywords used in each tool
Academic Search Complete	6	Children; cognitive development; Internet; co-creation; student engagement; professional development; democratic education; diversity; partnership; reluctant users; self-efficacy; digital citizenship; model; K-5; K-12; grade 5; grade 6; ages 10-12; cognitive development
Education Source	29	Barriers; technology integration; beliefs; attitudes; technology use; social constructivism; professional development; digital citizenship; definition; implications; digital culture; awareness; responsible; protectionist; early intervention; digital media literacy; implementation; theory of planned behavior; education; intention; reluctant

Search tools and databases	Number of sources found	Keywords used in each tool
		users; social constructivism; education; cognitive development; K-5; K-12; grade 5; grade 6; ages 10-12; elementary; co-creation; design teams; learning communities; beliefs; technology use; teacher agency
ERIC (EBSCO)	6	Digital citizenship; digital literacy; hybrid education; global collaborative projects; connectivism; action research; elements of digital citizenship; Kohlberg's stages of moral development; professional development; technology integration
ERIC (ProQuest)	4	Digital citizenship; statistics, social media; reluctant users; self-efficacy; beliefs; professional development; social constructivism; co-creation; technology integration
Google Scholar	5	Motivation; social constructivism; learning; development; social cognitive theory; group functioning; collective efficacy; digital citizenship; definition; community-based approach; civic engagement; students; constructivism; democracy in action; instruction; technology integration; action research; childhood; stages of cognitive development
JSTOR	1	Social constructivism; digital citizenship
ProQuest Dissertations and Theses Global	10	Reluctant users; effective transfer to classroom setting; action research; digital citizenship; professional development; action research; barriers stages of technology integration; self-efficacy; digital age skills; effective transfer to classroom setting; implement technology; motivation; elementary; Internet safety;
SAGE Reference Online	4	Teacher agency; micro-institutional change; instructional practices; digital life; digital citizenship; measurement; civic culture; information literacy; media literacy
ScienceDirect	12	Professional development; promoting ownership; design teams; digital citizenship; teachers; levels; social cognitive theory; constructivism; designing technology-rich lessons; barriers; teacher beliefs; technology-enabled learning; technology integration; reluctant users; situated professional development; cognitive development; social media; children; social constructivism; co-creation; scaffolding learning; K-12; grade 5; grade 6

Search tools and databases	Number of sources found	Keywords used in each tool
Taylor & Francis Online	11	Reluctant users; professional development; co-creation; learning communities; digital citizenship (evolution of); personal responsibility; action research; digital media literacy; digital identity; design teams; teacher voice; digital media; youth; K-12; grade 5; grade 6; two lives vs. one life approach; character education; behavioral intention, theory of planned behavior; technology integration; motivation
Wiley Online Library	1	Digital citizenship; service-learning programs; civic values
Reference mining	9	Digital citizenship; definition; Digital citizenship; digital literacy; digital turn; definitions; childhood stages of cognitive development; Piaget; Vygotsky; Erikson;

The literature review is organized into four key sections. The first section examines the definition of DC, the elements within the concept of DC, and the approaches currently used to teach DC. The second section investigates children's cognitive development at the target grade levels and related digital skills development at those ages. The third section covers factors related to teachers teaching DC: where aspects related to embedding skills into instruction, such as barriers, are examined based on the theory of planned behavior. The last section explores co-creation through professional development based on social constructivist theory.

Digital Citizenship

Many school districts have changed their mission statements to reflect the need for elementary through high school students to develop DC skills because of the seemingly ubiquitous nature of mobile computing devices and Internet access (Choi et al., 2018). The literature offers a variety of approaches educators have used when implementing DC to help raise awareness of this critical concept (Ashmeade, 2016; Choi,

2015; Couldry et al., 2014; Gazi, 2016; Hollandsworth et al., 2011). When developing a plan for DC, raising awareness of the concept and narrowing the focus of DC to address children's needs are vital aspects of developing a plan for implementation to help improve student decision-making online (Blackwell et al., 2014; Gazi, 2016; Jones & Mitchell, 2016; McGillivray et al., 2016; Payne, 2016). Teachers who participate in this study need a basic understanding of DC skills and approaches for integrating them into instruction to systematically co-create a DC plan. The section on DC includes three major sub-sections: (a) elements of digital citizenship, (b) digital citizenship definitions, and (c) approaches to teaching digital citizenship.

Elements of Digital Citizenship

The concept of DC is often broken down into its elements in the literature to help better understand and approach this topic, but those elements differ depending on the researcher or organization (Choi, 2015, 2016; Common Sense Education, n.d.a, n.d.b; Flores & James, 2013; Kim & Choi, 2018; Ribble, 2015; van de Oudeweetering & Voogt, 2018). The differences in the way researchers articulate DC elements in their studies are related to beliefs exhibited in the way the studies are conducted (Westheimer & Kahne, 2004). This section focuses on (a) comparing digital citizenship elements and (b) digital citizenship in the research.

Comparing digital citizenship elements. DC includes many elements, and depending on the study or organization describing the elements, the number of components and their definitions may change while the underlying skills are similar (Choi, 2016; Choi et al., 2018; Curran & Ribble, 2017; Kim & Choi, 2018; Ribble, 2015; van de Oudeweetering & Voogt, 2018). Two studies share four components of DC –

ethics, media-information literacy, civic engagement, and critical resistance (Choi, 2015, 2016). Kim and Choi (2018) offer the SAFE framework of four DC elements, including self-identity, activity online, fluency in digital spaces, and ethics for digital spaces. The scope and sequence for the Common Sense Education (n.d.b) DC curriculum offers eight DC topics. Curran and Ribble (2017) focus on the nine themes of DC from Ribble (2006), and in 2015, Ribble updated his elements of DC. Table 2.2 below illustrates how elements from different sources compare.

Table 2.2. *Digital Citizenship Elements Comparison*

Choi, 2015, 2016	Kim & Choi, 2018	Common Sense Education, n.d.a	Common Sense Education, n.d.b	Ribble, 2006	Ribble, 2015
Media-information literacy	*Self-identity*	*Media balance and well-being*	*Self-image and identity*	*Digital access*	*Digital access*
Civic engagement	*Activity online*	*Relationships and Communi-cation*	*Relationships and communi-cation*	*Digital commerce*	*Digital commerce*
Critical resistance	*Fluency in digital spaces*	*Digital footprint and identity*	*Digital footprint and reputation*	*Digital communi-cation*	*Digital communi-cation*
Ethics	*Ethics in digital spaces*	*Cyberbully-ing, digital drama, and hate speech*	*Cyber-bullying and digital drama*	*Digital education*	*Digital literacy*
		News and media literacy	*Information literacy*	*Digital etiquette*	*Digital etiquette*
		Privacy and Security	*Internet safety*	*Digital responsibil-ity*	*Digital law*
			Privacy and security	*Digital rights*	*Digital rights and responsibili-ties*

Choi, 2015, 2016	Kim & Choi, 2018	Common Sense Education, n.d.a	Common Sense Education, n.d.b	Ribble, 2006	Ribble, 2015
			Creative credit and copyright	*Digital safety* *Digital security*	*Digital health and wellness* *Digital security*

Viewing the elements in Table 2.2 offers a chance to compare the different ways of conceptualizing DC and see similarities and differences among the components. The elements listed in two of the studies focus primarily on civic life and understanding how to gather and use information in ethical and literate ways (Choi, 2015, 2016). While Ribble (2006, 2015) and Common Sense Education (n.d.a, n.d.b) include elements related to communication and etiquette, those elements do not seem to be related to the broader concept of civic engagement but instead focus on choosing the appropriate means of communication and interacting appropriately. Four of the sources include aspects related to digital safety and security (Common Sense Education, n.d.; Kim & Choi, 2018; Ribble, 2006, 2015). Digital fluency, literacy, and ethical use are evident in each list of elements (Choi, 2015, 2016; Common Sense Education, n.d.a, n.d.b; Kim & Choi, 2018; Ribble, 2006, 2015). The most recent DC elements from Common Sense Education (n.d.-a) include an element related to media balance and well-being, which appears to correspond to digital health and wellness from Ribble (2015). The comparison of the elements from each source indicates different areas of focus related to DC that teachers can choose depending on the needs they observe in their students and how the elements align with each other.

Digital citizenship in the research. The extent of DC often makes it essential to narrow a study's focus. Narrowing the focus helps researchers examine specific elements, such as safety, ethics, democratic (civic) values, and communication, to make the research more manageable (Boechler et al., 2014; Churcher et al., 2014; Curran & Ribble, 2017; Dezuanni, 2015; Gazi, 2016; Kim & Choi, 2018). Curran and Ribble (2017) take Ribble's nine elements of DC, illustrated in Table 2.2, and group them into broader categories to aid understanding: *respect self and others* (etiquette, access, law), *protect self and others* (rights and responsibilities, health and wellness, security), and *educate self and others* (literacy, communication, commerce). This section focuses on several elements that are fundamental topics in the literature related to DC (a) security, rights, and responsibilities, (b) civic literacy, and (c) digital literacy.

Security, rights, and responsibilities. Most DC programs across the country focus on security, rights, and responsibilities (Ribble, 2015), which emphasize behaving responsibly and respectfully online, with a focus on online safety and avoiding cyberbullying (Hollandsworth et al., 2017). Data from a Pew Research Center poll reveals that 44% of teens are using social media sites regardless of the minimum age requirements of the site, and 30% admitted that they share passwords with friends (Lenhart & Page, 2015), which compromises their safety and digital security. Many laws and district policies have been created to instruct students on the effective use of technology to promote safe and ethical use of digital environments (Gleason & von Gillern, 2018). The development of DC skills requires authentic opportunities to communicate with others in digital spaces (Holland, 2017).

Providing a safe environment for making DC mistakes allows students to learn from errors in judgment as they begin to form their digital identities (Hollandsworth et al., 2011; Linder-Vanberschot & Summers, 2015; Payne, 2016). The problem is that, though these skills are critical for students to learn, chances for students to practice DC skills in educational and more informal settings continue to be lacking (Gleason & von Gillern, 2018). Teaching DC with an emphasis on authentic experiences that involve the students' values and interests will help engage them in practicing those skills (Gleason & von Gillern, 2018). Practicing the skills while balancing legal and policy requirements will help students initiate responsible online behaviors when they are interacting in digital spaces independently (FCC, 2011; Gleason & von Gillern, 2018; Hollandsworth et al., 2011; Linder-Vanberschot & Summers, 2015; Payne, 2016).

Civic literacy. Choi (2015, 2016) lists civic engagement among the elements of DC in that study (Table 2.2). Many studies focus on civic literacy and how to participate in civic life online (Choi et al., 2018; Curran & Ribble, 2017; Gleason & von Gillern, 2018; Hollandsworth et al., 2017; Kahne & Bowyer, 2016; Kim & Choi, 2018) to foster "informed and engaged digital citizens" (Choi, 2016, p. 570). DC is an extension of traditional citizenship (Choi, 2015; Choi et al., 2018) that encompasses many different types of skills. Ribble's nine elements of DC are components of civic literacy (Ribble, 2015). Digital citizens who are engaging in society online should be able to safely access technology to communicate appropriately, understand their rights and responsibilities online, obey the laws in digital spaces, and make healthy choices online (Ribble, 2015).

DC skills prepare children for participation in their communities (Gleason & von Gillern, 2018), and students need support to develop the skills to become responsible,

engaged citizens on and offline (Choi, 2015; Mirra, Morrell, & Filipiak, 2018). The concept of DC is a complex connection between civic life in and out of digital spaces (Choi, 2016). That connection is multi-faceted and non-linear (Choi, 2016). Choi et al. (2018) assert that DC and other forms of citizenship were closely linked. Teachers require support to foster DC skills, such as civic literacy, in the classroom.

Consistency in articulating civic literacy practices is necessary to move beyond a local focus and teaching foundational digital literacies (Couldry et al., 2014; Jones & Mitchell, 2016; Kim & Choi, 2018). Jones and Mitchell (2016) suggest a connection between high online civic engagement and lower rates of online harassment. Embedding DC skills into learning facilitates the development of DC skills (Kim & Choi, 2018). Consistently embedding civic literacies and digital literacies into learning experiences will support the growth of DC skills and promote positive interactions in digital spaces in and out of school (Choi, 2015; Couldry et al., 2014; Hollandsworth et al., 2017; Jones & Mitchell, 2016; Kim & Choi, 2018; Ohler, 2011).

Embedding DC skills into curricula at all levels helps children develop into "global citizens," which will help them in their lives in and out of school (Gazi, 2016, p. 137). Learning DC skills and becoming more aware of civic life through diverse and authentic learning experiences at school can help them blend the dual lives students currently experience between school and home into one digital life (Boechler et al., 2014; Gazi, 2016; Ohler, 2011). DC should encompass global awareness, ethics, critical analysis of views, and civic participation reflecting authentic DC skills, and a shift to one digital life in and out of educational settings (Boechler et al., 2014; Choi, 2016; Choi et al., 2018; Gleason & von Gillern, 2018; Hollandsworth et al., 2017; Ohler, 2011).

Digital literacy. Researchers suggest that students need better digital literacy instruction to promote engagement with content at their levels (Blackwell et al., 2014; Boechler et al., 2014; Dezuanni, 2015). Further, Choi (2015) found that it is critical to develop digital literacies that promote responsible choices in the digital spaces that children use. The skills derived from learning to access and evaluate information online will support children as they confront media messages and communicate with others in various online contexts (Gretter, 2018). Embedding authentic experiences that facilitate student discovery during participation in civic life online is critical in the development of DC skills (Hollandsworth et al., 2017). Encouraging children to utilize digital tools that promote appropriate online interactions with others as part of the learning process allows them to practice positive interpersonal interactions and encourage the development of needed DC skills (Choi, 2015).

Digital Citizenship Definitions

Many different definitions of DC exist in the literature. Some studies are based on individual elements of DC (Gretter, 2018; Gretter & Yadav, 2018; Hobbs & Tuzel, 2017; Zhang & Zhu, 2016), while others offer a more comprehensive view of DC and the elements within the concept (Choi, 2015, 2016; Common Sense Education, n.d.a, n.d.b; Kim & Choi, 2018; Ribble, 2015). DC definitions help operationalize the concept in research reports to guide consumers of the literature in understanding the focus of the concept in a given study (Holland, 2017; Monsterosa, 2017; Suppo, 2014). With the variety of definitions, the term DC is often used interchangeably with other similar terms, such as digital literacy, which can become confusing.

Research about DC offers many definitions of the term. DC is "the ability to participate in society online" (Mossberger, Tolbert, & McNeal, 2008, p. 1) using "appropriate, responsible behavior with regard to technology use" (Ribble, 2008, p. 15). DC requires skills that facilitate effective participation in digital spaces (Ghosn-Chelala, 2019). The requisite skills are "multilayered, complex, and interwoven" and encompass one's identity and membership in a community on and offline (Choi, 2015, p. 147).

Definitions of digital citizenship might also vary depending on the focus of the research. Some studies focus on DC skills related to digital identity (Greenhow & Robelia, 2009; Greenhow, Robelia, & Hughes, 2009; Simsek & Simsek, 2013), Internet safety (Jones & Mitchell, 2016; Ohler, 2011), responsible and ethical use (Payne, 2016), media-information literacy (Gretter, 2018; Gretter & Yadav, 2018), civic literacy (Blevins, LeCompte, & Wells, 2014; Couldry et al., 2014; Gleason & von Gillern, 2018), and digital literacy skills (Blackwell et al., 2014; Boechler et al., 2014; Dezuanni, 2015). Some sources focus on all of the elements of DC (Choi, 2016; Common Sense Education, n.d.b; Kim & Choi, 2018; ISTE, 2016; Ribble, 2015). Defining DC is an essential element of researching this topic to maintain focus on research objectives of a study and obtain meaningful results aligned with the study's focus (Blackwell et al., 2014; Dezuanni, 2015; Gleason & von Gillern, 2018; Holland, 2017; Monterosa, 2017; Suppo, 2014).

Teachers need an awareness of children's online activities to guide them through digital literacy development (Blackwell et al., 2014). An interview respondent in one study stated that, as a result of participating in the study, she is better prepared to teach skills related to digital and media literacies (Gretter, 2018). The need for developing DC

skills, despite the varying definitions of DC, should be seen as essential because the use of the Internet and related technologies is a ubiquitous part of daily life (Blackwell et al., 2014; Choi, 2015; Choi et al., 2018; Gretter, 2018).

Approaches to Teaching Digital Citizenship

Research indicates that there are many different ways to approach DC (Ashmeade, 2016; Choi, 2016; Couldry et al., 2014; Gazi, 2016; McGillivray et al., 2016; Pedersen, Nørgaard, & Köppe, 2018). The focus on DC shifts depending on the desired outcomes for the study (Ashmeade, 2016; Choi, 2016; Couldry et al., 2014; Gazi, 2016; McGillivray et al., 2016; Pedersen et al., 2018). Some implementations of DC in education involve established programs (Holland, 2017), and others include immersive experiences (Zhang & Zhu, 2016) to help engage students in DC skills. Often, when developing DC skills in children, there is a tendency to choose a safety-oriented approach (Mirra et al., 2018). The section on approaches involving different models and curricula includes the following information: (a) immersion in learning experiences that address digital citizenship skills, (b) pre-packaged digital citizenship materials, (c) developing digital literacies, and (d) impacts of approaches on learners.

Immersion in learning experiences that address digital citizenship skills. Studies indicate that immersive learning experiences help facilitate DC skills development (Boechler et al., 2014; Churcher et al., 2014; Dezuanni, 2015; Gleason & von Gillern, 2018; Greenhow, Robelia, & Hughes, 2009; McGillivray et al., 2016). Boechler, Dragon, and Wasniewski (2014) concluded that overall experiences with technology, rather than focusing on targeted skills, offer students a more well-rounded sense of digital literacies. Offering participants access to a wiki allowed user-generated

content and crowdsourcing of meaning-making and innovation in the Churcher et al. (2014) study. Media creation helps students identify issues in their communities that require attention and offers learners a chance to immerse themselves in civic life in meaningful ways (Gleason & von Gillern, 2018).

Immersing students in learning experiences using social media applications to complete coursework and develop their digital identities helps develop connections, participate in learning networks, and develop digital fluencies and citizenship skills (Greenhow & Robelia, 2009; Saini & Abraham, 2019). An outlet for publishing media and ideas in a public forum or on social media helps engage students (McGillivray et al., 2016). It strengthens understandings related to decision-making in digital spaces by supporting children as they learn ways to target the work they produce to specific audiences (McGillivray et al., 2016). Immersing learners in experiences helps strengthen DC skills development (Boechler et al., 2014; Churcher et al., 2014; Gleason & von Gillern, 2018; Greenhow & Robelia, 2009; McGillivray et al., 2016; Saini & Abraham, 2019).

Pre-packaged digital citizenship materials. Another method of implementing DC skills instruction is to use pre-packaged DC materials (Blevins et al., 2014; Holland, 2017; Lindsey, 2015; Payne, 2016). Using the curriculum from iCivics.org with 250 student participants helped improve students' civic knowledge, and educators were instrumental in the implementation of that curriculum (Blevins et al., 2014). Holland (2017) conducted a case study with eight middle school students enrolled in a gifted program and three faculty members. The researcher used Ribble's digital driver's license program as an intervention to determine students' levels of DC awareness (Holland,

2017; Ribble, 2006). The digital driver's license program was implemented in Holland (2017) using Google's G-Suite to improve awareness and perceptions related to DC for middle school students. All of the participants wanted to increase their awareness related to their digital footprints, which fostered a desire to improve their DC skills (Holland, 2017).

Lindsey (2015) suggests that pre-service teachers who took part in online modules called the Technology Integration Support System (TISS) in their coursework influenced their future practice and their intent to embed DC and educational technology into the curriculum (Lindsey, 2015). Using the Digital Citizenship C3 Matrix from Payne (2016) helped teachers integrate DC skills into the curriculum. Just as learning experiences improved learners' awareness of DC, utilizing existing DC curricula consistently also improved awareness (Blevins et al., 2014; Common Sense Education, n.d.a, n.d.b; Gretter, 2018; Holland, 2017; Lindsey, 2015; Payne, 2016).

Focus on Internet safety compared with student empowerment. The ways that children encounter concepts of DC are very different between school and their everyday lives (Ohler, 2011). It is a concept Ohler (2011) called "two lives," in which children are to disconnect from their digital lives while at school and then reconnect outside of their school day (p. 14). When digital skills in education are too focused, they might not facilitate students' abilities to predict skills necessary given a range of diverse tasks using online tools (Boechler, Dragon, & Wasniewski, 2014). Schools tend to focus on technology integration, rules for acceptable and safe use of technology, and often neglect DC instruction skills that help to foster appropriate online behaviors in and out of school (Gazi, 2016). By middle school, students have often established their own technology-

related rules, so children need support developing DC skills when they begin using technology (Hollandsworth et al., 2011). Helping children develop skills to use technology in knowledgeable and safe ways will empower them to become better digital citizens in and out of school who can draw from skills they have learned to address wide-ranging issues of digital life appropriately (Boechler et al., 2014; Gazi, 2016; Ohler, 2011; Payne, 2016).

Teachers often tell students about DC-related behaviors instead of immersing them in experiences and empowering them to develop an understanding of desired behaviors through those experiences (Payne, 2016). Internet safety concerns are part of the reason educators are looking for ways to improve DC instruction, but the concept of DC lacks clarity, which impedes progress (Gleason & von Gillern, 2018; Jones & Mitchell, 2016). Too often, DC instruction focuses on safety and protecting students from dangers on the Internet (Mirra et al., 2018). Practicing specific skills related to DC, such as Internet safety, through student empowerment is more effective than fear-based warnings about avoiding certain behaviors, such as cyberbullying (Gleason & von Gillern, 2018; Jones & Mitchell, 2016; Mirra et al., 2018; Payne, 2016).

Conversations about controversial topics are a way to practice DC skills, promote interest in civic life, and develop skills that help students construct reasoned arguments (Kahne & Bowyer, 2016). DC skills of privacy, safety, and other related skills are developed to empower students to investigate those skills in ways that are relevant to them within the framework set by the teacher for a project (Dezuanni, 2015; Monterosa, 2017). Students can navigate the framework based on the availability of tools and teacher or school requirements, and that type of negotiation is more engaging for students

(Dezuanni, 2015). Furthermore, to inspire responsible online behaviors, instructional staff in school districts might implement a responsible use policy as opposed to acceptable use, which facilitates moving away from a safety and security focus (Monterosa, 2017). Involving students in the process of decision-making regarding making and sharing digital media helps them understand how to participate constructively in online environments (Monterosa, 2017). Internet safety as part of a program of student empowerment can encourage desired online behaviors (Dezuanni, 2015; Gleason & von Gillern, 2018; Jones & Mitchell, 2016; Mirra et al., 2018; Monterosa, 2017; Payne, 2016).

Developing digital literacies. Digital literacy is a facet of DC that is defined in different ways, but it is a set of critical skills to learn (Couldry et al., 2014; Gazi, 2016; Gleason & von Gillern, 2018; Gretter, 2018; Reynolds, 2016; Ribble, 2015). Digital literacy is a DC component (Ribble, 2015). It involves multimodal literacies – the combination of images, multimodal literacies online, gaming, decoding information found online, and editing and producing media to share using a variety of formats (Boechler et al., 2014). Having students participate in authentic experiences and practice real-world uses of DC skills can help students move beyond seeing technology use as different at school than at home (Ohler, 2011). As a result of their participation in authentic learning experiences that involve the collaborative use of technology, students use social aspects of producing and sharing their work online as a means of expanding and applying traditional and digital literacy skills (Boechler et al., 2014). As students extend and apply literacy skills in digital spaces, they can practice behaviors involved in DC that are valuable in digital environments (Gazi, 2016). Using digital tools in authentic

ways to create, publish, research, and socialize in school will help improve digital literacy and reinforce DC skills both in and out of school (Boechler et al., 2014; Gazi, 2016; Gleason & von Gillern, 2018; Reynolds, 2016).

Impacts of approaches on learners. When educators apply DC skills through curricula or immersive learning experiences consistently, DC instruction impacts learners in positive ways. When digital literacy skills are promoted in educational settings, Reynolds (2016) suggests the learning from the educational setting affects the way children engage with technology at home. Educators should use authentic strategies that actively involve the students in determining how to make decisions related to online privacy and safety (Blackwell et al., 2014; Dezuanni, 2015). Dezuanni (2015) conducted a study on digital media development called the URLearning project over three years to compare digital learning and the development of literacy. The study involved observing classrooms in a low socio-economic elementary school in Australia, where students learned about media production and analysis (Dezuanni, 2015). Dezuanni (2015) suggests that the building blocks model used in the study to support production and analysis of digital media, illustrated in Figure 2.1 below, is more effective when used in a non-sequential way to develop digital literacy skills.

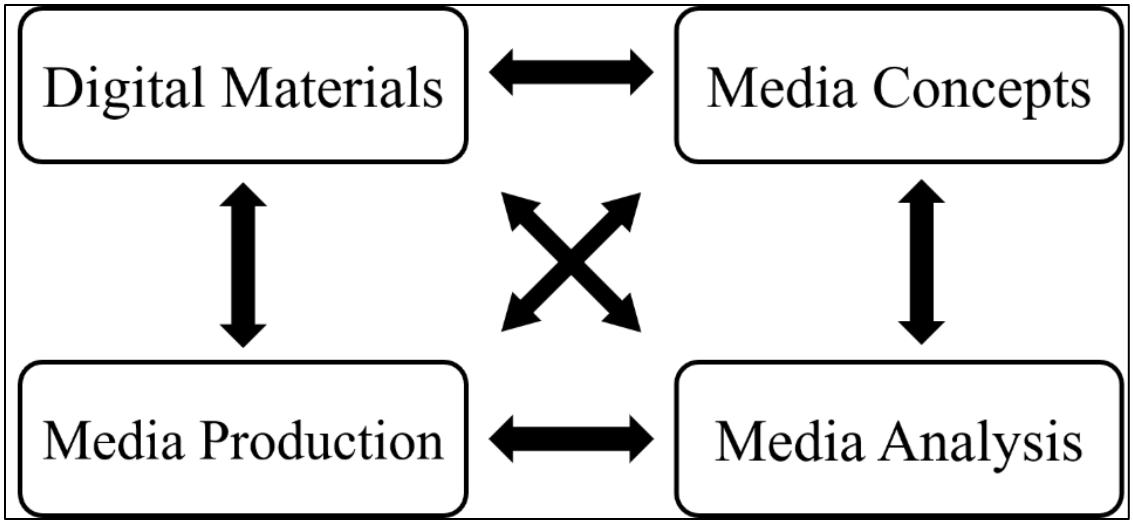


Figure 2.1. Digital media literacy building blocks. Adapted and used with permission from "The building blocks of digital media literacy: Socio-material participation and the production of media knowledge," by M. Dezuanni, 2015, *Journal of Curriculum Studies, 47,* p. 433. Copyright 2015 by Routledge. Reprinted with permission.

DC skills are built by consistently establishing a culture of discussions offline and in digital spaces because those interactions strengthen DC skills (Couldry et al., 2014). Payne (2016) utilized lessons from the Digital Driver's License program (Ribble, 2006). The teachers embedded the skills from the digital driver's license into their lessons and focused on cyber-safety, cyber-security, and cyber-ethics (Payne, 2016). The fifth-grade students who participated increased understanding in seven out of nine of the elements from Ribble (2006), with the most significant increases in digital etiquette, as well as digital rights and responsibilities (Payne, 2016). The Digital Driver's License did not affect either digital access or security (Payne, 2016). Overall, consistently embedding DC skills in instruction positively impacts student understanding of DC elements (Couldry et al., 2014; Dezuanni, 2015; Payne, 2016; Reynolds, 2016; Ribble, 2006). Consistency without a rigid, sequential structure in applying an approach to DC helps overcome

barriers to effectively integrating those elements into teaching and learning (Couldry et al., 2014; Dezuanni, 2015; Payne, 2016; Reynolds, 2016; Ribble, 2006).

Cognitive Development of 10- to 12-Year-Old Children

Studies involving the cognitive development of children at the fifth- and sixth-grade levels related to their use of digital technologies are limited (Blackwell et al., 2014). However, DC skills are essential for students to learn, and understanding the cognitive development occurring in 10- to 12-year-old students can help teachers better address their needs as they begin to develop their digital identities (Blackwell et al., 2014; Greenhow et al., 2009; Hollandsworth et al., 2017; Kim & Choi, 2018; Payne, 2016).

Children in fifth and sixth grade use the Internet more frequently than younger children, so the need for earlier DC instruction is vital because they are accessing social media and other sites that are typically for those over 13-years-old (Blackwell et al., 2014; Hollandsworth et al., 2017). The section summarizes children's cognitive development and how it is related to DC skills development. It has two major sections: (a) lack of digital citizenship research for elementary grades and (b) aspects of cognitive development of fifth- and sixth-grade children.

Lack of Digital Citizenship Research for Elementary Grades

Elementary grades are not well-represented in the literature related to DC because there is more focus on secondary and higher education, but instruction needs to begin earlier (Blackwell et al., 2014; Hollandsworth et al., 2017; Hollandsworth et al., 2011; Suppo, 2014). Knowing children's online habits can inform instruction on DC skills (Blackwell et al., 2014). Studies that focus on DC, specifically at the elementary level, are not addressed with the frequency that they are in secondary and higher education

(Suppo, 2014). Findings in a 2016 survey and interviews conducted by researchers indicate that DC skills instruction should begin with younger students (Hollandsworth et al., 2017). Leaders who are looking for their own solutions to DC instruction are not collaborating with others, and as a result, children are often unsupervised and lack guidance in digital environments (Hollandsworth et al., 2011). DC skills need to be a focus in elementary classrooms, and more studies must focus on ways to approach embedding these skills into instruction, giving students learning experiences they need to affect choices they make in digital spaces (Blackwell et al., 2014; Hollandsworth et al., 2017; Hollandsworth et al., 2011; Suppo, 2014).

Aspects of Cognitive Development of Fifth- and Sixth-Grade Children

Children in this study were at Piaget's *concrete operational* and *formal operational* stages of cognitive development, and Erikson's *industry versus inferiority* and *identity versus role confusion* stages of psychosocial development (Erikson, 1997; Mooney, 2013; Piaget, 1964). Children at fifth and sixth grade are at the beginning stages of abstract thought and will eventually move toward formal operations in sixth-grade (Mooney, 2013). Children should receive scaffolding and guidance at those stages of cognitive and psychosocial development as they begin to form their digital identities (Blackwell et al., 2014; Kim & Choi, 2018; Mooney, 2013). The literature in this section explores (a) Erikson's stages of psychosocial development in children, (b) Piaget's stages of cognitive development, (c) digital identity development, and (d) student digital citizenship skills related to levels of development.

Erikson's stages of psychosocial development in children. According to Figure 2.2 below, children in fifth- and sixth-grade fall into two categories of psychosocial

development – *industry versus inferiority* and *identity versus role confusion* (Erikson, 1997; Mooney, 2013). Children at those grade levels will have worked through *trust versus mistrust* (birth to 1 year), *autonomy versus shame* (1-3 years), and *initiative versus guilt* (3-6 years) (Erikson, 1997; Mooney, 2013). At the *initiative versus guilt* stage, educators should help students develop independence whenever possible (Mooney, 2013). The next phase of psychosocial development helps children to have an improved sense of initiative.

Erikson's Stages of Psychosocial Development		
Age	**Stage**	**Strength**
Birth to 12 months	Trust vs. Mistrust	Hope
1-3 years	Autonomy vs. Shame and Doubt	Willpower
3-6 years	Initiative vs. Guilt	Purpose
6-11 years	Industry vs. Inferiority	Competence
Adolescence	Identity vs. Role Confusion	Fidelity
Young adulthood	Intimacy vs. Isolation	Love
Middle age	Generativity vs. Self-absorption	Care
Old age	Integrity vs. Despair	Wisdom

Figure 2.2. Erikson's stages of psychosocial development. Used with permission from *Theories of Childhood: An Introduction to Dewey, Montessori, Erikson, Piaget, and Vygotsky* (2nd ed., p. 54), by Carol Garhart Mooney. Copyright © 2013. Reprinted with permission of Redleaf Press, St. Paul, MN; www.redleafpress.org

Fifth-grade students will still be in the *industry versus inferiority* stage (6-11 years), and the sixth graders were at the end of that stage and likely transitioning into *identity versus role confusion* (adolescence) (Erikson, 1997; Mooney, 2013). *Industry versus inferiority* is a stage of development that occurs from ages six through 11 and

involves developing competence and industry that includes valuing learning, play, and productivity (Erikson, 1997). Children at this stage are learning to verify facts and collaborate with others to achieve common goals (Erikson, 1997). The opposite of industry is inferiority, which can lead children to be overly competitive or regress into conflict (Erikson, 1997).

Sixth-grade students can fall into both the *industry versus inferiority* stage and *identity versus role confusion* (Erikson, 1997; Mooney, 2013). If children progress through the stages of development and feel that their identities are validated, that helps them fit into societal roles and relationships more successfully (Kim & Choi, 2018). Adolescents experiment with different roles to explore where they fit in (Erikson, 1997). The goal is to help children develop a clear sense of self while minimizing identity confusion to help them determine what they stand for and what they believe (Erikson, 1997). As children establish their identities, they begin to transfer trust and look for guidance outside of their immediate family and seek mentors (Erikson, 1997). The opposite of *identity* is *role confusion*, or as Erikson put it, *role repudiation* (Erikson, 1997; Mooney, 2013). When young people do not successfully navigate the identity stage, it can lead to a lack of self-confidence or defiance (Erikson, 1997).

Piaget's stages of cognitive development. Piaget's stages of cognitive development include *sensorimotor* (*sensory-motor*), *preoperational*, *concrete operational*, and *formal operational* (Mooney, 2013; Piaget, 1964). Figure 2.3 comprises Piaget's (1964) stages of cognitive development. Interactions with the environment lead to learning, and children learn best when they experience and make sense of their surroundings instead of formal instruction (Mooney, 2013; Piaget, 1964). The stages

most closely related to children's cognitive development in this study are the *concrete operational* (ages seven to 11 or 12) and *formal operational* stages (ages 11 or 12 and older). In the *concrete operational* stage, children can reverse their thinking, classify objects, and begin to experience abstract thoughts (Mooney, 2013). The complexity of children's schemata increases, and they can describe objects in multiple ways (Mooney, 2013). At approximately 11 or 12 years old, children enter the developmental stage of *formal operations*, where they begin to think logically, ethically, and hypothetically (Mooney, 2013; Piaget, 1964).

Piaget's Stages of Cognitive Development		
Age	**Stage**	**Behaviors**
Birth to age 2	Sensorimotor	Learn through the senses; learn through reflexes; manipulate materials.
2-7 years	Preoperational	Form ideas based on their perceptions; can only focus on one variable at a time; overgeneralize based on limited experience.
7-11 or 12 years	Concrete operational	Form ideas based on reasoning; limit thinking to objects and familiar events.
11 or 12 years and older	Formal Operational	Think conceptually; think hypothetically.

Figure 2.3: Piaget's stages of cognitive development. Used with permission from *Theories of Childhood: An Introduction to Dewey, Montessori, Erikson, Piaget, and Vygotsky* (2nd ed., p. 81), by Carol Garhart Mooney. Copyright © 2013. Reprinted with permission of Redleaf Press, St. Paul, MN; www.redleafpress.org

Digital identity development. The research in the area of digital identity formation is limited (Greenhow et al., 2009), but understanding how children develop can

help in the creation of a DC plan that is developmentally appropriate (Choi, 2016; Greenhow & Robelia, 2009). Digital literacies empower citizens to understand normative behaviors related to "culture and independence [using] critical abilities" that facilitate the development of their digital identities (Simsek & Simsek, 2013, p. 133). The process of identity formation is more public in the digital age because the Internet allows children to share their beliefs, share feelings, express themselves, and interact with others as they develop their digital reputations (Greenhow et al., 2009; ISTE, 2016). Children spend much of their time in digital environments, compared with time spent with their families or at school, which affects their development (Payne, 2016).

Social context and relationships are critical aspects of adolescent identity development in and out of digital spaces, and technology's impact has proven to be both positive and negative in the research (Kim & Choi, 2018; Paulus et al., 2019). According to the results of Blackwell et al. (2014), children's cognitive development and their use of media is a two-way relationship, meaning that children's developmental stages affect media use and media use affects development. When children practice presenting themselves online, it can help facilitate developing self-awareness of their offline identities (Blackwell et al., 2014). Given the time children spend online making choices related to their digital identities, students need support to facilitate digital identity formation to practice positive online behaviors with developmentally appropriate materials and learning experiences (Blackwell et al., 2014; Greenhow et al., 2009; Kim & Choi, 2018; Payne, 2016).

The Piaget (1964) and Erikson (1997) stages of development help educators better understand children's shift from passive consumption to active production of online

content because they need to apply logic and ethics to the creative use of technology (Mirra et al., 2018). Children who use the web to produce and consume media are designing their digital identities and developing their sense of self (Greenhow et al., 2009). In addition to traditional methods for identity formation, such as school, children today are developing identities using online tools, such as social media, by formatting and adjusting the way they present information about themselves in their online profiles (Greenhow et al., 2009). Learning to avoid socially unacceptable behavior during the process of digital identity development requires guidance (Hollandsworth et al., 2011). As children develop their digital identities, teachers must help students navigate the abstract complexities of sharing information by embedding DC skills related to identity development into student learning experiences (Erikson, 1997; Greenhow et al., 2009; Hollandsworth et al., 2011; Piaget, 1964).

Student digital citizenship skills related to levels of development. Once children enter adolescence, in Erikson's (1997) stage of *identity versus role confusion*, teachers can help students by involving them in assessing their online participation and interactions (Greenhow et al., 2009). It can help them practice, analyze, and better understand DC skills related to digital identity development to guide them as they learn the consequences of their behaviors online and work through the adolescent stage of development (Greenhow et al., 2009). With the widespread use of technology in educational settings, part of the responsibility for teaching DC falls to educators as a result (Payne, 2016). Both positive and negative cognitive consequences in relationships are related to young people's social media activity (Paulus et al., 2019). Zhang and Zhu (2016) found that fifth- and sixth-grade students need more instruction on media

production and collaborative communication skills in digital spaces. Guidance will help children negotiate the personal and ethical issues that they encounter as they create and interact in digital environments at different stages of cognitive and psychosocial development (Greenhow et al., 2009; Hollandsworth et al., 2011; Paulus et al., 2019; Payne, 2016; Piaget, 1964; Zhang & Zhu, 2016).

Factors and Barriers Affecting Digital Citizenship Instruction

There are many factors related to integrating technology and corresponding DC skills to consider when developing a DC plan for teachers to utilize at the fifth- and sixth-grade levels. Teacher intentions to integrate digital skills are influenced by barriers, as well as their attitudes and beliefs (Ajzen, 1991; Ashmeade, 2016; Ertmer, 1999; Tondeur, Forkosh-Baruch, Prestridge, Albion, & Edirisinghe, 2016). Studies indicate that embedding technology and DC skills into learning experiences increase awareness and understanding of digital literacies (Ashmeade, 2016; Boechler et al., 2014; McGillivray et al., 2016). As a result, it is critical to support teachers in overcoming barriers to integrating technology and related DC skills, so they increase their intention to consistently embed it into their instruction (Ajzen, 1991; Ashmeade, 2016; Ertmer, 1999). Considering factors that could affect teachers' intentions to adopt a plan that will help them teach DC instruction is an important part of the planning process. This section outlines two major sub-sections: (a) theory of planned behavior and (b) teacher intention to adopt new skills and factors that affect intention.

Theory of Planned Behavior

Addressing the factors involved in teacher intentionality to perform a specific behavior is essential when systematically developing a planned approach to DC skills

because it helps focus on barriers, attitudes, and teachers' perceived control over the behavior (Ajzen, 1991). The theory of planned behavior helps examine teachers' intentions to perform a behavior (Ajzen, 1991; Paver et al., 2014). The theory of planned behavior includes three distinct elements related to the intent to perform a behavior (Ajzen, 1991; Dunn, Hattie, & Bowles, 2018). One component of behavioral intention is "the attitude toward the behavior" (Ajzen, 1991, p. 206). Subjective norms and "the degree of perceived behavioral control" are two additional factors related to the intention to implement the desired behavior (Ajzen, 1991, p. 188). With the continued lack of guidance for both teachers and students in the area of DC, considering ways to address DC that correspond to teacher beliefs, attitudes, and intent could offer workable solutions that affect teachers' decision-making related to DC instruction (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018; Lindsey, 2015).

Teacher Intention to Adopt New Skills and Factors that Affect Intention

When considering teacher intention to adopt new skills, the theoretical framework that best supports the analysis of their behaviors is the theory of planned behavior and examining elements related to intention to perform certain behaviors. In this sub-section on teacher intentions associated with the adoption of new skills, there are four sub-sections: (a) barriers to the intention to integrate technology, (b) teacher beliefs and practices related to barriers, (c) challenging teacher beliefs with professional development and support, (d) policies and laws and their impact on digital citizenship instruction.

Barriers to intention to integrate technology. Barriers inhibiting the intention to implement technology can leave teachers feeling a perceived lack of control over

integration, limiting learning experiences with DC skills (An & Reigeluth, 2011; Kim, Kim, Lee, Spector, & DeMeester, 2013; Kopcha, 2012; Monterosa, 2017; Prenger, Poortman, & Handelzalts, 2017; Tondeur, van Braak, Ertmer, & Ottenbreit-Leftwich, 2017). Ertmer (1999), a seminal author on barriers to technology integration, examines first- and second-order barriers that can limit technology integration, which can impact DC instruction as a result. First-order barriers are outside of teacher control "and include lack of access to computers and software, insufficient time to plan instruction, and inadequate technical and administrative support" (Ertmer, 1999, p. 48). Teachers perceive first-order barriers to technology integration, such as a lack of time, workload, technology resources, and support, as a hindrance to integrating technology (Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013). While progress has been made over time to improve those barriers, there is still work to be done (An & Reigeluth, 2011; Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; Prenger et al., 2017). Limited technology integration reduces opportunities to embed DC skills instruction.

Second-order barriers that can inhibit the integration of technology are "intrinsic to teachers and include beliefs about teaching, technology, established classroom practices, and unwillingness to change" (Ertmer, 1999, p. 48). Some teachers have a perception that devices, such as laptops, can create a chaotic classroom environment, and some struggle to fit it into their schedules with other requirements (Tondeur et al., 2017). According to Ashmeade (2016), training and resources increased familiarity with DC. The growth of digital media use by students calls into question traditional instructional methods (McGillivray et al., 2016). As a result, teachers need training and support to shift

their perceptions related to technology integration and corresponding DC skills (McGillivray et al., 2016).

Teacher beliefs and practices related to barriers. Barriers that can hinder DC instruction are the lack of awareness and training for educators to facilitate the integration of those skills into the curriculum (Hollandsworth et al., 2011; Lindsey, 2015). Often the problem begins in teacher preparation courses where studies indicate that pre-service teachers do not receive the training to help them embed media literacy and DC skills into instruction (Gretter & Yadav, 2018). In a quantitative study examining the teachers' DC levels, 348 in-service teachers surveyed indicated that teacher beliefs about the use of Internet-based technologies should be part of pre-service teachers' course of study and professional development (Choi et al., 2018). Pre-service teachers enrolled in a class that utilized Facebook to communicate throughout the course indicated that they believed the technology is helpful in the learning process (Saini & Abraham, 2019). However, the participants indicated that they need to develop a level of comfort and intention when integrating technology skills, such as DC, into their instruction (Saini & Abraham, 2019). Teachers need training to foster growth in DC skills beginning in pre-service coursework and continuing into their in-service work to overcome barriers and embed those skills into teaching and learning (Choi et al., 2018; Gretter & Yadav, 2018; Saini & Abraham, 2019).

Challenging teacher beliefs with professional development and support. Teacher beliefs related to technology can become a barrier to technology-related skills development (Ertmer, 1999). When there are barriers to technology use, such as teacher beliefs, it limits teachers' ability to integrate DC skills into the learning process (Lindsey,

2015). Teacher beliefs and practices should be challenged to minimize or remove second-order barriers to technology and DC integration through training and support to increase their confidence with the desired skills (Bai & Ertmer, 2008; Coldwell, 2017; Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; Tondeur et al., 2017). With increased confidence in DC instructional practices, teachers can provide students access to digital tools and learning experiences for using those skills (Gleason & von Gillern, 2018). Removing barriers to technology integration is an issue that is evident over time because it has been a topic of study for approximately two decades or more (Bai & Ertmer, 2008; Coldwell, 2017; Ertmer & Ottenbreit-Leftwich, 2013; Tondeur et al., 2017).

However, when confronting practices that teachers have utilized for a long time, it is important to offer strategies that teachers can implement quickly to avoid disengagement with the intent to implement new strategies (Bovill et al., 2016; Curwood, 2014). Curwood (2014) developed a mission statement to guide the learning community of high school teachers in that study. While the main focus was not technology, the "nature of learning, meaning-making, and social interaction" in their mission statement connect to the use of technology (Curwood, 2014, p. 21). The mission statement included involvement in the global community, communication with others, and development of information literacy skills (Curwood, 2014). Curwood (2014) indicated that implementing technology-related educational reforms depends on the capacity, values, and beliefs of the educators implementing the reforms.

Coldwell (2017) examined the impact of a path model of professional development and its impacts on teachers and desired learning outcomes. Teachers in the Coldwell (2017) study experienced an increase in confidence in their instructional

abilities due to skills learned in professional development on topics related to science topics offered by Science Learning Centers in England. A similar study that tackled time and training barriers by offering professional learning during staff meetings helped increase technology use for teacher participants (Ashmeade, 2016). Gathering perspectives from teachers about their beliefs and barriers that hinder DC instruction and how that affects teachers' perceived control of integration strategies can facilitate the development of a context-based DC plan (Ashmeade, 2016; Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; McGillivray et al., 2016; Mertens, 2010; Tondeur et al., 2017). This section covers (a) perceptions and beliefs about intentions to integrate digital citizenship, (b) teacher attitudes toward digital citizenship, and (c) policies and laws and their impact on digital citizenship instruction.

Perceptions and beliefs about intentions to integrate digital citizenship.

Helping teachers change their beliefs, skills, and behaviors associated with the use of the Internet requires engaging them as digital citizens as part of their professional development that immerses them into digital environments (Choi et al., 2018; Saini & Abraham, 2019). Are they using the Internet to engage with others and complete daily activities, and do they participate in and contribute to society using social media to communicate and network with others (Choi et al., 2018)? Does the professional development offered to teachers demonstrate how to engage students in the use of technology that addresses DC skills in ways that shift perceptions and beliefs about including those skills in their instruction (Blevins et al., 2014; Payne, 2016)? Teachers need to perceive themselves as digital citizens to better understand the critical need for

teaching DC skills to their students (Choi et al., 2018) and recognize that they are in control when integrating those skills (Ajzen, 1991).

If teachers are expected to utilize participatory technologies, such as social media tools, to experience their impacts on teaching and learning, they need to develop a level of comfort integrating social media and other new technologies into instruction (Saini & Abraham, 2019). Research indicates that teacher perceptions of the implementation of technology-rich strategies benefitted from involving teachers throughout the process of developing technology-rich lessons (Cviko, McKenney, & Voogt, 2014; Huizinga et al., 2014). Kim et al. (2013) suggest that when expanding teachers' technology integration practices and corresponding DC awareness, beliefs connected with learning are essential to consider. Professional development and support help to increase perceived confidence concerning educators' instructional abilities due to skills learning during professional development (Coldwell, 2017). An on-going effort to shift teacher beliefs helps change perceptions and behaviors incrementally as time progresses (Kim et al., 2013). Educators need to feel a perceived sense of control when integrating technology, involvement in the process, and on-going support to reinforce their intent to implement technology-related skills in their classrooms (Ajzen, 1991; Choi et al., 2018; Coldwell, 2017; Cviko et al., 2014; Huizinga et al., 2014; Kim et al., 2013; Saini & Abraham, 2019). Change in perceptions and behaviors can be achieved in small steps that consider the needs of teachers (Kim et al., 2013).

Teacher attitudes toward digital citizenship. Teacher attitudes toward DC and related skills are generally positive in research (Gretter, 2018). However, teachers who participated in Payne's (2016) study did not view DC as requiring on-going attention.

Teacher attitudes have a significant impact on their intent to perform certain behaviors, such as integrating technology and DC skills into instruction (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018; Lindsey, 2015; Paver et al., 2014). The relationship between behaviors perceived as useful and teachers' attitudes about the behavior in Paver et al. (2014) was positive and statistically significant. Attitudes tend to have the most significant influence on planned behavior (Lindsey, 2015) and can be motivated by both intrinsic and extrinsic factors (Prenger et al., 2017). Dunn et al. (2018) determined that the influence of independent variables on the intent to perform behaviors is statistically significant. The results indicate that the theory of planned behavior would be helpful when evaluating teachers' behavioral intentions related to implementing DC skills in their classrooms (Dunn et al., 2018). Addressing teacher concerns related to DC instruction that affect their attitudes toward the subject can help increase their intent to embed those skills into instruction (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018; Lindsey, 2015; Paver et al., 2014; Prenger et al., 2017).

Policies and laws and their impact on digital citizenship instruction. Waiting until children are older to teach DC skills is not realistic because children often use devices at young ages and need guidance to develop digital literacies and online safety skills (Blackwell et al., 2014; Kabali et al., 2015). As children access the Internet beginning at a young age, they explore new ways to communicate online, which increase the risk to their safety in digital spaces (Livingstone & Brake, 2010). Dewey (1903) made a valid point when he posited that waiting until people are ready to take on "intellectual and social responsibilities would have defeated every step in the democratic direction that has ever been taken" (p. 198). If teachers are expected to teach DC skills with

consideration for laws and policies, professional development is necessary to foster an understanding of those laws and policies (Payne, 2016).

Policies and laws can make it challenging for educators to provide learning experiences that involve the use of technologies that students use in their lives outside of school (Ohler, 2011). Filtering and blocking websites in schools is often the result of state and federal laws and make it challenging to provide learning experiences that involve social media and other Internet-based tools. Children's Internet Protection Act [CIPA] (FCC, 2011) is a federal law requiring Internet filtering, and districts receive discounts for Internet connectivity, as well as hardware to facilitate that connectivity. District administrators around the United States cite the need to comply with the safety and privacy aspects of CIPA as part of their approach to DC (FCC, 2011; Monterosa, 2017). Payne (2016) reported that filtering the Internet provides a false sense of safety online for teachers and students. When teaching DC skills, barriers, such as Internet filtering, can limit or prevent children from experiencing digital environments similar to those they would experience at home (Ertmer, 1999; Ohler, 2011).

School districts have requirements that guide online behavior and safety, called an acceptable use policy, or responsible use policy (FCC, 2011). Developing acceptable use policies that empower students to take charge of developing DC skills can help (Dotterer, Hedges, & Parker, 2016). In one study, educators were responsible for leading a shift from an acceptable use policy to a responsible use policy to move away from a safety and security focus toward encouraging students to take charge of their behavior and encouraging responsible use of technology (Monterosa, 2017). Monterosa (2017) found that federal, state, and school policies need to be updated to meet the current needs of

students. At the very least, it is essential to discuss the district policies for Internet use with students and discuss their rights and responsibilities (Lindsey, 2015; Monterosa, 2017). In educational environments, managing risk to students is critical, but locking down systems to prevent real-world learning opportunities is not offering students digital environments that support authentically practicing needed skills (McGillivray et al., 2016). It is essential for teachers to understand and follow laws and safety rules while providing students empowering opportunities to explore, use the Internet to interact with others, and participate online in ways that help them practice positive engagement and thrive in digital environments (Dotterer et al., 2016; Lindsey, 2015; Livingstone & Brake, 2010; McGillivray et al., 2016; Monterosa, 2017; Ohler, 2011).

Co-Creation through Professional Learning and Support

In this study, it is critical to include the voices of students, teachers, support staff, and the principal in the development of the DC plan because they will be more likely to continue to implement the end product; though there are barriers that could affect implementation, such as a lack of content knowledge (Huizinga et al., 2014). When teachers work together to develop materials they will implement, it creates a sense of ownership and a better understanding of how it will work in their classrooms (Voogt et al., 2015). Situated professional development and collaboration are components used in this study to socially co-construct a DC plan that the teachers would want to implement (Englert & Tarrant, 1995; Gazi, 2016; Vygotsky, 1978).

The section on co-creation and professional development is based on social constructivist theory, which is the theoretical framework for the study. The following are the focus of this section: (a) social constructivist learning theory, (b) professional

development and support, and (c) co-creation and working collaboratively as part of professional development.

Social Constructivist Learning Theory

Social constructivism involves the way that social interactions transform into learning at an individual level as "the result of a long series of developmental events," and the "[transformation] continues to exist and to change as an external form of activity for a long time before definitively turning inward" (Vygotsky, 1978, p. 57). Social constructivist theory was the primary theoretical framework used in this study and helped connect the work of the design team and the perspectives contributed by the other participants that became part of the design team's co-created DC curriculum plan. When constructivism is the foundation of a learning community, "[the] learners mediate knowledge within a social context" (Hirtle, 2019, p. 91). When co-creating a DC plan, social constructivist theory supports the collaborative construction of the plan (Churcher et al., 2014; Reynolds, 2016; Vygotsky, 1978). Outlined in this section are the (a) foundations of research, (b) co-creation considerations for teachers and professional learning leaders, and (c) successive approximation model (SAM).

Foundations for research. Social constructivism is an example of a social-cognitive theory (Trif, 2015). A balanced blend of psychological and social elements combines in the learning process (Dewey, 2015; Hirtle, 2019). *Reciprocal determinism* explains how behavior and environment are in a bidirectional relationship (Bandura, 1978; Trif, 2015). Learning is socially constructed and takes place when the learner is empowered in environments where they interact socially with teachers and other students (Dewey, 2015; Hirtle, 2019; Trif, 2015). The teacher sets up experiences for students to

make learning useful and within a child's zone of proximal development (ZPD) (Powell & Kalina, 2009; Trif, 2015; Vygotsky, 1978). ZPD helps teachers understand children's developmental levels so they can provide learning experiences appropriate with their level of understanding, recognize what students can accomplish independently, and determine where they need help (Churcher et al., 2014; Vygotsky, 1978).

Language is a tool in social constructivism that promotes collaborative thinking during knowledge creation (Churcher et al., 2014; Piaget, 1964; Vygotsky, 1978). Individuals learn through co-constructing knowledge while interacting and conversing with others in the learning environment, which helps them gain strategies and gain more global and cultural understandings (Churcher et al., 2014; Palincsar, 1998; Vygotsky, 1978). Social constructivism involves individuals co-creating knowledge through social interaction using language to build meaning in the process (Churcher et al., 2014; Dewey, 2015; Hirtle, 2019; Palincsar, 1998; Vygotsky, 1978).

Co-creation considerations for teachers and professional learning leaders. A lack of awareness of DC skills is a central consideration for teachers and professional learning leaders. There is evidence of a need to examine and increase awareness of DC-related skills in the research, such as social interaction and using technology in productive and responsible ways (Ashmeade, 2016; Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017; Ribble, 2015; Suppo, 2014). Hollandsworth et al. (2017) suggest that while teacher awareness of DC skills is increasing, schools need to develop policies and approaches that support the development of those skills. The training and resources used in Ashmeade (2016) increased familiarity with DC, and the administrator continued to offer professional development based on participant needs. DC awareness

increased from 50% at the beginning of the study to 95% by the end of the study (Ashmeade, 2016). Though teachers in the Choi et al. (2018) study were technology-literate, aware of issues locally and globally, and collaborated with others, they were not as likely to take part in political events in digital spaces, nor did they analyze the information they found online using media literate strategies. Offering professional learning and support to promote the collaborative development of DC skills at all grade levels from pre-kindergarten through grade 12 helps increase awareness (Ashmeade, 2016; Choi et al., 2018; Holland, 2017; Hollandsworth et al., 2017; Ribble, 2015; Suppo, 2014).

The potential for resistance to co-creation exists between students and teachers and should be considered to plan ways to overcome challenges that could arise as a result. Bovill et al. (2011) recognized the challenges in their study concerning possible issues related to the limits of students' experiences, abilities, and risk when involving student voice in the co-creation process (p. 198). Findings indicate that meaningful student contributions are sometimes underestimated (Bovill et al., 2011). Researchers suggest that it is possible to overcome resistance to performing certain behaviors by balancing the specific needs of a project with the individual needs of participants using co-creation to increase motivation (Bovill et al., 2011). Bringing the voices of students, educators, and supporting staff members together in the process of co-creating a DC plan can transform the thinking of individuals, strengthen engagement, and increase the use of evidence-based practices (Bovill et al., 2016). The researchers suggest offering time for discussions to innovate and reflect on their co-creations (Bovill et al., 2011). When working together, evidence indicates that the variety of contributions resulting from the interaction of the

community is superior to what the individual participants could have achieved individually (Englert & Tarrant, 1995). Carefully considering the process of co-creation and articulating expectations from the beginning can help educators move beyond challenges which can transform thinking and promote the intent to use the group's co-created innovation (Bovill et al., 2011; Bovill et al., 2016; Churcher et al., 2014; Vygotsky, 1978).

Successive approximation model. SAM is not a traditional model of systematic instructional design (Allen & Sites, 2012; Sites & Green, 2014). Dr. Michael W. Allen has been involved in e-learning since 1975 and has pioneered SAM as an alternative to other more linear models of instructional design (Allen Interactions, n.d.). SAM is a more current instructional design model that is iterative and action-oriented (Allen & Sites, 2012; Jung, Kim, Lee, & Shin, 2019; Mehran, Alizadeh, Koguchi, & Takemura, 2017; Sites & Green, 2014). SAM begins with a preparation phase in which the group works together to gather information and set objectives (Allen & Sites, 2012; Allen Interactions Agile eLearning Development, n.d.; Sites & Green, 2014). The *iterative development phase* follows the phase in which a rapid prototype is produced (Allen & Sites, 2012; Allen Interactions Agile eLearning Development, n.d.; Sites & Green, 2014). The last phase in the SAM process is the development phase, where the prototype is implemented and refined until it is ready for full implementation (Allen & Sites, 2012; Allen Interactions Agile eLearning Development, n.d.; Sites & Green, 2014). Figure 2.4 illustrates the preparation, design, and development phases involved in SAM. Appendix C illustrates each phase of the winter 2020 co-creation process to further illuminate the design team's work during the development of the DC plan.

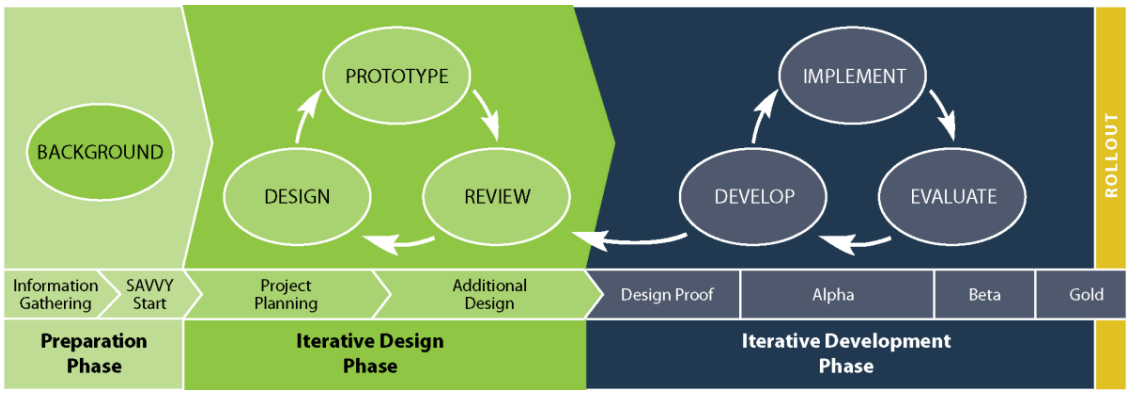


Figure 2.4. The successive approximation model process. Used with permission from "Iterative e-learning development with SAM: SAM process," by Allen Interactions Agile eLearning Development, https://www.alleninteractions.com/sam-process. Copyright 2012 by Allen Interactions Inc.

This section examines SAM based on (a) collaboration and benefits, (b) constraints, limitations, and barriers, and (c) successive approximation model results.

Collaboration and benefits. Stakeholders within the organization collaborate to address a problem through setting objectives, analyzing the needs of the situation, brainstorming, developing a solution, and reflecting on their work to improve the prototype through a process of iterative development (Agudelo & Salinas Ibáñez, 2015; Jung et al., 2019; Sites & Green, 2014). One benefit of SAM is providing a rapid form of systematic experimentation to find a workable design through a series of iterative cycles that help to refine and modify the prototype developed during the process to address the needs of learners (Agudelo & Salinas Ibáñez, 2015; Allen & Sites, 2012; Jung et al., 2019; Sites & Green, 2014). In the end, stakeholder collaboration is required to address DC skills consistently (Hollandsworth et al., 2011). The collaborative nature of SAM promotes a shared reflection of the issue being addressed (Agudelo & Salinas Ibáñez, 2015; Allen & Sites, 2012; Jung et al., 2019; Sites & Green, 2014).

Constraints, limitations, barriers. Considering the contextual constraints and limitations of a project is essential for effective instructional design using SAM, which may require alternative approaches, working within a schedule and budget, and using existing resources (Allen & Sites, 2012; Sites & Green, 2014). Exploring the constraints can help avoid wasting stakeholder time during the process (Allen & Sites, 2012). High-quality instructional design with SAM involves managing risk, considering a variety of options for solutions, involving stakeholders in the process, and take their ideas and opinions into consideration to design the best possible learning experience (Agudelo & Salinas Ibáñez, 2015; Allen & Sites, 2012; Sites & Green, 2014).

Successive approximation model results. Studies indicate that using SAM leads to an efficient, systematic progression through iterations of the prototype developed with the model leading to effective outcomes (Agudelo & Salinas Ibáñez, 2015; Jung et al., 2019; Mehran et al., 2017). Overall, conclusions in the literature about SAM are positive. However, suggestions for future research include examining a wider variety of stakeholder perspectives (Jung et al., 2019), establishing clear objectives from the start (Agudelo & Salinas Ibáñez, 2015), and offering training for stakeholders (Agudelo & Salinas Ibáñez, 2015; Mehran et al., 2017).

Professional Development and Support

Professional development was an essential aspect of co-creating a DC plan in this study. This section covers the (a) considerations related to professional development and support that will improve the efficacy, (b) types of professional development and support, (c) effects of professional development and support, and (d) supporting professional learning and implementation efforts.

Considerations related to professional development and support. It is beneficial to begin slowly and encourage individuals the choice to join when co-creating to avoid participants becoming disengaged from the process (Bovill et al., 2016). Professional development that blends established skills teachers use in the classrooms with new skills had a significant association with components of motivation tested in Markle's (2016) study. It is valuable to create digital spaces for teaching and learning that allow students to use digital media to master learning objectives collaboratively (Churcher et al., 2014). Using Web 2.0 tools to develop content, connect and interact socially, share media, publish, consume, and remix media are skills that should be embedded in training so that teachers can transfer the skills learned into their classrooms (Greenhow et al., 2009). Teachers' increased confidence in their instructional abilities in Coldwell (2017) related to the skills they learned in professional learning sessions. When teachers are actively engaged in infusing technology into the materials they create during professional learning, it helps them implement it more effectively in their classrooms (Cviko et al., 2014; Voogt et al., 2015).

Giving educators a sense of ownership in the plan by engaging them in its design can impact their perceptions about implementing the co-created curriculum (Cviko et al., 2014). Technology strategies change along with other aspects of classroom contexts, so educators need to innovate and take part in a continuous cycle of inquiry to address their students' needs (Tondeur et al., 2016). There is a habit of diving in too quickly and receiving limited training, which does little to change teachers' beliefs, capacities, or classroom practices (Kim et al., 2013). Starting slow, involving teachers in active, hands-on learning with technology strategies that they can quickly transfer to their practice, and

empowering them to innovate will help keep their interest and encourage continued innovation (Bovill et al., 2016; Churcher et al., 2014; Coldwell, 2017; Cviko, 2014; Kim et al., 2013; Markle, 2016; Tondeur et al., 2016).

Types of professional development and support. Many methods are utilized to support teacher development of technology integration and DC skills awareness (Ashmeade, 2016; Lindsey, 2015; Monterosa, 2017; Pedersen et al., 2018). Online modules have been used with consistency to develop awareness about DC themes, such as copyright and digital identity development, and are an effective method according to results (Lindsey, 2015). Pedersen et al. (2018) conducted a "value-based workshop" to personalize learning to individual needs based on the participants' values within a heterogeneous group (p. 230). The strategy teachers learn in the workshop moves away from discrete skills instruction and presents learners with a problem that requires them to use new information they are learning to resolve the issue collaboratively (Pedersen et al., 2018). Following up with participants after training helps keep the momentum going from training to classroom implementation. A participant in Houston (2015), a study that focused on the amount of professional learning required to transfer skills learned to instructional practice, suggested that support is an essential element in the process of professional learning.

Design teams and learning communities in face-to-face and online implementations have been used successfully in studies to help teachers develop facility with technology and reflect on instructional practice (Ashmeade, 2016; Bovill et al., 2016; Churcher et al., 2014; Kafyulilo, Fisser, & Voogt, 2016; McGillivray et al., 2016; Saini & Abraham, 2019). The common thread in the examples of professional learning

and support is applying the methods consistently (Ashmeade, 2016; Churcher et al., 2014; Kafyulilo et al., 2016; Lindsey, 2015; Pedersen et al., 2018; McGillivray et al., 2016).

Effects of professional learning and support. The co-creation process is more meaningful to the participants when they are encouraged to conduct frequent reflections about the value of the strategies used throughout (Bovill et al., 2016). When professional learning involves the collaborative use of digital media production skills, such as the production of audio and video materials, it is more engaging to the participants (McGillivray et al., 2016). Markle (2016) reported that when instructors personalize learning to participants' needs, provide active engagement with new strategies, and combine new learning with existing skills increases participant motivation. Interview data from Kopcha (2012) indicates that professional development in classroom contexts promotes and supports integration strategies by teachers. The effects of consistent, meaningful, and systematic professional learning and support are vital to transforming teacher perceptions of new skills they learn during training and can support changes in classroom practices (Bovill et al., 2016; Kopcha, 2012; Markle, 2016; McGillivray et al., 2016).

Supporting professional learning and implementation efforts. Though educators might have an awareness of DC, they could lack awareness of related learning standards, strategies, policies, and laws that affect their use of technology (Payne, 2016). Teachers need professional learning to build their DC skills and successfully integrate meaningful DC experiences into their pedagogy (Curran & Ribble, 2017). Teacher six, a participant in Payne's (2016) study, revealed during an interview that she was never

trained in how to use technology standards in her instruction, nor have they been brought up. Laws, such as CIPA, tend to focus on safety and privacy, which translates into strategies in classrooms that focus on safety and cyberbullying prevention (FCC, 2011; Monterosa, 2017). Only one of the participants in Payne (2016) had an awareness of CIPA (FCC, 2011; Payne, 2016). Outdated district policies related to DC are not effective in helping children with the demands of digital environments that they encounter in their digital lives (Monterosa, 2017). Providing the proper support in the form of resources and training to build capacity with the desired skills development is a critical element in planning and implementing innovative instructional practices (Curran & Ribble, 2017; Monterosa, 2017; Payne, 2017).

Teachers need more time than a half-day training to understand and implement an instructional strategy (Park & Ertmer, 2008). Findings in Houston (2015) indicate that educators need at least eight or nine professional learning sessions to help them embed inquiry strategies into their instruction. Time taken during professional learning to practice skills has significant correlations to motivational components of "compatibility and trialability" (Markle, 2016, p. 49). The complexities of learning new concepts, such as DC, require thoughtful creation of resources, training, and innovative methods of support to build the capacity necessary to develop a DC plan that is motivating for teachers to use (Houston, 2015; Markle, 2016; Park & Ertmer, 2008).

Co-creation and Working Collaboratively as Part of Professional Development

Meaningful professional development requires an investment of time and should attend to the needs and interests of the participants with immersive experiences (An & Reigeluth, 2011). Design team participants work together to improve an issue by

reflecting on it, developing a solution, and using it to alleviate the issue collaboratively (Agudelo & Salinas Ibáñez, 2015). Working collaboratively as a design team will help promote continued collaboration and support during implementation while improving innovation during the co-creation of the plan (Bakah et al., 2012; Churcher et al., 2014). Socially co-constructed knowledge will help the participants collaboratively innovate at a higher level than possible independently (Churcher et al., 2014). This section examines (a) design teams and (b) design teams as an approach to co-creation.

Design teams. Design teams allow educators to come together in a space where they can think about "the teaching of their subject, the intellectual stimulus of working together and the challenge to move the thinking forward" (Bakah et al., 2012, p. 787). When educators participate in design teams, it can lead to developing a community of continuous professional learning (Bakah et al., 2012). After shifting toward teacher-led communities of practice, teacher perceptions toward barriers to technology integration were reported as positive, and they were observed performing beneficial instructional technology practices (Kopcha, 2012).

Design teams as an approach to co-creation. There is evidence that indicates the use of design teams promotes continued collaboration once the original goal for the design team is complete (Bakah et al., 2012). Kafyulilo et al. (2016) found that most of the science teachers who participated in the technology training in the study valued the time they spent sharing strategies and their experiences as members of design teams. When used strategically, collaboration has been found to result in the active development of solutions that address instructional issues (Agudelo & Salinas Ibáñez, 2015; Jung et al., 2019), and the collaboration has continued after the conclusion of the study in some

cases (Ashmeade, 2016; Bakah et al., 2012; McGillivray et al., 2016). In addition, design team participants appreciated the variety of ideas shared as they moved through the development of resources together (Kafyulilo et al., 2016). Issues that can become barriers to co-creation are participants who miss or arrive unprepared for meetings and lack time to collaborate (Prenger et al., 2017). When design teams are set up with the participants' needs in mind and promote teamwork during the process in ways that are engaging to members of the team, studies indicate that participants value the time spent collaborating and might continue the collaboration beyond the immediate purpose of the group (Bakah et al., 2012; Bovill et al., 2016; Kafyulilo et al. 2016; McGillivray et al., 2016).

Chapter Summary

In conclusion, DC skills are essential for appropriate online interactions (Mossberger et al., 2008), and helping children develop those skills should begin at a young age (Blackwell et al., 2014; Hollandsworth et al., 2017). Consistency in teaching DC elements and related skills helps develop an awareness of responsible use and navigate complex issues that arise in online environments (Blackwell et al., 2014; Choi, 2015; Couldry et al., 2014; Hollandsworth et al., 2011; Kabali et al., 2015; Lindsey, 2015). Expanding the traditional focus of DC in elementary to encompass more skills than online safety is essential to students and their digital identity development (Mirra et al., 2018; Ribble, 2015). Offering experiences that help students experiment with DC skills, rather than targeting specific skills for instruction is an effective way to help students strengthen DC skills and address digital identity development (Boechler et al.,

2014; Churcher et al., 2014; Gleason & von Gillern, 2018; Hollandsworth et al., 2017; McGillivray et al., 2016; Saini & Abraham, 2019).

Helping teachers understand the benefits and overcome barriers by giving them a voice in the process of co-creating DC instruction helps establish ownership of the process and promotes innovation (Bovill et al., 2011; Churcher et al., 2014; Cviko et al., 2014; McGillivray et al., 2016). Collaboratively addressing issues related to DC instruction that responds to perceived barriers and teacher attitudes toward the concept supports solutions that affect teacher intentions related to teaching the concept (Ajzen, 1991; Dunn et al., 2018; Ertmer, 1999; Gretter & Yadav, 2018; Lindsey, 2015). Social constructivism is a framework that uses language to encourage collaborative thinking as part of the learning process and helps stakeholders learn (Churcher et al., 2014; Piaget, 1964; Vygotsky, 1978). Conversations during the learning process help learners make sense and develop an awareness of DC skills and the related use of technologies in responsible and productive ways (Ashmeade, 2016; Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017; Ribble, 2015; Suppo, 2014). Support and training that is active and engaging during the process of developing and planning for DC instruction further increase educators' confidence in their ability to embed the skills into instruction (Coldwell, 2017; Cviko et al., 2014; Greenhow et al., 2009; Voogt et al., 2015).

CHAPTER 3

METHODS

Research Design

I conducted a descriptive study in the fall of 2020 to analyze participant perceptions of an action inquiry process completed in the winter of 2020. My descriptive research's qualitative design helped me examine my participants' realities related to DC skills development (Frels & Onwuegbuzie, 2013; Mertens, 2010). The qualitative study's advantage was the ability to combine "multiple perspectives, data collection tools, and interpretive strategies" (Marshall & Rossman, 2016, p. 19) to analyze the data and answer the research questions. The lessons that emerged from this study will inform my work with other schools to develop planning protocols for DC instruction. Since two research designs came together to address and describe the needs of the context in this study, the researcher describes both aspects of the research design as part of the thick, rich descriptions in this study. This section describes (a) action research and (b) descriptive studies.

Action Research

The winter 2020 co-creation event was an action inquiry process that lasted from January 2020 to March 2020. It involved qualitative methods to engage educators and students in co-creating a DC plan. Both action research and traditional forms of research, such as qualitative research, address issues through an inquiry process that uses systematic procedures to collect and interpret data that address DC issues in the context

(Gay, Mills, & Airasian, 2012). Action research and traditional research might explore similar topics, but the way the inquiry proceeds differs. Action research takes a more personal approach to inquiry than traditional research because educators are "interrogating [themselves] and [their] circumstances" in the context of their educational environment (Kemmis, McTaggart, & Nixon, 2014, p. 7). Engaging in action research benefits both the educator and students in the educational context involved in the inquiry (Mertler, 2017).

Action research was a vital tool to use as the basis of the winter 2020 co-creation event because it allowed me the opportunity to "generate knowledge that can be fed back into the setting under study" to effect change (Herr & Anderson, 2005, p. 6). "Collaboration on projects" is a feature of action research (Creswell, 2012, p. 578) that aligned with my goal of co-creating a DC plan with fifth- and sixth-grade teachers and students who participated in the study. Action research methodology is a cyclical and systematic process carried out in an academic setting by educators to explore and improve teaching and learning issues (Creswell, 2012; Hine, 2013; Mertler, 2017; Mills, 2018). Action researchers collect, analyze, and interpret data to resolve the instructional issues (Gay et al., 2012; Mertler, 2017; Mills, 2018).

This section offers an overview of the winter 2020 co-creation event that was the basis of this descriptive study to provide background on events that led up to the descriptive study of the data collected during the action inquiry. Pseudonyms were used to maintain the participants' privacy, and the design team member pseudonyms include -DT that stands for *design team* to set them apart from other participants in the inquiry.

Winter 2020 co-creation event. The winter 2020 co-creation event was an action inquiry that was the basis of this descriptive study. I worked with a purposively selected design team to analyze data collected from surveys, documents, and interviews to co-create a DC plan that aligns with the educators' needs and perspectives in the intermediate school. Once the planning process was complete, I reflected on the process with the design team members and presented the finished plan to administrators and staff members. The benefit of this action research for the intermediate school was immersing participants in DC elements through resource-sharing, staff meeting presentations, and design team collaboration to co-create a plan that addressed stated needs (Mertler, 2017; Vygotsky, 1978).

The event that kicked off this inquiry began in January 2020. During a staff meeting on January 8, 2020, I introduced the staff to the winter 2020 co-creation event and how they could contribute to developing the DC curriculum plan. At the meeting, I shared information about the study and the raffles for participating in the study. The reciprocity motivated the educators to participate (Creswell & Poth, 2018). Everyone received a gift for participating from a prize bag, and each week there was a raffle drawing of participant names for a gift card. Figure 3.1 shows the brochure I created for the staff as a reference for the reciprocity activities that would take place each week during the winter 2020 co-creation event.

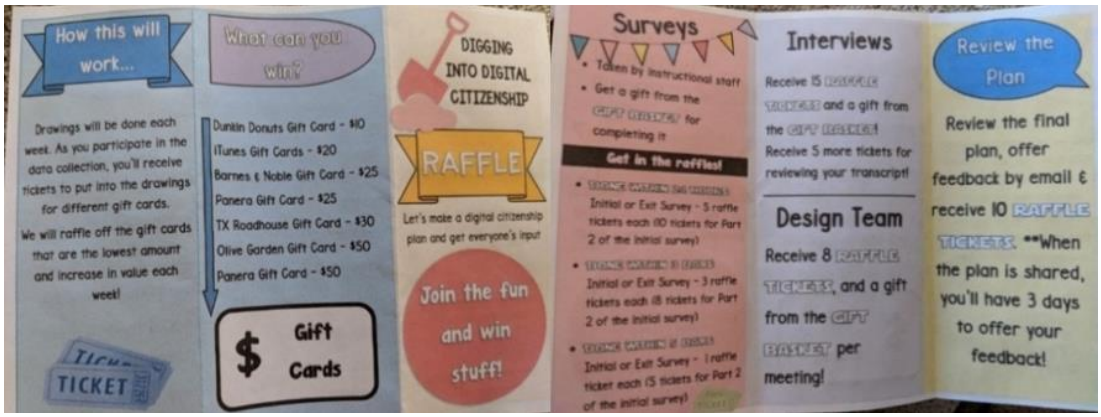


Figure 3.1. Brochure with information about the data collection process and how it related to the raffles for reciprocity.

Before the data collection began, I developed a folder structure in Microsoft Office 365 and naming conventions for the documents to easily track them. Document filenames started with the design team member number, a dash, and the data source's name – for example, *DT2-Survey* would be the survey document analyzed by Quin-DT. Using a naming convention for the documents and folders helped the design team access the correct documents in Microsoft OneDrive. Figure 3.2 illustrates the naming convention for folders for each design team member based on their assigned design team member number. Inside the folders were the documents for them to analyze and view for the data analysis. The contents of the folder are illustrated in Figure 3.3.

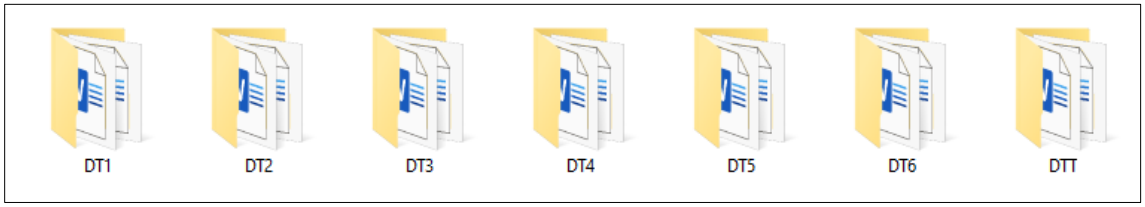


Figure 3.2. Image of the folder naming convention for the design team documentation.

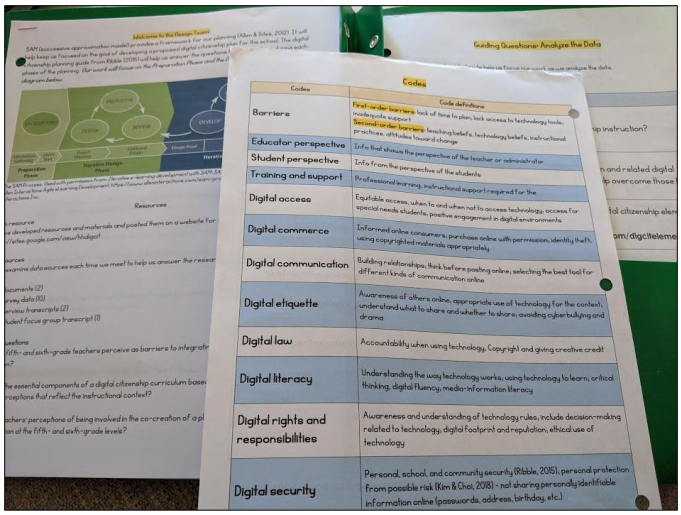


Figure 3.3. Design team guiding materials.

I transcribed the data into an easily accessible format within that folder structure for the design team to perform their coding with *a priori* and eclectic codes. The two semi-structured interviews were scheduled and completed by January 16, 2020 and transcribed by January 17. The student focus group of seven students met with me on February 5, 2020, in the school library workroom. The data from our conversation was transferred to Microsoft Word documents in shared folders in Microsoft Office 365 for the design team members to access anywhere they had Internet accessibility. Each design team member was assigned a number and their Office 365 folder with the documentation corresponding to their design team number. The first design team meeting was on January 21, 2020, and we met for an hour. I gave them a folder with handouts (see Figure 3.3) to support them through the process of coding and analyzing the data. I explained that the purpose of our meetings was to create a plan for DC using the data from the data sources to inform our work. Using participant perspectives as the foundation for the plan

was an important aspect of all our conversations (Frels & Onwuegbuzie, 2013; Mertens, 2010).

Design team members learned to bracket segments of text from each of the data sources and add *a priori* and open, or eclectic, codes to capture additional ideas, insights, and concepts in the data during the analysis process to inform our planning (Creswell, 2014; Creswell & Poth, 2018; Saldaña, 2016). The design team decoded the data by reading through each data source individually, a line at a time, to increase trustworthiness (Creswell & Poth, 2018). We encoded it with labels that were either *a priori* codes or eclectic codes that they chose to briefly characterize the meaning of the bracketed text (Bazeley, 2013). They started the coding process with the document review of the district acceptable use policy and the school student handbook. Coding, according to Saldaña (2016), is "the transitional process between data collection and more extensive data analysis" (p. 5).

As the data collection progressed and the design team members coded more documents, I uploaded data into the BOCES database to analyze the data. I used the sorting features in the database to identify the codes that occurred most frequently or that seemed important for various reasons to begin to see categories (Bazeley, 2013). The documents that we used and the resulting bracketed text in each document were the "social products" examined to extract the data that would go into each part of the DC plan (Saldaña, 2016, p. 61). The page in the database where I uploaded documents is shown in Figure 3.4.

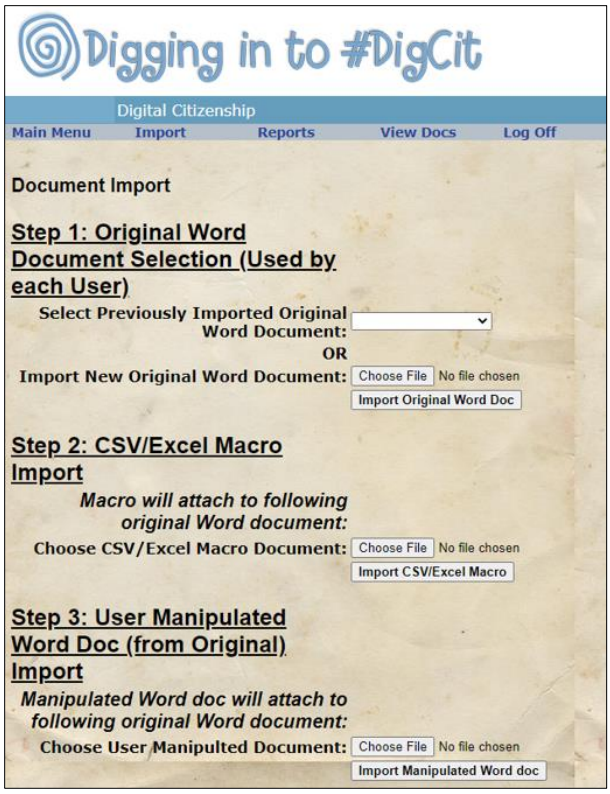


Figure 3.4. BOCES database upload page.

The coding done by the design team revealed the instructional staff's perspectives in the building and the design team's perspectives that decoded and encoded them (Frels & Onwuegbuzie, 2013; Mertens, 2010; Saldaña, 2016). The BOCES database and Microsoft Excel helped me to sort the data, which enabled me to examine, reflect, and find emergent ideas, perspectives, categories, and themes as each new dataset was bracketed and coded (Bazeley, 2013; Creswell & Poth, 2018; Marshall & Rossman, 2016; Saldaña, 2016). After each design team meeting, I would reflect and write about experiences during the meeting in my research journal to serve as a map of my research and an audit trail of my thinking (Bazeley, 2013; Saldaña, 2016).

I developed ideas about how the data related to each section of the plan with possible strategies for filling in each section based on the analysis of each data source,

primarily using deductive analysis during this phase of the action inquiry (Bazeley, 2013; Marshall & Rossman, 2016). The deductive analysis was used to preserve the participant perspectives and represent their ideas transparently in the plan (Marshall & Rossman, 2016; McMillan, 2016). Then I presented the analyses to the design team at each meeting supported by data reports from the BOCES database, so they could identify where ideas originated, such as the barriers and solutions, and encourage their feedback as a form of member checking throughout the process (Bazeley, 2013; Creswell & Poth, 2018; Marshall & Rossman, 2016; Mertler, 2017). They reviewed, discussed, and questioned my interpretation of the data to reach a consensus about the accuracy of my interpretation and adjust as needed (Creswell, 2014; Marshall & Rossman, 2016). I used the Reports feature in the database to create and print reports for the design team to review. An example of a report is shown in Figure 3.5. Given the limited time frame and the team members' comfort levels with DC, I needed to spend hours doing an in-depth analysis as the team leader and report back to the design team to perform member checking on my analysis.

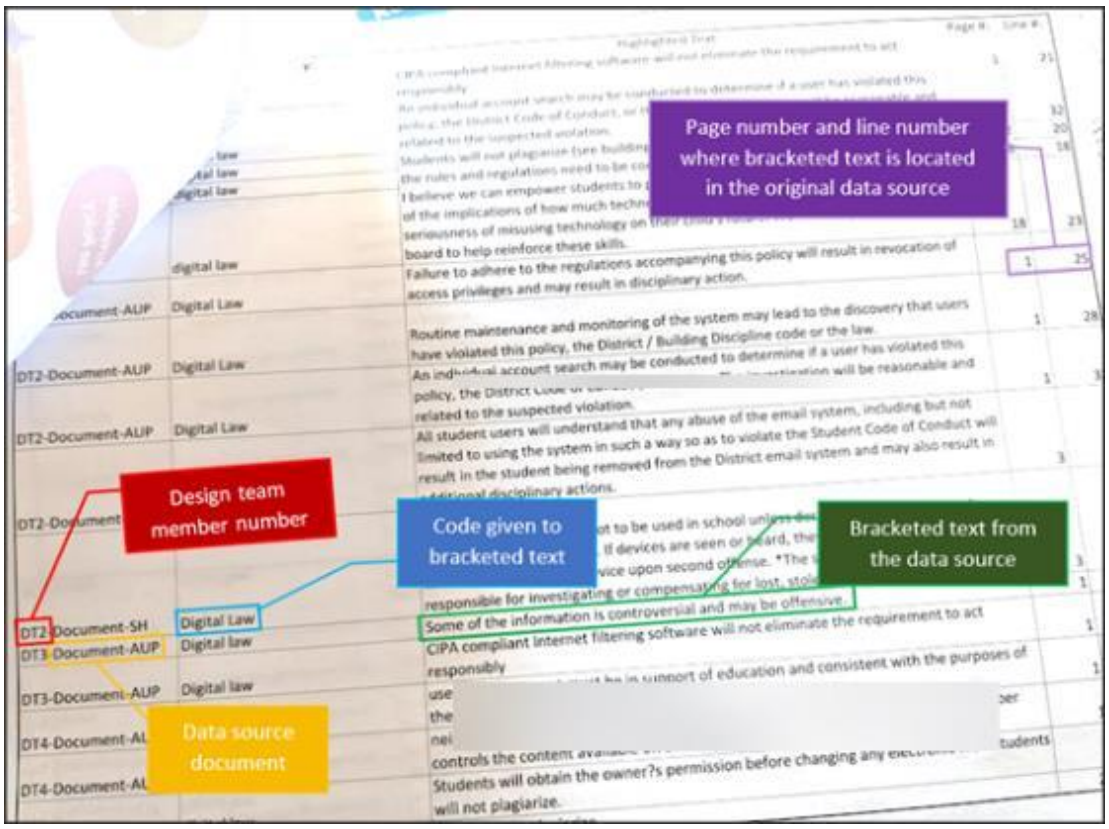


Figure 3.5. Example report from the BOCES database that the design team members would use to compare the data to the analysis summary I would share at the design team meetings.

The bracketed and coded data's initial analysis and interpretation was "my contribution to the meaning-making enterprise" (Saldaña, 2016, p. 17). Then the rest of the design team members asked questions for clarification and offered their impressions of my interpretations based on their understanding of the data, in a “bidirectional dialogic exchange of issues” (Saldaña, 2016, p. 17) and co-created meanings (Vygotsky, 1978). We examined instructional practices that were part of tasks within the cultural practices of the context (Bazeley, 2013; Creswell, 2014). Many patterns emerged related to routines, rules, roles, and relationships (Creswell, 2014; Creswell & Poth, 2018; McMillan, 2016; Saldaña, 2016).

SAM (Allen & Sites, 2012) inspired the cycles of analysis and the Ribble (2015) cyclical procedure for developing a DC plan. After the analysis at each meeting, we would look at the planning template in a shared Microsoft Word document (Appendix C) and collaboratively add details to the plan supported by the data analysis and findings each week. We would refine our work as we learned more with the data analysis from each data source (Allen & Sites, 2012). The process was cyclical because we compared "data to data, data to code, code to code, code to category, category to category, and category back to data" to find themes (Saldaña, 2016, p. 67) and support the development of the DC curriculum plan (Appendix C).

The design team began with the data sources, including the existing documents (Appendix A), survey data, and transcriptions of the interviews and the focus group discussion, to examine the data. We "[constructed] practical knowledge that is responsive to its environment" (Marshall & Rossman, 2016, p. 20). Throughout the winter 2020 co-creation event, my connection with the participants was an essential element of the data gathering and facilitating the design team that met periodically to co-create the DC plan that fits the instructional needs of the learning environment (Frels & Onwuegbuzie, 2013; Marshall & Rossman, 2016; Mertens, 2010).

Descriptive Studies

The fall 2020 descriptive study took place from September 2020 through December 2020. Descriptive studies are a form of non-experimental research in which the original inquiry took place prior to the descriptive analysis (Mertler, 2017). Using a descriptive study design helped investigate my research questions because the DC literature base is limited at the elementary level (McMillan, 2016). Doing descriptive

research helped me better understand DC perceptions in the context and respond to the research questions in the descriptive study based on participant perspectives from data sources collected during the winter 2020 co-creation event (Frels & Onwuegbuzie, 2013; McMillan, 2016).

Descriptive studies require the researcher to offer details about information gleaned from their inquiry (Mertler, 2017). The fall 2020 descriptive study followed the co-creation of the DC curriculum plan. During the descriptive phase of the study, I analyzed and described the processes, experiences, and beliefs of individuals involved in the collaborative planning process (Ajzen, 1991; Ertmer, 1999; Kim et al., 2013). I analyzed all of the data collected during the winter 2020 co-creation event from the documents, surveys, interviews, student focus group, design team exit discussion, and research journal. My questions were aligned with the data sources. I examined conclusions about associations among variables and fully described the participants and data sources to analyze the descriptive study data (McMillan, 2016).

When designing the descriptive study, I thoroughly described my data instruments that were initially used in the winter 2020 co-creation event, aligned my research questions with the data sources, and used qualitative terms to describe how data were related (McMillan, 2016). The data instruments are described in the *Data Collection Methods and Data Sources* section of chapter three. When describing findings in chapter four, I used graphs, figures, tables, and thick, rich descriptions to report information from my findings and answer the research questions (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; McMillan, 2016; Mertler, 2017). Coding and categorizing the data led to

finding patterns and themes that supported answering the research questions (Creswell & Poth, 2018).

The descriptive study resembled a funnel in which the focus narrowed as the study progressed and themes became apparent (Bogdan & Biklen, 2007; Frels & Onwuegbuzie, 2013). Through multiple rounds of coding and categorization, I identified patterns in the data, which led to themes that helped answer the research questions using inductive analysis (Creswell, 2014; Mertler, 2017; Saldaña, 2016). I analyzed participant perspectives from the data sources to "present [a] thick description of reality" (Marshall & Rossman, 2016, p. 264). Data were analyzed and triangulated to characterize participant experiences (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016). The analysis allowed me to examine and reflect on participant perspectives and their experiences throughout the data collection and analysis process (Frels & Onwuegbuzie, 2013; Saldaña, 2016).

Setting and Participants

This descriptive study is based on an action inquiry that took place at the Upstate Intermediate School in the Upstate New York School District, which is in an area of suburban and rural communities. I chose the intermediate school for the winter 2020 co-creation event because of its compatibility with my study's goals to perform a descriptive analysis of the resulting data and report findings to answer the research questions (Durdella, 2018). Most teachers at the intermediate school use technology frequently, which enhances the need for integrating DC skills consistently (Al-Zahrani, 2015; Ohler, 2011). I felt that the participants' perspectives on technology integration and DC were

significant in this setting and deserved further analysis in the descriptive phase of my study to support answering the research questions.

The DC plan developed during the winter 2020 co-creation event was based on the stakeholders' perspectives at the intermediate school to motivate them to adopt the plan and teach the skills more consistently (Ajzen, 1991; Frels & Onwuegbuzie, 2013; Powell & Kalina, 2009; Vygotsky, 1978). It was important to understand teacher attitudes toward DC and examine how teaching the skills was perceived in the context to encourage the intentional integration of skills into instruction, which corresponds to the theory of planned behavior (Ajzen, 1991; Gretter & Yadav, 2018). Seeking participant beliefs and attitudes about digital citizenship was part of the process involved in influencing their intention to teach DC (Dunn et al., 2018) because taking part in implementing the plan would be voluntary. Making the plan by addressing barriers and including components they felt were important for their students were essential parts of the co-creation process.

The process for developing the plan was connected with the setting and participants from the winter 2020 co-creation event. For this descriptive study, it is important to note aspects of the setting and my involvement in it to help the reader better understand where the winter 2020 co-creation event took place and the setting's relationship to this descriptive study. The participants from the winter 2020 co-creation event also played a vital role in providing perspectives relevant to this descriptive study and require some introduction to the reader. This section explains (a) setting and (b) participants in the winter 2020 co-creation event.

Setting

Many teachers in the school use technology in their classrooms frequently. The teachers have been exposed to DC concepts for years. The intermediate school teachers often collaborate on projects and frequently request support when teaching DC skills. Working with the design team members in the winter 2020 co-creation event connected the setting with this descriptive study, supported analysis procedures, and resulted in thick, rich descriptions of the data (Bloomberg & Volpe, 2016).

The intermediate school comprises grades five and six and is one of the seven schools in the district. The school is on one floor, and all fifth- and sixth-grade teachers are located in one building. During the winter 2020 co-creation event, working with staff and students on this research was more efficient than working with elementary grade levels spread across four buildings. The design team participants met in Isla's classroom during the winter 2020 co-creation process. Isla was a design team member. We used the laptop cart in her classroom to access the Microsoft OneDrive folders with the data collection documents. The details of the data collection procedures are described in the Data Collection section of this chapter.

As previously stated, there were 30 educators and 606 students in the intermediate school at the time of the study, a ratio of approximately one teacher to 20 students. The district is located in an area that covers approximately 35 square miles. The school consists of socioeconomically diverse students at the fifth- and sixth-grade levels, though most are from middle-class families (New York economic data, n.d.). As stated in chapter 1, there were 315 laptops on mobile carts and 84 Apple iPads available for classroom use at the intermediate school. The intermediate school's extensive use of technology in

many classrooms throughout the building provided a suitable environment to encourage both teachers and students to contribute ideas that helped the design team members co-create a DC plan (Bovill et al., 2016; Vygotsky, 1978). The resulting data contained valuable information providing a wealth of responses to develop themes that supported answering research questions.

The culture in the building surrounding educational technology integration is primarily positive. The principal is a technology leader and encourages his staff to utilize it to enhance teaching and learning. Technology use is optional in the context, but teachers in the school integrated technology at varying levels based on their ability, time, and availability of resources. The district did not have a specific plan for teaching DC that teachers must follow and because it is optional, addressing DC varied from classroom to classroom. As teachers use educational technology tools and strategies with their students, they may or may not teach corresponding DC skills. If they do, the teachers approach DC in various ways, without a shared vision for helping students learn these skills. Since students at the school are at an age where they are beginning to develop their digital identities, it is a crucial age to spend time exploring the development of DC skills with students (Erikson, 1997; Greenhow et al., 2009; Hollandsworth et al., 2011; Piaget, 1964). This study's purpose was to describe the processes, experiences, and beliefs of individuals involved in a collaborative action research project to develop a DC curriculum in the context. The setting of the winter 2020 co-creation event offered a firm foundation for this descriptive study.

Participants

Participants in this descriptive research originally participated in the winter 2020 co-creation event. Selecting participants for the winter 2020 event was an important aspect of the fall 2020 descriptive study. Pseudonyms have been used in this writing to protect the privacy of the participants. The data collected from participants in the winter 2020 co-creation event included their valuable perspectives. This section describes the (a) background information about winter 2020 participants and (b) winter 2020 participant selection process.

Background information about winter 2020 participants. I had worked extensively with teachers in the district and this building for over ten years. I was aware of the teachers' educational technology skills and integration practices because of our frequent interactions over many years. Initially, I presented the winter 2020 co-creation event at a staff meeting to help instructional staff members understand its purpose (Appendix B). After the initial introduction to the study, I conducted the sampling procedures for each phase of the study and emailed potential participants to ask them to take part. I invited them to participate by email to avoid pressuring them to participate (Creswell, 2014). I felt it was beneficial for participants to be inspired to join in the inquiry process voluntarily, so they did not think it is an extra responsibility but a valuable process for them and their students as a means of reciprocity (Creswell, 2014; Creswell & Poth, 2018). In my descriptive analysis, I used participant perspectives to inform my understanding of the barriers to DC instruction in the context, essential DC components at the fifth- and sixth-grade levels, and perceptions of involvement in the

study. It was important to me that they felt their participation was valuable and voluntary as part of my descriptive analysis of their responses.

Winter 2020 participant selection process. The participant selection process was significant because the educators in the context provided responses in the winter of 2020 data collection procedures that were used in the descriptive study's data analysis. The process for selecting the participants for the winter 2020 co-creation event provides the reader with additional information about their contributions to the descriptive analysis of the data. The participants are central to the descriptive analysis. Understanding how they were chosen offers the reader insight into the researcher's thoughts during the original data collection and analysis procedures that preceded the descriptive study.

For the interviews, I chose two educators in the context who I believed were familiar with DC and would feel comfortable talking about it. The winter 2020 interview participants were Ivy, a teacher who included aspects of DC in her instruction, and Paul, the principal who handles DC issues periodically. Their substantive responses offered significant insights into understanding DC.

A convenience sampling of seven students who gave their assent after their parents gave informed consent participated in a student focus group (Creswell, 2014). The students offered their brief but important perspectives to the conversation and helped keep student needs in mind as the design team developed the plan during the winter 2020 co-creation event. Gathering a variety of perspectives guided the development of a plan that would support all instructional staff with the resources, support, and training necessary for effective implementation of the plan if the principal chooses to move forward with implementation (Frels & Onwuegbuzie, 2013; Mertens, 2010).

All instructional staff members were asked to participate in a short-form of the survey about DC at the beginning of the study to share demographic data, rank the Ribble (2015) elements, and define DC. I invited 11 teachers to participate in the long-form survey with open-ended questions about DC to explore their thinking about the concept further. Those participating in the long-form survey were selected using purposive sampling based on desired characteristics to fully understand the problem and answer the research questions (Creswell, 2014; Creswell & Poth, 2018; McMillan, 2016). The long-form survey participants were chosen based on their levels of technology integration and DC awareness. A balanced representation of abilities was chosen based on comfort level with technology – from limited to advanced.

Using purposive sampling, I intentionally selected six teachers to participate in the design team that co-created the DC plan with my support to approach the way teachers address the concept at the fifth- and sixth-grade levels (Bakah et al., 2012; Creswell, 2012; Kafyulilo et al., 2016; Powell & Kalina, 2009; Vygotsky, 1978). The six design team members were selected using purposive sampling because it is frequently "a feature of qualitative research [and] researchers handpick the cases to be included… on the basis of their judgment of… particular characteristics being sought" (Cohen, Manion, & Morrison, 2007, pp. 114-115). I selected teachers from both the fifth- and sixth-grade levels to participate on the design team. Those who integrated technology frequently had an awareness of the concept of DC and wanted to develop a DC plan were asked to participate. When purposively selecting the teacher participants for the design team, I considered "the relationship the participants have with the topic and the relationship the participants… have with each other" (Flick, 2018, p. 254). The willingness of teachers to

discuss the topic and collaborate were essential aspects of this inquiry. I wanted to maximize the "potential for common ground to elicit sharing and comparing" information about DC (Flick, 2018, p. 254). Their perspectives are described in detail in the findings section in chapter four and used to support answering the research questions in chapter five.

At the end of the study, design team members participated in an exit discussion about DC aspects and their involvement in the data collection and planning process (Creswell, 2014; Creswell & Poth, 2018). Our discussion helped examine their thoughts and perspectives about their participation (Frels & Onwuegbuzie, 2013; Mertens, 2010). At the design team exit discussion, the team members rated the elements again to determine if their ratings had changed from before participating to after the co-creation process. The design team exit discussion provided insights into shifts in the members' thinking based on their participation in the winter 2020 co-creation event. Their perspectives were combined with the other participants' beliefs and insights to facilitate analysis and development of the thick, rich explanations of the data in the descriptive study.

Data Collection Methods and Data Sources

Data Collection

The data analyzed in this descriptive study was collected during the winter 2020 co-creation event. This section describes the data collection methods and data sources that were the origin of the data from the winter 2020 planning process analyzed and explained in this descriptive study. The descriptive analysis led to answering research questions for this descriptive study about barriers to DC instruction, essential components

of a DC plan in the context, and the participants' perceptions of their involvement in the planning process.

Data sources in qualitative research are extensive, narrative, and involve multiple data collection methods, such as interviews, document review, and open-ended surveys (Bloomberg & Volpe, 2016; McMillan, 2016; Marshall & Rossman, 2016; Mertler, 2017). The data collection methods in qualitative studies can be complex (Marshall & Rossman, 2016). Table 3.1 illustrates the data sources that correspond to each research question. The data collection methods from the winter 2020 co-creation event used in this descriptive study were selected to gather, interpret, and address the needs of teachers and students by co-creating a DC plan based on their perspectives. Background information about the data sources offers transparency about the methods used by the researcher. It helps the reader understand why each data source was utilized in the original co-creative planning process and their connection to the descriptive study. The data sources for the descriptive study, which originated from the winter 2020 co-creation event, included: (a) document review, (b) surveys, (c) interviews, (d) focus group, (e) research journal, and (f) design team.

Table 3.1. *Data Alignment Table: Research Questions, Data Sources, and Analysis Methods*

Research question	Data source	Analysis methods
RQ 1: What do fifth- and sixth-grade teachers individually and collectively perceive as barriers to integrating digital citizenship skills in their instruction?	• *Individual*: Survey (10 purposively selected staff members) • *Individual*: Semi-structured interviews • *Collective*: Design Team	• Inductive analysis

Research question	Data source	Analysis methods

RQ 2: What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a digital citizenship curriculum in the instructional context?	• Design Team – descriptive statistics and code counts
	  ○ Surveys
	  ○ Semi-structured interviews
	  ○ Student focus group
	  ○ Document review of existing documents: Acceptable Use Policy; Student Handbook
	  ○ Cycles of SAM and Plan
		• Inductive and deductive analysis

RQ 3: What are teachers' perceptions of being involved in the co-creation of a plan for digital citizenship implementation at the fifth- and sixth-grade levels?	• Surveys • Interviews • Researcher's Journal • Design Team Exit Discussion	• Inductive analysis

Document review. Conducting a document review is an example of using primary sources to collect qualitative data related to research question two (Bloomberg & Volpe, 2016), as specified in Table 3.1. Documents can consist of "written records, visual data, artifacts," and other primary sources made during the study or developed apart from the study (Bloomberg & Volpe, 2016, p. 157). They enhance other forms of data collection, such as interviews, by offering additional insight into "values and beliefs of participants" (Bloomberg & Volpe, 2016, p. 157) to represent viewpoints of teachers and students equitably (Mertens, 2010). Combining document review with other data sources helped triangulate the data, represented participant experiences fully, and enhanced credibility as part of both the winter 2020 event and the fall 2020 descriptive analysis (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016).

As part of the document review, the district's Acceptable Use Policy is an existing document that offers guidelines for student use of technology in the district. The school's student handbook is another existing document examined in the data collection process using coding to determine common themes. These documents were developed "as a natural outgrowth" of the instructional context (McMillan, 2016, p. 350). They provided direct and indirect information about skills that corresponded with DC concepts and supported answering the research questions (McMillan, 2016). The documents gave further insights into findings and supplemented the process of data analysis (Bloomberg & Volpe, 2016).

Examining existing documents at the beginning of the design team's work together in the winter of 2020 fostered an understanding of current instructional requirements relating to DC-related skills and provided a foundation for the plan, clarifying existing DC expectations skills development (Mertler, 2017). It also supported the descriptive analysis in this study, giving insights into expectations that guide the use of digital technologies in the district. Combining the document reviews with other data sources offered a complete picture of the DC aspects instruction in the context and enhanced the data analysis process in the descriptive study (Bloomberg & Volpe, 2016).

Surveys. Surveys are a form of data generated by the researcher and completed using online methods to collect data efficiently (Marshall & Rossman, 2016). While surveys are often associated with quantitative studies, they can be utilized in qualitative research to analyze participants' experiences and perceptions (Bloomberg & Volpe, 2016). In qualitative studies, surveys contain open-ended questions (Marshall &

Rossman, 2016) and are combined with other methods to make connections and find patterns in data (Bloomberg & Volpe, 2016).

The short- and long-form surveys were created in Google Forms and emailed to instructional staff in the building to complete in January 2020. The surveys, combined with other data sources, helped the design team create the DC plan based on their interpretation of the participants' perspectives from the data and finding patterns (Creswell & Poth, 2018). The protocols and questions for surveys and the exit discussion for the design team are located in Appendix D. In my descriptive analysis of the survey data, and participant responses revealed perspectives from educators in the building with a range of DC awareness and varying levels of teacher implementation of those skills (Frels & Onwuegbuzie, 2013; Mertens, 2010). Survey responses were a valuable source of information related to all of the research questions in the descriptive study and demonstrated thoughtful reflection by the participants.

Interviews. Interviews can be an "overall strategy or… one of several methods" used in a qualitative study (Bloomberg & Volpe, 2016, p. 183). Interviews were conducted during the winter 2020 co-creation event to address all of the research questions, as indicated in Table 3.1. The interviews encouraged reflection on instructional practices and student use of skills related to DC. Interviews are a primary source of descriptive qualitative data in which I asked participants questions to collect data from individuals and small groups (Bloomberg & Volpe, 2016; Mertler, 2017; Mills, 2018). Interviewing participants allowed them to elucidate and expand upon information collected during the study (Bloomberg & Volpe, 2016).

Interviews are considered a method that helps the researcher understand the world based on the participants' perspectives (Creswell & Poth, 2018). The study's purpose and research questions guided the development of the interview questions and participants who participated in the interviews (Creswell & Poth, 2018). Additionally, the Ribble (2015) chapter on *developing a plan for digital citizenship* supported developing the data sources' questions (p. 64). The principal and teacher who were interviewed participated in semi-structured, one-on-one interviews in January 2020 to share their thoughts about barriers, skills, and perceptions related to DC in their context (Creswell, 2012).

The semi-structured interview questions were open-ended and focused on the study's purpose and the descriptive research questions (Creswell, 2012; Creswell & Poth, 2018). The interview protocol is found in Appendix E. Their extensive and thoughtful responses helped clarify perceptions about DC in the context, supported the design team as they co-created the DC plan, and were an integral part of the descriptive study's data analysis and findings (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016). The interview questions supported answering the three research questions in my descriptive study. Table 3.2 outlines the questions that were included in the interviews and how they aligned with the research questions in the descriptive study.

Table 3.2. *Phase Two Interview Questions*

Research question	Interview Questions
What do fifth- and sixth-grade teachers individually and collectively perceive as barriers to integrating digital citizenship skills in their instruction?	• How does the need for rules and regulations related to student technology use compare with the district mission of Explore - Empower - Excel? [RQ 1, 2] • How can we empower students to practice authentic digital citizenship skills and work within the rules and regulations related to technology use in schools? [RQ 1, 2]

Research question	Interview Questions
	• What digital citizenship issues do you encounter most often with students? [RQ 1, 2] • How do you address them? [RQ 1] • Give some examples of ways you address them. [RQ 1] • Should instructional staff be responsible for teaching digital citizenship? Why? [RQ 1] • What prevents teachers from integrating digital citizenship into their instruction, in your opinion? [RQ 1] • Do you have suggestions for overcoming barriers? [RQ 1, 2] • What are some ways you have noticed that student behaviors related to technology use impact others at the intermediate school? [RQ 1, 2] • What are some ways we can prevent digital citizenship-related issues before they occur? [RQ 1]
2. What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a digital citizenship curriculum in the instructional context?	• How does the need for rules and regulations related to student technology use compare with the district mission of Explore - Empower - Excel? [RQ 1, 2] • How can we empower students to practice authentic digital citizenship skills and work within the rules and regulations related to technology use in schools? [RQ 1, 2] • Do you have suggestions for overcoming barriers? [RQ 1, 2] • How do you define digital citizenship? [RQ 2] • Is digital citizenship important for children to learn? [RQ 2] • What digital citizenship issues do you encounter most often with students? [RQ 1, 2] • What aspects of digital citizenship are most important for students to learn? [RQ 2] • Where does digital citizenship fit into the curriculum? How can we make room for it? [RQ 2, 3] • Which elements of digital citizenship seem most important for students to learn, from your perspective? Why? [RQ 2] • What are some ways you have noticed that student behaviors related to technology use impact others at the intermediate school? [RQ 1, 2]

Research question	Interview Questions
3. What are teachers' perceptions of being involved in the co-creation of a plan for digital citizenship implementation at the fifth- and sixth-grade levels?	• What types of professional learning do you think we should offer to support teacher implementation of digital citizenship skills? [RQ 3] • How do you feel about contributing to a digital citizenship plan that could potentially be used at the intermediate school? [RQ 3]

Focus group. Focus groups are a qualitative data collection measure, also called group interviews, which involve observing those who participate in the discussion and interviewing them (Bloomberg & Volpe, 2016; McMillan, 2016). Those who participate in focus groups are chosen based on shared experiences or concerns relating to the research purpose. Their discussion led to a better understanding of the research topic (Bloomberg & Volpe, 2016; McMillan, 2016). Focus groups are more conversational and flexible than individual interviews and invite participants to share opinions and ideas related to the topic and build on the group members' thoughts (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016). Despite their flexible nature, they are structured (Bloomberg & Volpe, 2016). Questions are planned to guide the conversation and reveal perspectives, perceptions, and ideas that help answer the research questions (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016). Issues related to focus groups include minimizing individual voices or viewpoints in the group, thinking collectively and not creatively, finding time and space to meet, and lack of facilitation skills (Bloomberg & Volpe, 2016; McMillan, 2016). Knowing the issues helps the researcher prepare for them and overcome them in the planning.

Student focus group. Seven student participants took part in a focus group interview in February 2020 to determine their perceptions of the DC skills they think they

need and how to approach learning them. The student focus group interview was audio-recorded, transcribed, and lasted approximately 30 minutes or less. I asked them questions about their vision for learning about DC in school and how the skills could be taught in meaningful ways (Appendix E). They were shy but offered excellent insights that aligned with teacher perspectives about important skills at their grade levels. Their perspectives were essential in balancing their views with the teachers as we co-created a DC plan that represents the combined views of both teachers and students (Marshall & Rossman, 2016; Mertens, 2010). The student focus group was semi-structured and allowed students to share their perceptions and expand on each other's responses (Creswell, 2012; Marshall & Rossman, 2016; Mills, 2018). Conducting a focus group with students offered a deeper understanding of DC awareness. The brief but important opinions and their experiences related to the research topic, which impacted the descriptive analysis and resulting explanations related to research question two in my study (McMillan, 2016).

Research journal. Using a research journal provided an audit trail and helped me reflect on and keep track of the ideas that I had during the analysis process in the winter of 2020 (Bazeley, 2013; Creswell & Poth, 2018). I used the research journal to record conversations with participants and requests for DC support to track aspects of the environment as part of my audit trail. I kept the journal in a Microsoft Word document in OneDrive to access it anywhere and take notes before losing my train of thought. I had access to the document on my phone wherever I went and on my laptop (Creswell & Poth, 2018). The journal helped keep track of my thinking during the winter 2020 co-creation event (McMillan, 2016). My thoughts about each meeting or preparation leading

up to design team meetings were included to make my thinking transparent and document the collaborative process of data analysis to avoid bias and increase the results' trustworthiness (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; McMillan, 2016). The information in the research journal contributed to the results of the descriptive study by providing details and insights into my own thinking throughout the winter 2020 research activities.

Design team. The design team consisted of four fifth- and two sixth-grade teachers who participated in the winter 2020 co-creation event. The work of the design team was a major contribution to the co-creation of the DC plan and the meaning-making process of the descriptive study (Saldaña, 2016). During their collaborative efforts in the winter of 2020, they focused on perceived barriers to implementing DC skills, attitudes related to the skills, essential DC elements, and ways to embed the skills into instruction based on their analysis of the data to co-create the plan (Ajzen, 1991; Creswell, 2012; Dunn et al., 2018; Gretter, 2018; Marshall & Rossman, 2016; Mills, 2018; Vygotsky, 1978). The design team used the framework for planning in Appendix C that was created by combining SAM (Allen & Sites, 2012) and the guide for "developing a plan for DC" (Ribble, 2015, p. 64).

During the winter 2020 co-creation event, the design team coded and reviewed data collected from the data sources to co-create a DC plan that matches the instructional context of the intermediate school (Bovill et al., 2016; Vygotsky, 1978). The data for the plan came from existing documents (Bloomberg & Volpe, 2016; Bowen, 2009), semi-structured interviews (Bloomberg & Volpe, 2016; Mertler, 2017; Mills, 2018), a survey (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016), and a student focus group

(Creswell, 2012; Creswell & Poth, 2018). Data was located in a shared Office 365 folder with folders and documents for each design team participant to analyze and review in the winter of 2020.

It would not have been feasible for each member of the design team to analyze all of the data. As a result, they received two to three surveys, each to analyze and one interview to support the co-creation of the plan. They were placed into their Microsoft OneDrive folders so that there was some overlap in the analysis, and more than one person analyzed each survey and interview. Following the data analysis, I uploaded the documentation with participant comments to a local database on a secure server on the BOCES network. The database also counted the frequency of each code used in the analysis process. The group used a list of *a priori* codes for deductive analysis and made their own codes for inductive analysis of the data located in Appendix C (Creswell & Poth, 2018).

With each set of data, we bracketed the text related to DC in the winter of 2020. As part of our conversations, we discussed on our rationale for the codes that we used and their relationship to the research questions. They looked for text relating to barriers, support needs related to DC instruction (Ertmer, 1999; Kopcha, 2012), and DC elements to teach in the context (Choi, 2015, 2016; Kim & Choi, 2018; Ribble, 2015). Then we shared ideas, compared data, and made connections to the plan as we moved through the analysis process. Table 3.3 lists questions that guided the design team's highlighting, comments, and discussion.

Table 3.3. *Questions to Guide Highlighting, Comments, and Discussion*

Questions to guide highlighting	Sources that inform the question	Research question alignment
What elements are essential parts of digital citizenship instruction?	Couldry et al., 2014; Holland, 2017; Kim & Choi, 2018; Ribble, 2015	2
What barriers do we notice to technology integration and related digital citizenship instruction in the data? What ideas can help overcome those barriers?	Ertmer, 1999; Ribble, 2015	1, 3
Which activities, behaviors, and issues related to digital citizenship elements or skills do we notice in the data? [Use our graphic organizers to help: https://tinyurl.com/y3lsnfte]	Curran & Ribble, 2017; Ribble, 2015	2, 3
What are the different perspectives revealed in the data? How can they help us to plan for different instructional needs?	Frels & Onwuegbuzie, 2013; Mertens, 2010	1, 3
What is missing from the data that would be good to know?	Frels & Onwuegbuzie, 2013; Mertens, 2010	1, 3
Are there themes that emerge as you highlight and comment on each data source?	McMillan, 2016	1, 2, 3

This section explains the (a) design team exit discussion and (b) designing the plan.

Design team exit discussion. The design team members participated in an exit discussion (see Appendix D) at the end of the data analysis process in March 2020. The design team exit discussion focused on the questions in Table 3.4.

Table 3.4. *Design Team Exit Discussion Questions and Alignment*

Questions	Sources that inform the question	Research question alignment
Did you talk to others in the building about digital citizenship as a result of your participation in the study? Had you done that before?	Monterosa, 2017	[RQ 3]
Have you added digital citizenship skills to your lessons as a result of your participation in the study?	Gazi, 2016, Ribble, 2015	[RQ 1, 2, 3]
Will being involved in the study impact the way you teach digital citizenship in the classroom? Explain your thoughts.	Bakah et al., 2012; Kafyulilo et al., 2016	[RQ 1, 2, 3]
What are your perceptions of the barriers to teaching digital citizenship and strategies chosen to overcome them?	Ertmer, 1999; Kopcha, 2012	[RQ 1, 3]
Will you sign up for professional learning related to digital citizenship offered in the district in the future?	Ajzen, 1991; Gretter, 2018; Kopcha, 2012	[RQ 3]
What are your feelings about contributing to the digital citizenship plan?	Hobbs & Tuzel, 2017; Huizinga et al., 2014	[RQ 3]
Was the process valuable?	Huizinga, Handelzalts, Nieveen, & Voogt, 2014	

The team members also rated the elements to examine whether their rating changed from before the co-creation activities to after the co-creation using the sheet used in the interviews (Table E2.1) with space for them to explain differences in their rankings. The exit discussion with the design team helped determine if being involved changed their behavior and improved their intention to teach DC skills due to being involved in the planning. The design team work, exit discussion, and their element ratings before and after their participation in the design team were significant data sources in my descriptive study and supported answering all three research questions.

***Designing the plan*.** The design team planning template (Appendix C) was developed using the SAM to help design the plan (Allen & Sites, 2012; Sites & Green, 2014). We added to the planning template during each meeting as we worked through parts of the design process. At each meeting in the winter of 2020, the design team updated the plan as we learned more from the stakeholders' perspectives (Mertens, 2010) in our cyclical process of co-creation (Sites & Green, 2014; Vygotsky, 1978). The design team used the data collected during the study and ideas generated at each meeting from the data analysis to discuss the focus for each year of the DC plan and the resources to include outlined in Table 3.5 below. They identified the essential components to include in the plan as they worked through the SAM cycles at each phase of the planning process.

Table 3.5. *Focus for Each Year of the Fifth- and Sixth-Grade Digital Citizenship Plan*

Years of the plan	Basis in literature
1. Vision for digital citizenship and instructional technology in the classroom – the need for committees to consider pedagogy, related district and school policies, community outreach, and student rights and responsibilities	(Gleason & von Gillern, 2018; Kim & Choi, 2018; Kopcha, 2012; Ribble, 2015)
2. Moving to a proactive focus on digital citizenship – web resources and curriculum development, professional learning considerations for digital citizenship and related apps and tools, parent outreach strategies, initiatives	(Blackwell et al., 2014; Hollandsworth et al., 2011; Kopcha, 2012; Ribble, 2015)
3. Extending and spreading the digital citizenship vision to all classrooms in the building over time that increasingly encourages student empowerment	(Hollandsworth et al., 2011; Kim et al., 2013; Ribble, 2015)

In year one of the plan, we developed an awareness and vision for DC for the school (Kopcha, 2012; Pedersen et al., 2018; Ribble, 2015). Year two focused on becoming more proactive with DC-related instruction (Hollandsworth et al., 2011;

Ribble, 2015). Spreading the vision to the rest of the school and community was the focus for year three to keep the discussion going and maintain updates for training and digital resources moving forward (Hollandsworth et al., 2011; Ribble, 2015).

The data sources from the winter of 2020 helped answer the research questions in this descriptive study using participant perspectives based on questions in the data sources aligned to each research question. Data about the first research question were extracted from the long-form survey, semi-structured interviews, and the design team exit discussion. My data analysis from the fall 2020 analysis of the surveys, interviews, student focus group, documents, and design team exit discussion supported answering the second research question about DC components. Research question three was supported by data derived from surveys, interviews, the researcher's journal, and the design team exit discussion. I triangulated all of the data to develop the DC plan based on the participants' perspectives to co-create a plan that appealed to their needs.

Table 3.6 lists the winter 2020 data collection procedures with the products and deliverables that I analyzed in this descriptive study. In phase zero, I wanted to develop a better awareness of DC for the instructional staff. To that end, I developed the resources found in Appendix B to support the design team as they explored the concept of DC further, which incrementally built their awareness throughout our work together (Kim et al., 2013). Phase one offered time for me to gather informed consent and schedule data collection and design team meetings (Appendix B; Appendix F; Appendix G). Phase two involved an iterative process that alternated between data analysis and developing the DC plan (Appendix C). I chose the district's acceptable use policy and the school's student handbook to examine existing documents with information about student behavior on and

offline. The procedures and the timeline of each part of the winter 2020 co-creation event and fall 2020 descriptive study will be explained in more detail in the next section.

Table 3.6. *Winter 2020 Data Collection Procedures and Deliverables*

Phases	Process elements	Products and deliverables
Phase 0	Develop awareness of digital citizenship with instructional staff	• Digital Citizenship Professional Learning Resources (Figure B.1) • Professional Learning Website (Figure B.2) • Digital Citizenship Newsletter (Figure B.3)
Phase 1	Staff meeting introduction to the study	• Introduction to the Study Presentation (Figure B.4) and informed consent forms (Appendix F; Appendix G)
Phase 2	Data collection and analysis: • Document reviews (Appendix A) • Surveys (Appendix D) • Interviews (Appendix E) • Focus group (Appendix E) Alternate between analysis of each data source and digital citizenship plan development (winter of 2020 co-creation event)	• Data transcriptions (document review, surveys, and interviews) entered into macro-enabled Microsoft Word documents and separated into individual design team member folders in Office 365, coded, exported to Microsoft Excel, and uploaded to a local database that provided reports for analysis • Begin constructing the digital citizenship plan using iterative successive approximation model process and Ribble (2015) framework
Phase 3	Finish data analysis and planning Design team exit discussion	• Final plan (Appendix C) • The researcher transcribed the exit discussion into a macro-enabled Microsoft Word document, exported the codes to Microsoft Excel for analysis, uploaded to the local database. Reported with rich, thick descriptions using descriptive statistics from the survey and themes from the discussion.

Procedures and Timeline

This descriptive study's procedures and timeline began with the action inquiry in January 2020 that has been labeled winter 2020 co-creation event. It is essential for the reader to understand both the winter 2020 co-creation event and the fall 2020 descriptive study aspects of this study to grasp the totality of the descriptive study's findings and discussion in chapters four and five. This section describes the (a) winter 2020 co-creation event – procedures and timeline and (b) fall 2020 descriptive study – procedures and timeline.

Winter 2020 Co-creation Event – Procedures and Timeline

The winter 2020 co-creation event procedures are organized in Table 3.7 and outlined in further detail in Table C.1 in Appendix C. The original data collection and analysis activities from winter 2020 were organized into four phases. The information in this section is meant to provide the reader with additional background information and insights into the procedures of the action inquiry phase of the study that preceded the descriptive study phase. Describing the origin of the data makes the procedures more transparent and increases the credibility of the findings and conclusions (Bazeley, 2013; Bloomberg & Volpe, 2016). This section examines the winter 2020 co-creation event phases: (a) phase zero – building digital citizenship awareness, (b) phase one – introducing the study, (c) phase two – data collection, analysis, and planning, and (d) phase three – plan completion and presentation.

Table 3.7. *Winter 2020 Timeline for Data Collection Procedures*

Phase	Expectation	Timeline
Phase 0	Develop a basic awareness of digital citizenship elements	Fall 2019
Phase 1	• Introduce the study • Identify participants • Share data collection information with those who consent to participate • Schedule and conduct interviews	Winter 2020 Weeks 1 - 2
Phase 2	• Design team meetings 1-3 • Student focus group (week 4)	Winter 2020 Weeks 2 - 5
Phase 3	• Design team meetings 4-7 • Member-check the plan	Winter 2020 Weeks 5-8

Phase zero – building digital citizenship awareness. In phase zero, teachers increased their awareness of DC through resource sharing and presentations to raise their awareness of DC elements and skills. At staff meetings during the fall and winter of the 2019-2020 school year, I shared DC information to expand awareness of the concept. I offered a two-hour session on DC basics called Digital Citizenship 101: Digging into the Elements, prior to the study's start date, but intermediate school staff members were unable to attend. The resources that I planned to use for the training are found in Appendix B. Since the training was optional, I also provided teachers with a newsletter on DC with resources that I shared via email during the fall to build awareness of the concepts.

By the time phase one began, the teachers had received information about fundamental DC skills, strategies, and examples through staff meetings, emails, and newsletters. The support provided helped teachers learn introductory DC concepts and prepared them for the data collection to effectively respond to DC questions and develop the curriculum plan.

Phase one – introducing the study. This phase of the winter 2020 co-creation event involved coordinating materials and communication with staff. Phase one began with an introductory presentation at a staff meeting about the purpose of the research, the methods, and ethical considerations for maintaining participants' privacy during the study (Appendix B). The presentation reviewed the nine elements of DC (Ribble, 2015). I prepared for the data collection by giving informed consent sheets to instructional staff during the initial staff meeting (Appendix F).

Participants received specific packets with information specific to the interviews, surveys, and design team to inform those participants of the requirements. I followed up with an email invitation to join the study, asked them to email me if they wanted to participate, and send their consent form to me via inter-office mail. Additionally, teachers who asked me to do a DC overview with their students in the 2019-2020 school year received informed consent forms for their students to take home for parents to sign for the student focus group (Appendix G). Teachers and students' parents filled out and returned the forms within the first two weeks of the study. Students returned them to their teachers, and I picked them up from there.

I made appointments and conducted interviews with the principal and classroom teacher during the first week of the study. The interviews both took place on January 16, 2020. Being flexible about when to schedule the interviews was necessary because I wanted to demonstrate that I valued their time and wanted to do the data collection measures at their convenience.

Survey data collection opened on January 16 and closed on January 25, 2020, because the design team needed to code and analyze the data as part of the systematic

procedures for co-creating the plan. Staff members who participated in the survey during phase one of the study took a short- or long-form of the survey. The short-form survey asked participants to answer demographic questions, rate the Ribble (2015) elements, and define DC. The long-form survey had additional open-ended questions in addition to the questions on the short-form. I purposively selected eleven participants to participate in the long-form survey based on a range of instructional technology ability and DC awareness. Asking teachers with a range of DC awareness to participate in the long-form survey provided perspectives about barriers and essential components of the concept to meet the instructional and learning needs in the context. All of their ideas and perspectives were valuable to the design team and this researcher. Survey participants received an email that included a link to their assigned survey during phase 1 of the study so that they could complete it in Google Forms (Appendix D). The surveys and interviews provided data related to all three research questions.

Teachers interested in DC and who had a basic awareness of the concept were purposively chosen to participate in the design team. The design team discussed the data and worked toward the co-created DC plan. I selected the design team members by week one and scheduled our first meeting together by the second week of the data collection period. The design team met for one hour after school seven times over seven weeks. I set an agenda for each meeting and created a planning template based on the SAM from Allen and Sites (2012) and a DC planning guide (Ribble 2015). The documentation that guided the work of the design team is found in Appendix C. Their work was digitized and kept in the BOCES database that housed the data collected throughout the study. The

design team coded and analyzed the data with my support from the instruments from January 2020 through February 2020.

I kept a research journal in all phases of the action inquiry that I used during the descriptive analysis to support descriptions of the winter 2020 co-creation event. The contents of the research journal included information about each of the design team discussions and interactions with participants in the context to make my thoughts transparent, avoid bias, and increase the trustworthiness of the results (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; McMillan, 2016). Using a research journal provided an audit trail and helped me track the ideas that I had during data collection and analysis (Creswell & Poth, 2018). The research journal helped track the co-creation of the DC plan that fits the instructional context (Creswell & Poth, 2018).

Phase two – data collection, analysis, and planning. During Phase 2 of the study, I conducted the student focus group on February 5, 2020 (Appendix E). I conducted the student focus group during the second phase of the data collection with seven students. The student focus group consisted of students from classes that participated in a DC overview that I did with classes during the fall and winter of the 2019-2020 school year, so they were aware of DC skills. Responses from the focus group participants addressed the second research question about the essential DC components represented in the plan and reflected the instructional needs in context.

I also continued meeting with the design team (Appendix C). The participants in the design team meetings served as a collaborative group who helped code and analyze the data and create the DC plan. They discussed the perspectives related to the first two research questions, analyzed the data from each data collection instrument. They worked

toward a DC plan for instructional staff based on the Ribble (2015) guide and SAM (Allen & Sites, 2012). I facilitated the process and supported their work. The proposed agendas for the meetings shifted based on our progress at each meeting but provided a framework to keep the meetings focused on the planning process (Appendix C).

Phase three – plan completion and presentation. Phase 3 involved finalizing the draft of the DC plan that I presented to the administrators and the staff members. The design team developed the DC plan based on the discussions of the data analyzed throughout the study. Appendix C contains the methods, questions, and considerations for the discussion and planning process adapted from Ribble (2015). Each agenda in Appendix C helped guide the iterative process of data analysis and planning. The design team members had final approval of the plan as a form of member checking (Creswell & Poth, 2018). Their feedback served as a final check of the plan before presenting it to the administrators on March 4, 2020, a larger group of administrators on March 9, 2020, and staff on March 11, 2020 (Mills, 2018). The design team participated in an exit discussion on March 10, 2020, about the process we used to develop the plan and whether we addressed the educators' needs in the plan that we co-created.

The data from the design team exit discussion was compared with their short-form survey data to support answering the third research question about the participants' perceptions of participating in the planning process. Inductive and deductive analysis, as well as descriptive statistics, were used to compare the responses from both instruments to determine if their perceptions changed from the beginning to the end of the study (Creswell, 2014).

Fall 2020 Descriptive Study – Procedures and Timeline

The timeline for the fall 2020 descriptive study and procedural details are briefly presented in this section. More extensive details about the procedures used to code, categorize, and theme data can be found in the *Qualitative Data Analysis* section in chapter four. This section will deal primarily with the timeline of events in the fall 2020 descriptive study. Table 3.8 shows the fall 2020 descriptive analysis phases that underpin the rich descriptions in chapters four and five. This section describes (a) phase one – coding, (b) phase two – categorization, (c) phase three – data visualization, and (d) phase four – themeing.

Table 3.8. *Fall 2020 Phases of the Descriptive Analysis for the Descriptive Study*

Phase	Expectation	Timeline
Phase 1	• First-cycle coding of all data sources	September 4, 2020 to October 23, 2020
Phase 2	• Second-cycle categorization of all data sources • Establish major categories by grouping initial categories • Used major categories to categorize data	October 23, 2020 to November 5, 2020
Phase 3	• Visualization of data • Creation of graphic organizers	November 8, 2020 to November 18, 2020
Phase 4	• Themeing the data	November 19, 2020 to December 2020

Phase one - coding. I started the fall 2020 descriptive analysis in September 2020. The coding of the data sources began on September 4 and ended on October 23. I coded documents by starting with the two documents that had not been coded during the winter 2020 co-creation event – the design team exit discussion and research journal. I bracketed the text in all of the data sources line-by-line to increase the credibility of the data analysis (Creswell & Poth, 2018; Marshall & Rossman, 2016; Saldaña, 2016). Table

3.9 shows the data sources that originated in the winter 2020 co-creation event. The table lists the documents used in the fall 2020 descriptive analysis compared with those used in the winter 2020 co-creation process.

Table 3.9. *Data Sources – Descriptive Analysis and Winter 2020 Co-creation Process*

Data sources used in descriptive study	Data sources used in the winter 2020 co-creation process
Design team exit discussion	School student handbook
Research journal	District acceptable use policy
Student focus group	Surveys
Surveys	Interviews
Interviews	Student focus group
School student handbook	
District acceptable use policy	

In the fall 2020 descriptive analysis process, I coded one document at a time until all documents from the winter 2020 co-creation event were completed. I performed three rounds of coding during the first cycle of coding. Using macro-enabled Microsoft Word documents, I coded the data for each data source using the comment tool in Microsoft Word. Then I used the macro to extract the comments and bracketed text into a separate Word document that I pasted into Microsoft Excel (Bazeley, 2013). I saved the codes from each Word document on separate tabs in Microsoft Excel and made a Reflect tab for each document to reflect on the process as it happened.

Phase two - categorization. The second cycle categorization began on October 23, 2020 and ended on November 5, 2020. I printed and clipped the data into strips and sorted them into categories. The process is described in the *Qualitative Data Analysis* section in chapter four. During the categorization process, I shared my thoughts as an audit trail for transparency and definitions of categories on the Reflect tabs during the

second cycle categorization of the data as I sorted the data into order (Bloomberg & Volpe, 2016; Creswell, 2014).

Near the end of October 2020, I started to funnel the data into a more manageable format (Bogdan & Biklen, 2007). I developed major categories that encompassed multiple sub-categories I had created to look for patterns in the data. The process I used is explained in the *Qualitative Data Analysis* in chapter four. Then I conducted a second round of categorization using the major categories. Doing this procedure helped me begin to see patterns in the data. The data was uploaded to the BOCES databases for further review.

Phase three – data visualization. Given the amount of data, I found it helpful to visualize it by creating graphic organizers of the categories (Bazeley, 2013; Saldaña, 2016). I used them to help me continue to refine the data and work toward themes. After completing the graphic organizers, I used them to develop statements related to the major categories. More detailed information about this phase is described in detail in chapter four, *Qualitative Data Analysis*. I developed the graphic organizers and initial themeing statements from November 8, 2020, to November 18, 2020.

Phase four - themeing. Phase four began on November 19, 2020 and continued into December when I began to write chapter four in early December 2020. In this phase, I printed out the statements from phase three and sorted them into eight themes, which I then compiled into the three major themes upon the advice of my dissertation chair in our peer debriefing session about this part of my process (Bazeley, 2013; Mertler, 2017). The development of the themes led to corresponding assertions expanded upon in the

Presentation of Findings section in chapter four. This phase led into writing chapters four and five of the descriptive study from December 2020 through March 2021.

Rigor and Trustworthiness

It was essential to embed "mechanisms for verifying [my] processes" as I conducted the research (Mertler, 2017, p. 142). In qualitative studies, researchers use multiple ways to check the "accuracy of the information" to increase the study's credibility (Creswell, 2014, p. 201). I used rigor and trustworthiness methods in both the winter 2020 data collection and analysis and the fall 2020 analysis. In this section, I summarize the methods I used for validating the rigor and trustworthiness of the findings and interpretations that resulted from this inquiry: (a) member checking, (b) reflexivity, (c) triangulation, (d) prolonged time in the research environment, (e) peer debriefing, and (f) thick, rich descriptions. These methods enhanced the detailed descriptions resulting from my analysis of the data.

Member Checking

Member checks are done with research participants in research to offer feedback regarding the accuracy and authenticity of the data representation and overall interpretation of the data in the study's reporting (McMillan, 2016; Mills, 2018). I used a local database created by a programmer from BOCES in both the winter 2020 and fall 2020 phases of data analysis. In the winter of 2020, design team members were able to view data collected throughout the study, verify the accuracy, and offer suggestions for changes as needed during the process and gave them a voice in the data analysis (Marshall & Rossman, 2016; McMillan, 2016; Mertler, 2017). The design team participants offered member checks to share their perceptions about the trustworthiness

of the interpretations of the data and the findings from our work during the study (Bloomberg & Volpe, 2016). I offered participants a chance to explore themes to determine their accuracy after the fall 2020 analysis and sent them an email asking them to share any concerns or thoughts about the resulting themes from the descriptive analysis (Creswell, 2014; McMillan, 2016).

Reflexivity

I frequently engaged in reflexivity or reflective practices throughout the winter 2020 data collection and analysis in the form of a researcher journal (Bloomberg & Volpe, 2016; McMillan, 2016). I used the research journal to capture my thoughts, experiences, decision-making, and biases, along with notes from interviews, to create an audit trail for me to reflect on my role in the research and remain focused on the purpose of the study (Flick, 2018; McMillan, 2016; Mertler, 2017; Mills, 2018). The audit trail I created with the research journal during the inquiry process helped me focus on answering the research questions in this study (McMillan, 2016). I tracked how my thought processes evolve throughout the research and how they impact the interpretations of the data (Bloomberg & Volpe, 2016). The audit trail of notes about my reflexive thoughts was an essential practice that was done throughout the study to understand my impact on the research, and how the study impacted me, to maintain transparency and ethical practices, and to improve the credibility of the inquiry (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; Flick, 2018).

In the fall 2020 descriptive analysis, I used my Microsoft Excel workbook where I kept the qualitative data to reflect on the data as I progressed through the analysis. As I developed codes and categories, I made reflection tabs in the workbook for each data

source to track my thoughts throughout the process and how I conducted the data analysis. It facilitated the writing of the qualitative procedures for this descriptive study found in chapter four.

Triangulation of Data

Triangulation of data is a method used in research to "[seek] convergence of findings, cross-validation, among different sources and methods of data collection" (McMillan, 2016, p. 357). I collected and analyzed multiple data sources in this study with the design team, such as interviews, surveys, and document reviews, using triangulation (Flick, 2018; Mills, 2018). The BOCES database helped me compile the data into one spot where the information could be compared to uncover categories and themes. Uploading the coded and categorized information into the database allowed the design team to work with me to "examine evidence from the sources… to build a coherent justification for themes" (Creswell, 2014, p. 201). It also provided a way for me to independently track my thinking as I performed the data analysis in the fall of 2020. I used triangulation to check that interpretations of the data were "comparable" across data sources within the inquiry as a way to validate the conclusions (Bazeley, 2013, p. 406). Using triangulation helped me to achieve a depth of understanding of DC instruction and planning for it in the instructional context where my study took place (Bloomberg & Volpe, 2016).

Prolonged Time in the Research Setting

During the winter 2020 data collection and analysis, I often visited the research setting to further my depth of knowledge related to DC in the educational context at the intermediate school (Creswell, 2014; Creswell & Poth, 2018; Marshall & Rossman,

2016). I spent more time at the intermediate school collecting and analyzing data with participants to observe the educators in their environment and better understand their needs and perspectives (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; Frels & Onwuegbuzie, 2013). The extended time provided a deeper understanding of the site and the educators to increase the credibility of my description of the findings (Creswell, 2014). It was essential to maintain focus on the study's goals to avoid going native, which refers to the researcher's involvement in the study to the point where it becomes difficult to finish the research or possibly compromises the research outcomes (Bloomberg & Volpe, 2016). As a result, I set boundaries and kept participants informed of the research goals to help maintain focus on developing the DC plan and complete the co-created plan in the winter of 2020 (Flick, 2018).

Peer Debriefing

I participated in peer debriefing with my dissertation advisor throughout the research process (Creswell & Poth, 2018; Marshall & Rossman, 2016; McMillan, 2016). Participating in meetings periodically with Dr. Morris offered an opportunity to perform an "external check of the research process" (Bloomberg & Volpe, 2016, p. 46). The peer debriefing allowed me to receive feedback on the data analysis and findings to improve the accuracy of the information I share in the report (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016). Peer debriefing aims to explain aspects of the study to a professional colleague, ask questions to refine my work, and make sure the findings make sense and are credible (Marshall & Rossman, 2016; McMillan, 2016). Dr. Morris and I used a Google Document to link all of my documentation for his review of my ideas and beliefs expressed in the report by asking difficult questions about my work (Bloomberg

& Volpe, 2016; Creswell & Poth, 2018; McMillan, 2016). His questions helped me think about alternatives to the findings I presented in the thick, rich descriptions used to write the narrative account of the descriptive study (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; McMillan, 2016).

Thick, Rich Descriptions

After my descriptive analysis of the data, I described the findings with thick, rich descriptions (Creswell, 2014; McMillan, 2016; Mertler, 2017). Based on the data collected and the interpretations, the detailed descriptions include inferences and interpretations extracted from the data written in a way that goes beyond "common descriptive writing" (Bazeley, 2013, p. 376). The thick descriptions included thoughtful, detailed, and sensitive descriptions of the participants' perspectives in the instructional context in the intermediate building (McMillan, 2016). Asking participants to participate in the data analysis during the winter 2020 co-creation event gave me insights into their perspectives as we went along (Frels & Onwuegbuzie, 2013; Mertens, 2010). Before I finalized the results, I emailed the design team members to check interpretations of the themes to determine their authenticity and accuracy to add rigor to the interpretation and make trustworthy recommendations in my study (Bloomberg & Volpe, 2016).

Plan for Sharing

The district did not have a specific plan for DC instruction to help guide the teaching of DC skills to students. As a result of this descriptive study, I described the process of co-creating the DC plan at the fifth- and sixth-grade levels to represent the perspectives and needs in the context related to DC. I presented the co-created DC curriculum plan from the winter 2020 co-creation event to the assistant superintendent

and the building principal on March 4, 2020. The assistant superintendent asked me to present it to additional district leadership at a meeting on March 9, 2020. On March 11, 2020, I presented the curriculum plan to the teachers at the intermediate school. The administrators and teachers received an email with a link to the website that houses the DC plan to access the materials. I will also recommend sharing it with teachers and thank them for the opportunity to collaborate on the co-creation project together because I learned excellent insights from all their contributions.

Pseudonyms replaced participant names for reporting and sharing with others. I wrote a descriptive analysis of the data using pseudonyms to share my findings with my dissertation advisor and committee at the University of South Carolina. Participant privacy is my main concern, so I can ensure my former colleagues' identities are protected and cannot be discerned from aspects of the reported findings. To that end, I will wait for feedback from the district for their approval to share widely at conferences. If my findings offer new insights into the research topic (Creswell, 2014) and given district approval, I will share my results at regional conferences, such as NYSCATE, an educational technology conference in New York State, and other conferences on educational technology. I plan to submit a proposal to NYSCATE to do a session related to my findings, discussion, and recommendations about DC instruction. My dissertation advisor also recommended separating my dissertation into a series of articles on DC in education for publication.

Upon completing the study, I will email a copy of the dissertation to the assistant superintendent and intermediate school principal to summarize the findings and recommendations. I no longer work in the context. However, I will create a video

presentation of the findings, implications, and recommendations to include with their copy of the dissertation. The video will be available to watch at their convenience, and I will invite them to send me questions about the results as needed. I will also encourage the administrators to feel free to share the information and use it to support district initiatives in the future.

CHAPTER 4

ANALYSIS AND FINDINGS

The study's purpose was to describe the processes, experiences, and beliefs of individuals involved in a collaborative action research project to develop a DC (DC) curriculum in Upstate Intermediate School. Qualitative data and descriptive statistics were collected and analyzed to answer the research questions: (1) What do fifth- and sixth-grade teachers individually and collectively perceive as barriers to integrating DC skills in their instruction? (2) What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a DC curriculum in the instructional context? (3) What are teachers' perceptions of being involved in the co-creation of a DC plan for implementation at the fifth- and sixth-grade levels? Chapter four includes descriptions of the (a) quantitative analysis and findings and (b) qualitative findings and interpretations.

Quantitative Analysis and Findings

The current descriptive study used the data from the winter 2020 co-creation event to describe the processes, experiences, and beliefs of participants. This section's quantitative data resulted from participant responses to data sources during the winter 2020 co-creation event. Self-reported data and related descriptive statistics in this section helped the researcher consider participant perspectives shared in their responses to data sources in the winter 2020 co-creation event. Means and averages were calculated during the winter 2020 co-creation event. However, to verify the accuracy of the data, I

recalculated all statistics during the fall 2020 data analysis. Data represented in this section represent the calculations from the more recent data analysis in the fall of 2020.

The quantitative data consist of descriptive statistics from document reviews of the district acceptable use policy and school student handbook, responses to surveys, interviews, a student focus group, the design team exit discussion, and the research journal. The questions in the data sources were developed using questions from the Ribble (2015) process for co-creating a DC plan and aligned with the literature base (see Appendix D). The data collected from the participants included (a) demographics and (b) descriptive statistics – elements and categories.

Demographics

The demographic information collected related to gender, grade level, comfort level with technology, level of DC awareness, frequency of technology use with students, and level of teaching experience. Table 4.1 below illustrates female to male participants who completed the data collection process for the interviews and surveys. Three sixth-grade teachers and one fifth-grade teacher could not complete the survey in the time frame given to finish them before the design team's winter 2020 analysis. The majority of staff members who participated in the study at the intermediate school are female (74%, *n* = 23). Thirteen percent of the participants in the study were male (13%, *n* = 4). Four teachers in the context did not participate (13%, *n* = 4).

Table 4.1. *Demographics of Adult Participants: Gender (n = 31)*

Gender	Frequency	Percentage
Female	23	74%
Male	4	13%
Missing	4	13%
Total	31	100%

Adult participants in the surveys and interviews answered Likert-style five-point demographic questions (Mertler, 2017), ranking their comfort level with technology, frequency of technology use, and their level of DC awareness. Participants chose ratings from one (low) to five (high) for each demographic question. Table 4.2 below compares the average of their self-reported levels of teaching experience, comfort level with technology, frequency of technology use, and their level of DC awareness.

Table 4.2. *Comparison - Years of Teaching Experience with Level of Technology Comfort and Use, Digital Citizenship Awareness (n = 31)*

		Comfort level with technology		Frequency of technology use		Level of digital citizenship awareness	
Teaching experience	# in group	*M*	*SD*	*M*	*SD*	*M*	*SD*
11+ years	19	3.84	0.83	3.74	1.15	3.53	0.96
5-10 years	7	4.14	0.38	3.67	0.52	4.29	0.49
4 or fewer	1	5.00	0.00	5.00	0.00	4.00	0.00
Missing	4	-	-	-	-	-	-

The majority of staff member participants in the context have more than 11 years of teaching experience (61%, *n* = 19). Veteran teachers reported their level of technology comfort (*M* = 3.84, *SD* = 0.83), level of technology use (*M* = 3.74, *SD* = 1.15), and level of DC awareness (*M* = 3.53, *SD* = 0.96). Participants with a range of five to 10 years of experience reported their comfort level with technology (*M* = 4.14, *SD* = 0.38), frequency of technology use (*M* = 3.67, *SD* = 0.52), and level of DC awareness (*M* = 4.29, *SD* = 0.49). One teacher with four or fewer years of experience shared her comfort level with technology (*M* = 5.00, *SD* = 0.00), frequency of technology use (*M* = 5.00, *SD* = 0.00), and her level of awareness of DC (*M* = 4.00, *SD* = 0.00).

Table 4.3 compares the demographic data by grade level. Teachers of both grade levels rated their level of technology comfort (M = 3.00, SD = 0.00), level of technology use (M = 4.00, SD = 1.41), and level of DC awareness (M = 2.50, SD = 0.71). Fifth-grade teachers shared their self-reported demographic data related to levels of technology comfort (M = 4.00, SD = 0.83), technology use (M = 3.50, SD = 1.02), and DC awareness (M = 4.00, SD = 1.11). Demographic data for sixth-grade teachers indicated their self-reported levels of technology comfort (M = 4.10, SD = 0.63), technology use (M = 4.10, SD = 0.99), and DC awareness (M = 3.60, SD = 0.52). The principal shared his demographic data for level of technology comfort (M = 4.00, SD = 0.00) and level of DC awareness (M = 4.00, SD = 0.00) during his interview. However, because he is not in the classroom, we decided to leave his level of technology use blank.

Table 4.3. *Comparison – Grade Level/Role with Level of Technology Comfort, Use, and Digital Citizenship Awareness (n = 31)*

		Comfort level with technology		Frequency of technology use		Level of digital citizenship awareness	
Grade level/role	# in group	*M*	*SD*	*M*	*SD*	*M*	*SD*
Grades 5 & 6	2	3.00	0.00	4.00	1.41	2.50	0.71
grade 5	14	4.00	0.83	3.50	1.02	4.00	1.11
grade 6	10	4.10	0.63	4.10	0.99	3.60	0.52
principal	1	4.00	0.00	N/A	N/A	4.00	0.00
Missing	4	-	-	-	-	-	-

The design team's demographic data from the winter 2020 co-creation event included their self-reported scores, as well as the overall measures of central tendency (mean) and dispersion (standard deviation) for comfort level with technology (M = 4.33, SD = 0.82), frequency of technology use (M = 4.00, SD = 0.63), and level of DC

awareness (*M* = 4.17, *SD* = 0.75). Table 4.4 compares the design team's demographic data from before and after participating in the winter 2020 co-creation process. Most design team members self-reported high levels of comfort with technology, frequency of technology use, and levels of DC awareness prior to their participation in the winter 2020 co-creation event. The self-reported demographic data and related descriptive statistics from the winter 2020 co-creation event supported my responses to research questions in this descriptive study.

Table 4.4. *Comparison – Design Team with Level of Technology Comfort and Use, Digital Citizenship Awareness (n = 6)*

Design team member	Comfort level with technology		Frequency of technology use		Level of digital citizenship awareness	
Isla-DT	3		4		4	
Quin-DT	5		4		5	
Maci-DT	4		5		3	
Lea-DT	4		4		4	
Iris-DT	5		4		4	
Zoe-DT	5		3		5	
	M	*SD*	*M*	*SD*	*M*	*SD*
Total	4.33	0.82	4.00	0.63	4.17	0.75

Descriptive Statistics – Elements and Categories

This section will examine descriptive statistics from the (a) Ribble (2015) digital citizenship elements - participant rankings, and (b) frequency of categories.

Ribble (2015) digital citizenship elements - participant rankings. During the data collection process, participants rated each of the Ribble (2015) elements to determine each element's significance. During the winter 2020 co-creation event, the design team used the element ratings to help determine which elements were most relevant to teach in the context, based on teacher perspectives (Frels & Onwuegbuzie,

2013). This descriptive study revisited the data to compare it with the qualitative data from the fall 2020 descriptive analysis. In both data analysis processes, measures of central tendency were calculated and analyzed to summarize the Ribble (2015) element ranking data as rated by the participants (Mertler, 2017). Measures of dispersion were calculated to demonstrate the variability of the rankings for the Ribble (2015) elements rated by the participants in surveys, interviews, the student focus group, and the design team (Mertler, 2017). Table 4.5 illustrates how teachers ranked each element using measures of central tendency and dispersion. Each element was rated using a Likert-style scale: 3 (important), 2 (neither important nor unimportant), 1 (not important).

Table 4.5. *Ranking the Ribble (2015) Elements – All Participants (N = 38)*

	All participants		Grade 5 Teachers		Grade 6 Teachers		Grades 5 and 6 Teachers		Students	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Etiquette	3.00	0.00	3.00	0.00	3.00	0.00	3.00	0.00	3.00	0.00
Rights & responsibilities	2.74	0.511	2.57	0.65	2.70	0.48	3.00	0.00	3.00	0.00
Access	2.88	0.41	2.86	0.63	2.80	0.63	3.00	0.00	3.00	0.00
Health	2.65	0.54	2.71	0.61	2.70	0.48	3.00	0.00	2.43	0.54
Law	2.68	0.54	2.86	0.36	2.70	0.48	3.00	0.00	2.29	0.76
Communication	2.38	0.60	2.50	0.65	2.40	0.52	3.00	0.00	1.86	0.38
Security	2.97	0.17	2.93	0.27	3.00	0.00	3.00	0.00	3.00	0.00
Literacy	2.68	0.48	2.79	0.43	2.80	0.42	3.00	0.00	2.29	0.49
Commerce	1.74	0.75	1.50	0.65	2.00	0.67	2.50	0.71	1.71	0.95

Table 4.6 shows the mean and standard deviation for each element ranked by the design team before and after their participation in the co-creation process to develop the DC plan. The DC elements in the table represent the nine elements of DC from Ribble (2015). *Etiquette* and *security* both received the same score before and after the innovation took place ($M = 3.00$, $SD = 0.00$). The element *rights and responsibilities* was

ranked lower before the innovation (*M* = 2.33, *SD* = 0.52) than after (*M* = 3.00, *SD* = 0.00). *Access* changed from the initial ranking (*M* = 2.83, *SD* = 0.41) to the final ranking after participating in the co-creation of the plan (*M* = 2.29, *SD* = 0.49). The design team's initial rank for *health* (*M* = 2.83, *SD* = 0.41) changed by the end (*M* = 2.71, *SD* = 0.49). *Law* changed its ranking from beginning (*M* = 2.83, *SD* = 0.41) to end (M = 2.14, SD = 0.69). *Communication* changed from the initial ranking (*M* = 2.83, *SD* = 0.41) to the final ranking (*M* = 2.43, *SD* = 0.79). The ranking for *security* remained the same (*M* = 3.00, *SD* = 0.00). *Literacy* fell from the initial (*M* = 2.83, *SD* = 0.41) to the final ranking (*M* = 2.43, *SD* = 0.53). *Commerce* remained low in the rankings and was ranked lower from beginning (*M* = 1.67, *SD* = 0.82) to end (*M* = 1.14, *SD* = 0.38). Participant ratings of DC elements and the associated descriptive statistics from the winter 2020 co-creation event supported answering question two about the essential components of a DC curriculum plan in the descriptive study.

Table 4.6. *Design Team: Ranking the Ribble (2015) Elements Before and After Participating in the Co-creation Process to Develop the Digital Citizenship Plan (n = 6)*

	Before		After	
	M	*SD*	*M*	*SD*
Etiquette	3.00	0.00	3.00	0.00
Rights & responsibilities	2.33	0.52	3.00	0.00
Access	2.83	0.41	2.29	0.49
Health	2.83	0.41	2.71	0.49
Law	2.83	0.41	2.14	0.69
Communication	2.83	0.41	2.43	0.79
Security	3.00	0.00	3.00	0.00
Literacy	2.83	0.41	2.43	0.53
Commerce	1.67	0.82	1.14	0.38

Frequency of categories. Part of the data analysis in this descriptive study involved a conceptual analysis of the categories by making a frequency table showing the

categories and the number of times they were used in the second-cycle categorization of the data (Creswell & Poth, 2018; Marshall & Rossman, 2016; McMillan, 2016). Table 4.7 includes a visual representation of category counts by theme from cycle one and cycle two of the fall 2020 descriptive analysis. According to Bloomberg and Volpe (2016), a conceptual analysis helps to determine the "frequency of concepts most often represented by words and phrases in the text" (p. 199). Then I used the BOCES database to do relational analysis to select multiple categories and look for relationships among them using the database's comparison report features (Bloomberg & Volpe, 2016, p. 199). While the frequency of the categories did not indicate significance or emphasis of categories, the relational analysis helped to uncover relationships among categories as I was sorting, refining, and grouping categories (Bloomberg & Volpe, 2016; Creswell & Poth, 2018).

Table 4.7. *Conceptual Analysis: Frequency of Categories*

Category (Cycle 1 and Cycle 2)	Count	Proportion of category count compared with total theme count	Proportion of category count compared with total for all categories	Theme
awareness	166	12.51%	2.70%	theme 1
level of awareness	142	10.70%	2.31%	theme 1
responsible use	112	8.44%	1.82%	theme 1
perspectives	108	8.14%	1.76%	theme 1
developmental needs	99	7.46%	1.61%	theme 1
digital access thoughts	87	6.56%	1.42%	theme 1
concerns about dig cit & tech use	66	4.97%	1.08%	theme 1
student behaviors	52	3.92%	0.85%	theme 1
consistency	49	3.69%	0.80%	theme 1
developmental needs	46	3.47%	0.75%	theme 1
empowerment	38	2.86%	0.62%	theme 1
consistency	33	2.49%	0.54%	theme 1

Category (Cycle 1 and Cycle 2)	Count	Proportion of category count compared with total theme count	Proportion of category count compared with total for all categories	Theme
students	28	2.11%	0.46%	theme 1
digital drama	26	1.96%	0.42%	theme 1
safe environment	26	1.96%	0.42%	theme 1
permanence of digital footprint	25	1.88%	0.41%	theme 1
Participant insights about digital citizenship	24	1.81%	0.39%	theme 1
impact on students	22	1.66%	0.36%	theme 1
empowering students	21	1.58%	0.34%	theme 1
control	18	1.36%	0.29%	theme 1
cyberbullying	18	1.36%	0.29%	theme 1
current behaviors	14	1.06%	0.23%	theme 1
equitable digital resource sharing	14	1.06%	0.23%	theme 1
outside to inside	14	1.06%	0.23%	theme 1
problem solving	12	0.90%	0.20%	theme 1
student engagement	12	0.90%	0.20%	theme 1
responsible risks	9	0.68%	0.15%	theme 1
digital identity	8	0.60%	0.13%	theme 1
lack of awareness	8	0.60%	0.13%	theme 1
Participant insights about dig cit	8	0.60%	0.13%	theme 1
proficiency	8	0.60%	0.13%	theme 1
motivation	7	0.53%	0.11%	theme 1
privacy issues	5	0.38%	0.08%	theme 1
practice	2	0.15%	0.03%	theme 1
skills	446	13.30%	7.27%	theme 2
instructional practice	291	8.68%	4.74%	theme 2
skills development	252	7.52%	4.11%	theme 2
approach	223	6.65%	3.63%	theme 2
approaches to dig cit	175	5.22%	2.85%	theme 2
awareness	166	4.95%	2.70%	theme 2
level of awareness	142	4.24%	2.31%	theme 2
elements	160	4.77%	2.61%	theme 2
involvement	132	3.94%	2.15%	theme 2
training	82	2.45%	1.34%	theme 2
pd support & thoughts	78	2.33%	1.27%	theme 2

Category (Cycle 1 and Cycle 2)	Count	Proportion of category count compared with total theme count	Proportion of category count compared with total for all categories	Theme
acceptable online behavior	71	2.12%	1.16%	theme 2
embed in curriculum	70	2.09%	1.14%	theme 2
collaboration	62	1.85%	1.01%	theme 2
resources	62	1.85%	1.01%	theme 2
promoting healthy interactions	61	1.82%	0.99%	theme 2
support	56	1.67%	0.91%	theme 2
impact practice	53	1.58%	0.86%	theme 2
capacity	46	1.37%	0.75%	theme 2
confidence level	44	1.31%	0.72%	theme 2
collaboration	42	1.25%	0.68%	theme 2
proper communication	34	1.01%	0.55%	theme 2
address student needs	32	0.95%	0.52%	theme 2
digital literacy skills	32	0.95%	0.52%	theme 2
parent involvement	32	0.95%	0.52%	theme 2
resource sharing	31	0.92%	0.51%	theme 2
safety & security	26	0.78%	0.42%	theme 2
safety and security	26	0.78%	0.42%	theme 2
centralized instruction	25	0.75%	0.41%	theme 2
healthy consumers of tech	24	0.72%	0.39%	theme 2
confidence	23	0.69%	0.37%	theme 2
etiquette	23	0.69%	0.37%	theme 2
safety	23	0.69%	0.37%	theme 2
communication	21	0.63%	0.34%	theme 2
parents	21	0.63%	0.34%	theme 2
dig cit curriculum	20	0.60%	0.33%	theme 2
digital rights & responsibilities	20	0.60%	0.33%	theme 2
Existing structures	18	0.54%	0.29%	theme 2
intentionality	18	0.54%	0.29%	theme 2
differentiation	16	0.48%	0.26%	theme 2
respect	16	0.48%	0.26%	theme 2
scaffolding learning	16	0.48%	0.26%	theme 2
media-info lit	15	0.45%	0.24%	theme 2
differentiation	14	0.42%	0.23%	theme 2

Category (Cycle 1 and Cycle 2)	Count	Proportion of category count compared with total theme count	Proportion of category count compared with total for all categories	Theme
focus on dig cit	11	0.33%	0.18%	theme 2
manners	11	0.33%	0.18%	theme 2
considering others	10	0.30%	0.16%	theme 2
focus on digital citizenship	10	0.30%	0.16%	theme 2
gaps in proficiency	9	0.27%	0.15%	theme 2
common vocabulary	8	0.24%	0.13%	theme 2
utilizing support	8	0.24%	0.13%	theme 2
modeling skills	7	0.21%	0.11%	theme 2
accountability	5	0.15%	0.08%	theme 2
comprehensive approach	5	0.15%	0.08%	theme 2
acceptable behavior online	4	0.12%	0.07%	theme 2
benchmarks	4	0.12%	0.07%	theme 2
reinforce in classrooms	4	0.12%	0.07%	theme 2
building empathy	3	0.09%	0.05%	theme 2
define digital citizenship	3	0.09%	0.05%	theme 2
PD Supports & Thoughts	3	0.09%	0.05%	theme 2
scratching the surface	3	0.09%	0.05%	theme 2
digital rights	2	0.06%	0.03%	theme 2
communication	1	0.03%	0.02%	theme 2
Connecting data to other district initiatives	1	0.03%	0.02%	theme 2
PD & supports thoughts	1	0.03%	0.02%	theme 2
insights	231	15.84%	3.76%	theme 3
beliefs	184	12.62%	3.00%	theme 3
access	116	7.96%	1.89%	theme 3
perspectives	108	7.41%	1.76%	theme 3
Rules	78	5.35%	1.27%	theme 3
Changes	56	3.84%	0.91%	theme 3
reality checks & considerations	56	3.84%	0.91%	theme 3
importance	47	3.22%	0.77%	theme 3
Priorities	47	3.22%	0.77%	theme 3

Category (Cycle 1 and Cycle 2)	Count	Proportion of category count compared with total theme count	Proportion of category count compared with total for all categories	Theme
shift in thinking	40	2.74%	0.65%	theme 3
level of importance	31	2.13%	0.51%	theme 3
reflecting on practice	30	2.06%	0.49%	theme 3
rules and consequences	30	2.06%	0.49%	theme 3
Time	29	1.99%	0.47%	theme 3
level of control	28	1.92%	0.46%	theme 3
safety & security	26	1.78%	0.42%	theme 3
safety and security	26	1.78%	0.42%	theme 3
safe environment	26	1.78%	0.42%	theme 3
responsibility to teach	26	1.78%	0.42%	theme 3
Participant insights about digital citizenship	24	1.65%	0.39%	theme 3
Safety	23	1.58%	0.37%	theme 3
changes in behaviors	23	1.58%	0.37%	theme 3
life skills	20	1.37%	0.33%	theme 3
effects of increased knowledge	19	1.30%	0.31%	theme 3
rules & consequences	19	1.30%	0.31%	theme 3
frustrations	14	0.96%	0.23%	theme 3
student engagement	12	0.82%	0.20%	theme 3
relevant topics	12	0.82%	0.20%	theme 3
finding a balance	11	0.75%	0.18%	theme 3
tech shifts affect dig cit needs	10	0.69%	0.16%	theme 3
versus thinking	10	0.69%	0.16%	theme 3
Participant insights about dig cit	8	0.55%	0.13%	theme 3
classroom management	8	0.55%	0.13%	theme 3
one more thing	8	0.55%	0.13%	theme 3
changes in behavior	6	0.41%	0.10%	theme 3
scheduling resources	4	0.27%	0.07%	theme 3
scratching the surface	3	0.21%	0.05%	theme 3
effects of increase knowledge	3	0.21%	0.05%	theme 3
tech shifts	3	0.21%	0.05%	theme 3
finding a balance	1	0.07%	0.02%	theme 3

Category (Cycle 1 and Cycle 2)	Count	Proportion of category count compared with total theme count	Proportion of category count compared with total for all categories	Theme
relevant	1	0.07%	0.02%	theme 3
sharing resources	1	0.07%	0.02%	theme 3

Qualitative Findings and Interpretations

This section of the descriptive study reports findings and interpretations from the fall 2020 descriptive analysis of qualitative data derived from the winter 2020 co-creation event. The data sources included the district acceptable use policy and school student handbook for the document review, a survey, two interviews, a student focus group, the design team exit discussion, and a research journal. The data collection took place at Upstate Intermediate School in 2020. Based on the data analysis completed in the fall of 2020, three assertions were developed that focus on student and teacher needs in the context of DC instruction in the context:

1. Assertion 1: Students need to be empowered to learn and practice DC skills in developmentally appropriate ways to promote responsible and safe behaviors that lead to positive online interactions and activities.
2. Assertion 2: Teachers need knowledge, support, and resources to raise awareness of DC skills and approach teaching skills consistently and intentionally.
3. Assertion 3: If teachers are going to use digital technologies with students, there is a responsibility to teach DC skills to facilitate learning relevant life skills, despite issues that affect access to digital technologies.

This section will focus on the (a) qualitative data analysis and (b) presentation of findings.

Qualitative Data Analysis

I created an audit trail during the winter 2020 co-creation event and fall 2020 descriptive analysis to track my thinking and research process (Bloomberg & Volpe, 2016). The resulting data from the research journal, electronic data analysis documents, and photos of the data analysis stages show the evolution of my thinking throughout the process. The methods to maintain transparency and ethical practices help improve the credibility and trustworthiness of the findings (Bloomberg & Volpe, 2016; Creswell & Poth, 2018; Flick, 2018). This section covers the (a) summary of qualitative data sources and (b) data analysis process.

Summary of qualitative data sources. The qualitative data summary found in Table 4.8 below represents the richness of the data set resulting from the data collection and analysis in this study. The table includes a summary of the qualitative data sources and descriptive statistics based on the data sources. The overall totals are located at the bottom of the table.

Table 4.8. *Summary of Qualitative Data Sources*

Types of Qualitative Data Sources	Number	Total Number of Codes
Document review: District acceptable use policy	1	79
Document review: School student handbook	1	40
Surveys with open-ended responses	27	933
One-on-one interview transcripts	2	614
Student focus group interview transcript	1	41
Design team exit discussion (DTED) transcript	1	774
Researcher journal	1	736
Totals	34	3,217

In Chapter 3, I explained the winter 2020 co-creation event and the process of co-creating the DC curriculum plan based on participant perspectives and the design team's coding and analysis (Bloomberg & Volpe, 2016; Mertler, 2017). Those who participated in surveys, interviews, and the student focus group offered their perspectives in their responses during the data collection process. In addition to the initial data sources used for planning, the design team's experiences from the research journal and their exit discussion after participating were the basis of the fall 2020 data analysis that examined participant experiences, beliefs, and the planning process. My qualitative data analysis involved a cyclical process of inductive analysis for each qualitative data source (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016; Mertler, 2017).

Data analysis process. Inductive analysis was used to code and categorize the data to support the development of themes and assertions. The inductive analysis involved a series of steps that have a "cyclical and spiraling nature" (Mertler, 2017, p. 36) related to the analysis of the data and the presentation of the findings in this chapter (Creswell & Poth, 2018). The process included analyzing and coding data, sorting it, uncovering patterns, and categorizing the codes for each data source, then cycling back through the data to reflect on it and develop and refine themes and assertions (Bazeley, 2013; Marshall & Rossman, 2016; Mertler, 2017; Saldaña, 2016).

When I analyzed the data from the data sources in Table 4.8 above in the fall of 2020, I used Microsoft Word and Microsoft Excel to organize, sort, and track the data in those apps throughout the analysis process (Bazeley, 2013; Creswell & Poth, 2018; Saldaña, 2016). Transcripts of the qualitative data were created and saved as macro-

enabled Microsoft Word documents with file names that followed a naming convention to make them easily identifiable.

Throughout the analysis process, I met with my dissertation chair for peer debriefing sessions to ensure that the methods I used were appropriate. My professor and I used a Google Document to share information, and I linked my Microsoft Excel data collection workbook and all accompanying data analysis documentation to the Google Document. Each week, I would share my process, ask questions, and receive feedback through the document and meet periodically on Blackboard Collaborate to discuss the next steps in the analysis process as I transitioned from one phase to another and needed guidance. The Google Document is a record of all of our interactions. This section includes a summary of (a) first cycle coding of qualitative data, (b) second cycle – categorizing data, (c) developing themes and assertions, (d) developing the story of the data.

First cycle coding of qualitative data. The first cycle of coding began by putting data transcripts into macro-enabled Microsoft Word documents and extracting the comments using the macro. I moved them into a Microsoft Excel workbook with sheets for each data source to keep the data organized (Bazeley, 2013). I set up the transcripts by inserting a table in Microsoft Word with two columns. I pasted the data from the data source into the column on the right and used the Microsoft Word comment tool to add codes for the first round of coding. In the column on the left, I added anecdotal notes as I coded a transcript to track my thought process (Creswell, 2014; Saldaña, 2016). For the first round of coding, I made eclectic codes by selecting and bracketing the text in each transcript in Microsoft Word and using the comment tool (Creswell, 2014; Saldaña,

2016). I performed a line-by-line analysis of the documents as I reflected on each line of text (Creswell & Poth, 2018; Marshall & Rossman, 2016). I also added anecdotal notes in the column on the left side of the coded documents with thoughts that ran through my mind during the analysis (Bazeley, 2013).

I saved the transcripts of the data sources with codes and notes in a Microsoft Office 365 OneDrive folder. I generated 1,454 codes in the first round of coding for all of the qualitative data sources. The screenshot of the Microsoft Word transcript from the design team exit discussion (DTED) shows the two-column table and comments on the right side of the window (see Figure 4.1).

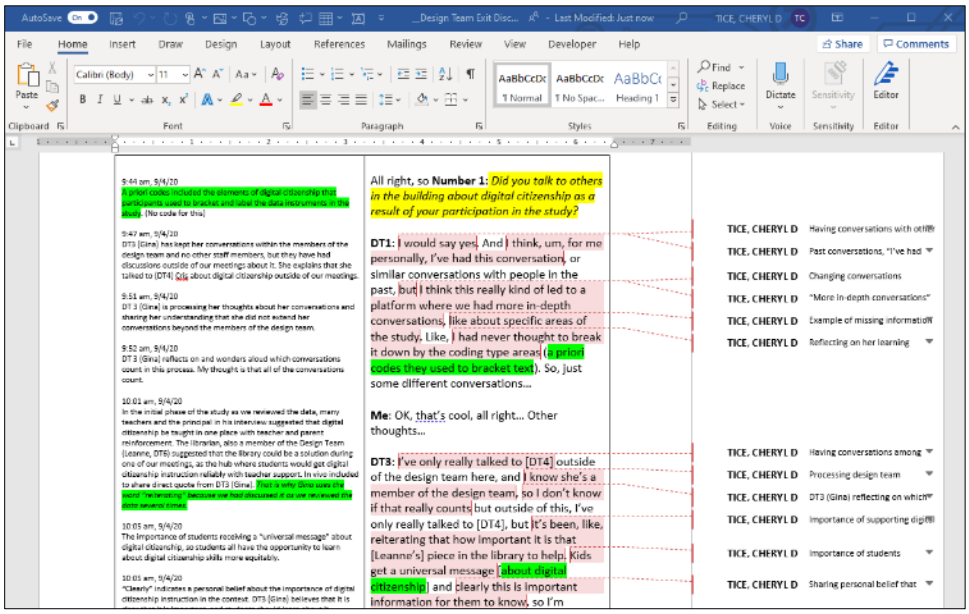


Figure 4.1. Screenshot of the design team transcript in the macro-enabled Microsoft Word document with eclectic codes in the design team exit

Once I completed the initial set of eclectic codes, I used the macro to extract the codes into another document temporarily, illustrated in Figure 4.2.

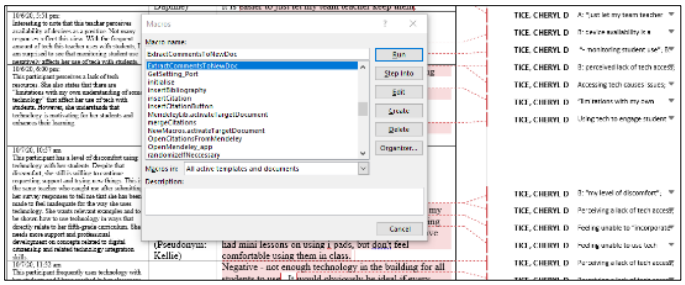
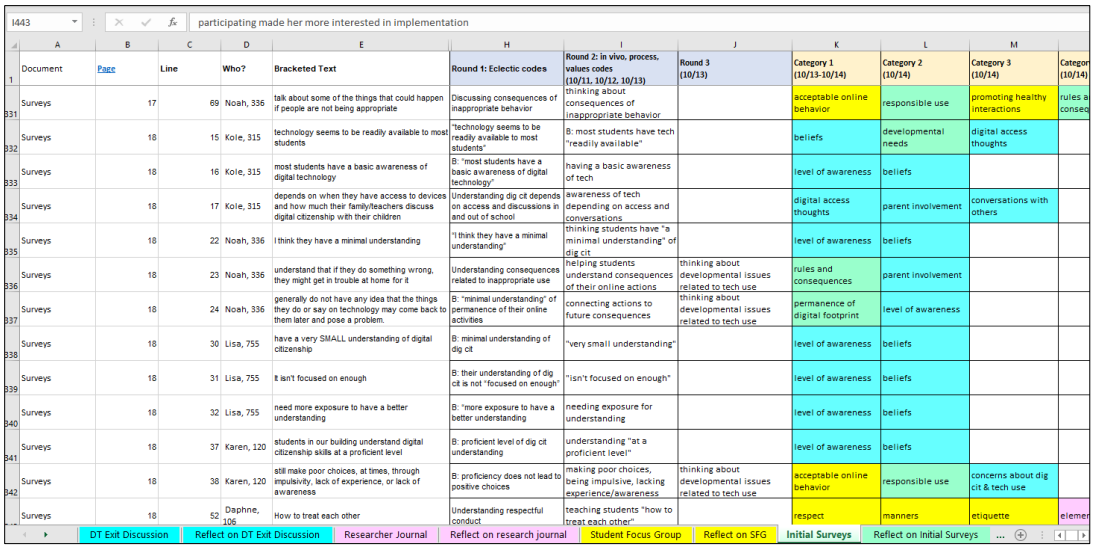


Figure 4.2. Screenshot of the macro dialog box in Microsoft Word and the macro selected that would extract the comments from the survey transcript into a separate document when I clicked Run.

Then I copied and pasted the round-one codes and corresponding data for each document into a Microsoft Excel worksheet for each document in an Excel workbook that I set up to house all of the data for the fall 2020 analysis (see Figure 4.3).



	Document	Page	Line	Who?	Bracketed Text	Round 1: Eclectic codes	Round 2: in vivo, process, values codes (10/11, 10/12, 10/13)	Round 3 (10/13)	Category 1 (10/13-10/14)	Category 2 (10/14)	Category 3 (10/14)	Categor (10/14)
331	Surveys		17	69 Noah, 336	talk about some of the things that could happen if people are not being appropriate	Discussing consequences of inappropriate behavior	thinking about consequences of inappropriate behavior		acceptable online behavior	responsible use	promoting healthy interactions	rules a conseq
332	Surveys		18	15 Kole, 315	technology seems to be readily available to most students	"technology seems to be readily available to most students"	B: most students have tech "readily available"		beliefs	developmental needs	digital access thoughts	
333	Surveys		18	16 Kole, 315	most students have a basic awareness of digital technology	B: "most students have a basic awareness of digital technology"	having a basic awareness of tech		level of awareness	beliefs		
334	Surveys		18	17 Kole, 315	depends on when they have access to devices and how much their family/teachers discuss digital citizenship with their children	Understanding dig cit depends on access and discussions in and out of school	awareness of tech depending on access and conversations		digital access thoughts	parent involvement	conversations with others	
335	Surveys		18	22 Noah, 336	I think they have a minimal understanding	"I think they have a minimal understanding"	thinking students have "a minimal understanding" of dig cit		level of awareness	beliefs		
336	Surveys		18	23 Noah, 336	understand that if they do something wrong, they might get in trouble at home for it	Understanding consequences related to inappropriate use	helping students understand consequences of their online actions	thinking about developmental issues related to tech use	rules and consequences	parent involvement		
337	Surveys		18	24 Noah, 336	generally do not have any idea that the things they do or say on technology may come back to them later and pose a problem.	B: "minimal understanding" of permanence of their online activities	connecting actions to future consequences	thinking about developmental issues related to tech use	permanence of digital footprint	level of awareness		
338	Surveys		18	30 Lisa, 755	have a very SMALL understanding of digital citizenship	B: minimal understanding of dig cit	"very small understanding"		level of awareness	beliefs		
339	Surveys		18	31 Lisa, 755	It isn't focused on enough	B: their understanding of dig cit is not "focused on enough"	"isn't focused on enough"		level of awareness	beliefs		
340	Surveys		18	32 Lisa, 755	need more exposure to have a better understanding	B: "more exposure to have a better understanding	needing exposure for understanding		level of awareness	beliefs		
341	Surveys		18	37 Karen, 120	students in our building understand digital citizenship skills at a proficient level	B: proficient level of dig cit understanding	understanding "at a proficient level"		level of awareness	beliefs		
342	Surveys		18	38 Karen, 120	still make poor choices, at times, through impulsivity, lack of experience, or lack of awareness	B: proficiency does not lead to positive choices	making poor choices, being impulsive, lacking experience/awareness	thinking about developmental issues related to tech use	acceptable online behavior	responsible use	concerns about dig cit & tech use	
	Surveys		18	52 Daphne, 106	How to treat each other	Understanding respectful conduct	teaching students "how to treat each other"		respect	manners	etiquette	elemer

Figure 4.3. Screenshot of the Microsoft Excel Workbook used to organize data and notes about the data analysis process.

I used Microsoft Excel to complete the second round of coding for each data source in columns adjacent to the eclectic codes. Second round codes included process, *in vivo*, and value codes (Ivankova, 2015; Saldaña, 2016). Process codes, also called action

codes, involve gerunds that end in -ing and demonstrate an action (Saldaña, 2016). I evaluated the process of creating the DC plan, so using process codes helped show action. *Accessing tech causes issues* was a code from my survey data that was a recurring concern for many participants and demonstrated a process that participants mentioned in the data.

In vivo codes were utilized in the first and second round of coding and set apart from other code types with quotation marks around them (see Figure 4.4). Using *in vivo* codes helps the researcher obtain meaning from the data using direct quotes from participants to capture their perspectives (Marshall & Rossman, 2016; McMillan, 2016). The *in vivo* code quote encapsulates the meaning of the entire passage represented by the bracketed text (Bloomberg & Volpe, 2016; Creswell, 2014; Creswell & Poth, 2018). *Limitations with my own understanding* was an example of an *in vivo* code from Lola's survey data. It was grounded in the participant's language and overlapped with other codes in the data sources (Saldaña, 2016). I used the code *Understanding that she doesn't fully understand some rules that affect student tech use* for a line of bracketed text from the interview with Ivy, where she stated, "It may or may not be stupid, but it's partially my understanding."

I used value codes to code the bracketed text in the documents. When I encountered text that shared a value, belief, or feeling that the participants offered in their responses, I wanted to capture their thoughts to express their values because the participants' perspectives were a vital aspect of the planning process (Bazeley, 2013; Frels & Onwuegbuzie, 2013; Saldaña, 2016). An example of a value code from the first cycle of coding was based on a line of text from Paul's interview: *B: everyone believes in*

the importance of [digital citizenship]. Paul shared his belief that everyone believes that DC is important (Gleason & von Gillern, 2018; Payne, 2016). I labeled it a belief (value code) because there could be differences in opinion. I reviewed the codes and refined them before moving onto the next cycle of categorizing the data. Figure 4.4 below shows an example of each type of code used in the coding process.

Document	Page	Line	Who?	Bracketed Text	Round 1: Eclectic codes
Surveys	1	22	Lynne, 883	-Limited access to technology	B: perceived lack of tech access
Surveys	1	22	Lynne, 883	shared carts not being available when needed	Accessing tech causes issues
Surveys	1	24	Lynne, 883	Limitations with my own understanding of some technology	"limitations with my own understanding"

Figure 4.4. Example of three eclectic codes from round one of coding the survey data representing a values code, process code, and *in vivo* code from top to bottom in the list.

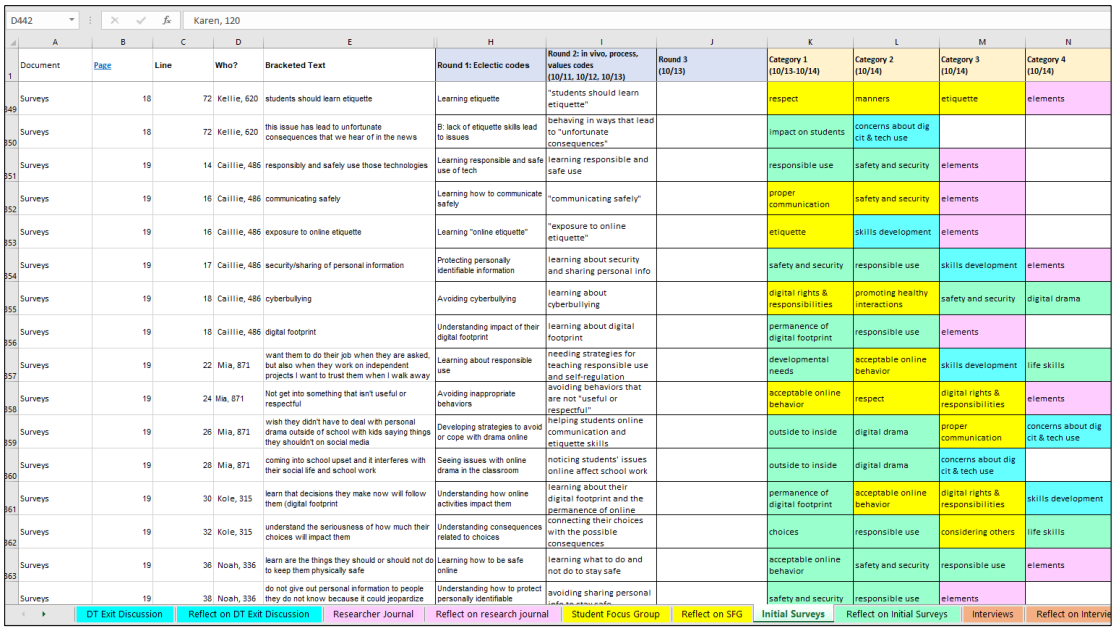
Second cycle - categorizing data. In the second cycle, I cut the bracketed text with the corresponding codes into strips for each of the data sources and sorted them into initial categories. As I read through each strip of paper, I created categories and defined them in Excel on each data source's *Reflect* worksheet to track where each category originated. I produced categories that I inferred from reading the data (Bloomberg & Volpe, 2016; Creswell, 2014; Mertler, 2017).

Those categories were printed on yellow Post-It Notes, and I sorted each strip of paper based on its relationship to each category developed during the process. If a strip of paper did not fit into a category, I created a new category, and the slip of paper was placed in it. Figure 4.5 illustrates moving codes to categories with images to show the

progression of sorting and organizing the data. New categories were entered into the *Reflect* tabs for each data source to track where they originated. I entered the first round of categories into the spreadsheets for each data source.

Figure 4.5. Photos showing parts of the process of moving codes into categories.

Once I entered the categories into the spreadsheet, I used the Sort and Filter feature in Microsoft Excel to begin to sort and refine the categories as my first attempt to group the categories. I repeated this process for each data source. The categories were color-coded in Microsoft Excel to visually represent where the category originated in the data analysis process. Each color corresponds to the tab color for each data source. The worksheet format and category colors are depicted in Figure 4.6 below. I would return to data source spreadsheets to add categories from other data sources to visualize where the categories originated.



	A	B	C	D	E	H	I	J	K	L	M	N
1	Document	Page	Line	Who?	Bracketed Text	Round 1: Eclectic codes	Round 2: in vivo, process, values codes (10/11, 10/12, 10/13)	Round 3 (10/13)	Category 1 (10/13-10/14)	Category 2 (10/14)	Category 3 (10/14)	Category 4 (10/14)
349	Surveys	18	72	Kellie, 620	students should learn etiquette	Learning etiquette	"students should learn etiquette"		respect	manners	etiquette	elements
350	Surveys	18	72	Kellie, 620	this issue has lead to unfortunate consequences that we hear of in the news	B: lack of etiquette skills lead to issues	behaving in ways that lead to "unfortunate consequences"		impact on students	concerns about dig cit & tech use		
351	Surveys	19	14	Caillie, 486	responsibly and safely use those technologies	Learning responsible and safe use of tech	learning responsible and safe use		responsible use	safety and security	elements	
352	Surveys	19	16	Caillie, 486	communicating safely	Learning how to communicate safely	"communicating safely"		proper communication	safety and security	elements	
353	Surveys	19	16	Caillie, 486	exposure to online etiquette	Learning "online etiquette"	"exposure to online etiquette"		etiquette	skills development	elements	
354	Surveys	19	17	Caillie, 486	security/sharing of personal information	Protecting personally identifiable information	learning about security and sharing personal info		safety and security	responsible use	skills development	elements
355	Surveys	19	18	Caillie, 486	cyberbullying	Avoiding cyberbullying	learning about cyberbullying		digital rights & responsibilities	promoting healthy interactions	safety and security	digital drama
356	Surveys	19	18	Caillie, 486	digital footprint	Understanding impact of their digital footprint	learning about digital footprint		permanence of digital footprint	responsible use	elements	
357	Surveys	19	22	Mia, 871	want them to do their job when they are asked, but also when they work on independent projects I want to trust them when I walk away	Learning about responsible use	needing strategies for teaching responsible use and self-regulation		developmental needs	acceptable online behavior	skills development	life skills
358	Surveys	19	24	Mia, 871	Not get into something that isn't useful or respectful	Avoiding inappropriate behaviors	avoiding behaviors that are not "useful or respectful"		acceptable online behavior	respect	digital rights & responsibilities	elements
359	Surveys	19	26	Mia, 871	wish they didn't have to deal with personal drama outside of school with kids saying things they shouldn't on social media	Developing strategies to avoid or cope with drama online	helping students online communication and etiquette skills		outside to inside	digital drama	proper communication	concerns about dig cit & tech use
360	Surveys	19	28	Mia, 871	coming into school upset and it interferes with their social life and school work	Seeing issues with online drama in the classroom	noticing students' issues online affect school work		outside to inside	digital drama	concerns about dig cit & tech use	
361	Surveys	19	30	Kole, 315	learn that decisions they make now will follow them (digital footprint	Understanding how online activities impact them	learning about their digital footprint and the permanence of online		permanence of digital footprint	acceptable online behavior	digital rights & responsibilities	skills development
362	Surveys	19	32	Kole, 315	understand the seriousness of how much their choices will impact them	Understanding consequences related to choices	connecting their choices with the possible consequences		choices	responsible use	considering others	life skills
363	Surveys	19	36	Noah, 336	learn are the things they should or should not do to keep them physically safe	Learning how to be safe online	learning what to do and not do to stay safe		acceptable online behavior	safety and security	responsible use	elements
	Surveys	19	38	Noah, 336	do not give out personal information to people they do not know because it could jeopardize	Understanding how to protect personally identifiable	avoiding sharing personal		safety and security	responsible use	elements	

Figure 4.6. Image of Microsoft Excel worksheet formatting using the survey data as an example.

Once I completed categorizing the data, I copied and pasted all of the data from each source into one worksheet titled *2nd Cycle Categorization* in my Microsoft Excel workbook. There were 1,454 rows of data when I compiled all of the data together, so I wanted to condense the categories into smaller, more specific groups, funnel the data further, and narrow them down to work toward themes and assertions (Bogdan & Biklen, 2007). The categories from the first round in the second cycle were placed in columns K, L, M, and N of the *2nd Cycle Categorization* spreadsheet (see Figure 4.6).

In my second attempt to refine the categories, I took the unique categories listed on the Reflect tabs for each data source and put them into a spreadsheet. I printed them out, cut them apart, and sorted those categories into groups to further refine the categories. Figure 4.7 below shows the process of sorting the cycle one categories into

groups. I sorted and resorted the groups, referring back to the data sources to determine the best placement.

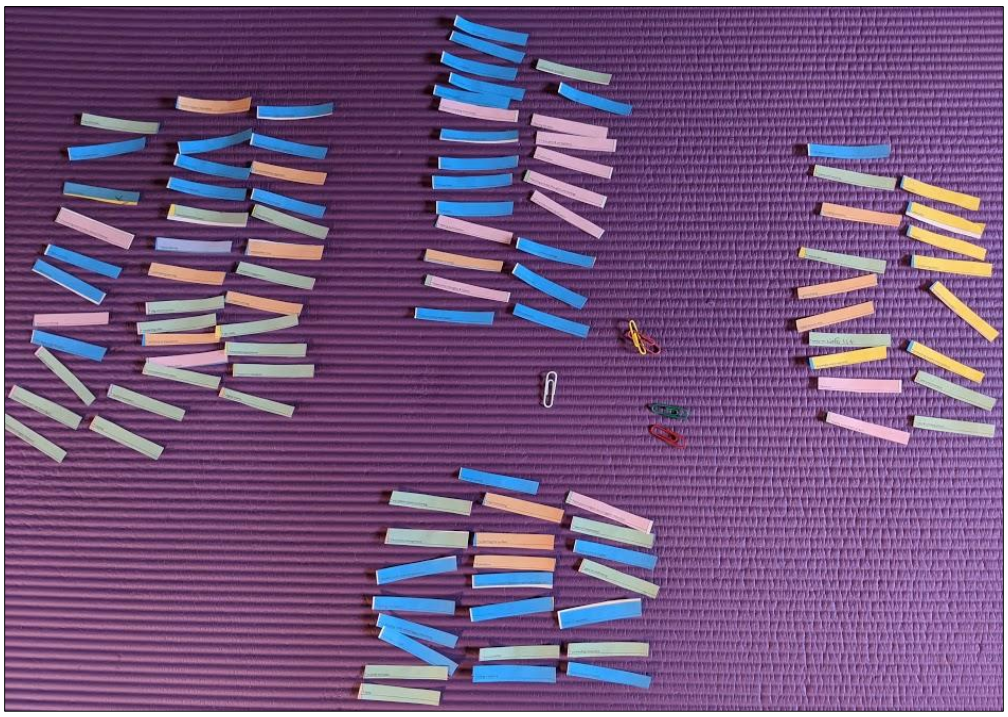


Figure 4.7. Image depicting the process of sorting first cycle categories into groups to reduce the number of categories.

I set up a spreadsheet to capture category groupings as I combined them (see Figure 4.8). I moved the categories into order under their new groups based on the new category names that emerged from the groupings in the process used in Figure 4.7 above. The color-coded first-cycle categories showed where the categories originated, and the sorting helped me see connections among first-cycle categories.

Figure 4.8. Screenshot of the work to refine categories from first cycle work in Microsoft Excel – color-coded categories were coded and boiled down to one or two words.

The data from all data sources were then categorized again using the new categories generated from the process described and illustrated in Figure 4.8. Four additional rounds of categories were done using the new set of categories and found in columns O, P, Q, and R on the *2nd Cycle Categorization* spreadsheet (see Figure 4.9).

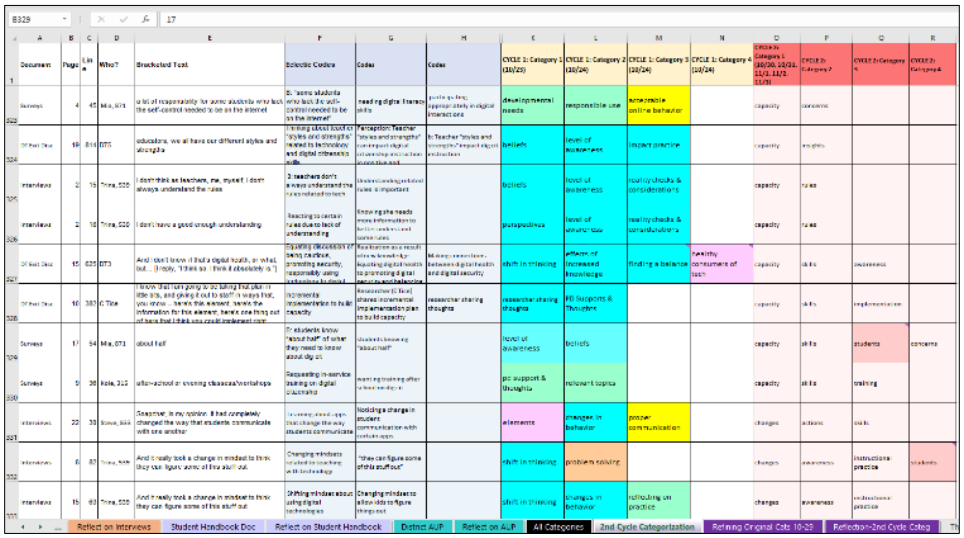


Figure 4.9. Image of the Microsoft Excel worksheet containing all of the data from the first cycle of coding and categorizing, with the second-cycle categories under the red headings on the right.

Developing themes and assertions. Reflecting on the process of decoding and encoding the data was an essential part of decomposing and abstracting the data to find patterns, themes, and assertions from the codes and categories (Bazeley, 2013; Mertler, 2017). I used the Sort and Filter tool in Microsoft Excel to sort each column of categories to determine which column would be used during the process of themeing the data (Bazeley, 2013; Saldaña, 2016). Graphic organizers that I sketched with paper and a pencil (see Figure 4.9 above) helped me visualize connections among categories (Creswell & Poth, 2018). The categories in column O became the center of the graphic organizers. The categories in columns P, Q, and R became the subtopics of the graphic organizers (see Figure 4.10).

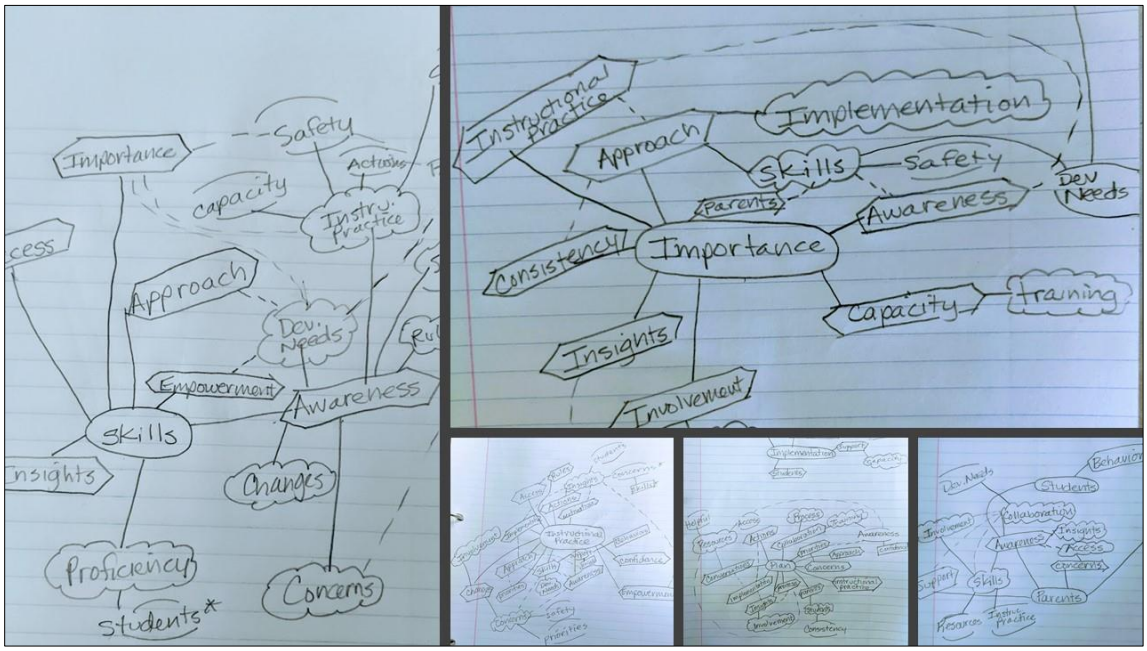


Figure 4.10. Sample graphic organizers of categories created with notebook paper and a pencil.

This process helped me reflect on the categories and connections among them to develop themes. As I reflected on the graphic organizers, I listed initial sub-themes for

each category from column O on the *Reflection-2nd Cycle Categ* worksheet in Microsoft Excel during this data analysis phase. I put a picture of each graphic organizer next to each list of sub-themes about the data. Figure 4.11 shows an example of making the sub-categories using the graphic organizers of the second-cycle categories.

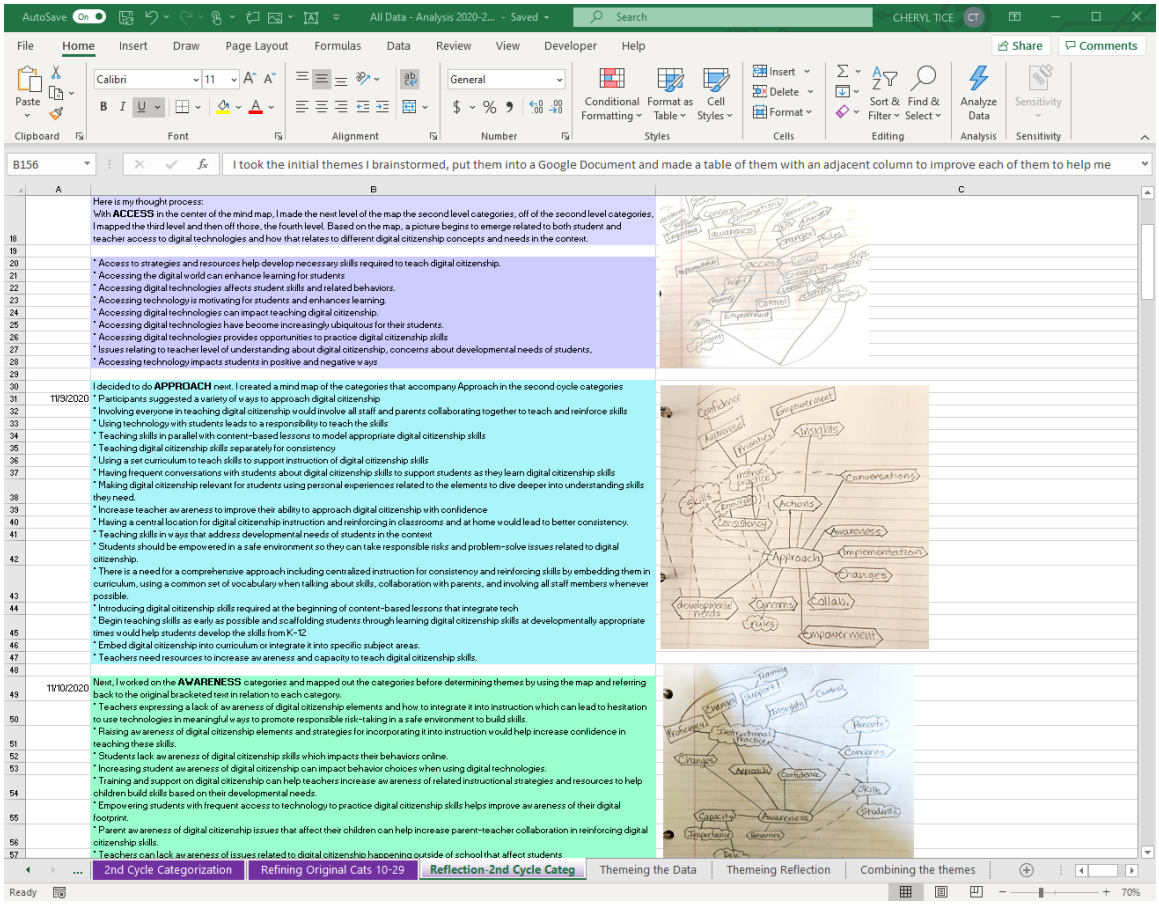


Figure 4.11. Microsoft Excel spreadsheet with graphic organizers and accompanying sub-themes.

Then I copied each group of sub-themes onto an Excel spreadsheet called *Themeing the Data* with their corresponding category. I printed them out, sorted them into groups, and funneled the data down to eight sub-themes by grouping sub-themes together with overlapping ideas (see Figure 4.12). I continued to reflect on those eight

sub-themes on the Excel spreadsheet called *Combining the Themes* in my coding workbook. Then I sorted them into different combinations until the final themes emerged from this process.

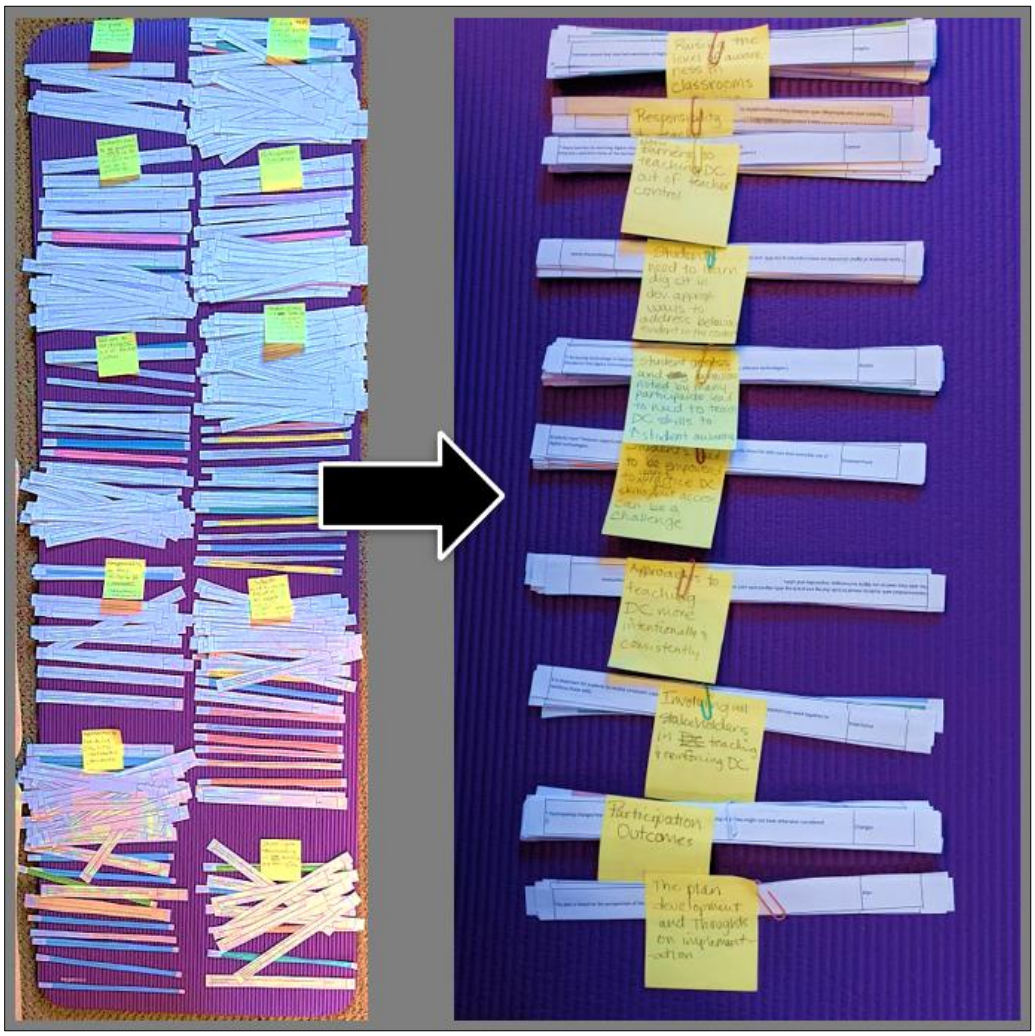


Figure 4.12. Photos of the sorting process and the eight initial themes.

The final themes are listed below:

1. Participants expressed their desire for students to be empowered to learn and practice DC skills in developmentally appropriate ways to promote responsible and safe behaviors that lead to positive online interactions and activities.

2. Participants shared that teachers need knowledge, support, and resources to raise awareness of DC skills and approach teaching skills consistently and intentionally.
3. The qualitative data analysis revealed a belief among some participants that if teachers are going to use digital technologies with students, there is a responsibility to teach DC skills to facilitate learning relevant life skills, despite issues that affect access to digital technologies.

This section describes (a) insights into theme one categories, (b) insights into theme two categories, and (c) insights into theme three categories.

Insights into theme one categories. Figure 4.13 below illustrates how the categories have been organized to show how they connect within the theme. In theme one, the category *empowering students*, *responsible risks*, and *problem-solving* were three first-round categories that were combined into the second round category of *empowerment*. There were eight rounds of categories in my data analysis. Because the first four rounds of categorization were so specific, I developed the second round categories by combining overlapping concepts into one word or phrase. That process helped synthesize key ideas and construct major categories from the more specific categories found in round one (Saldaña, 2016).

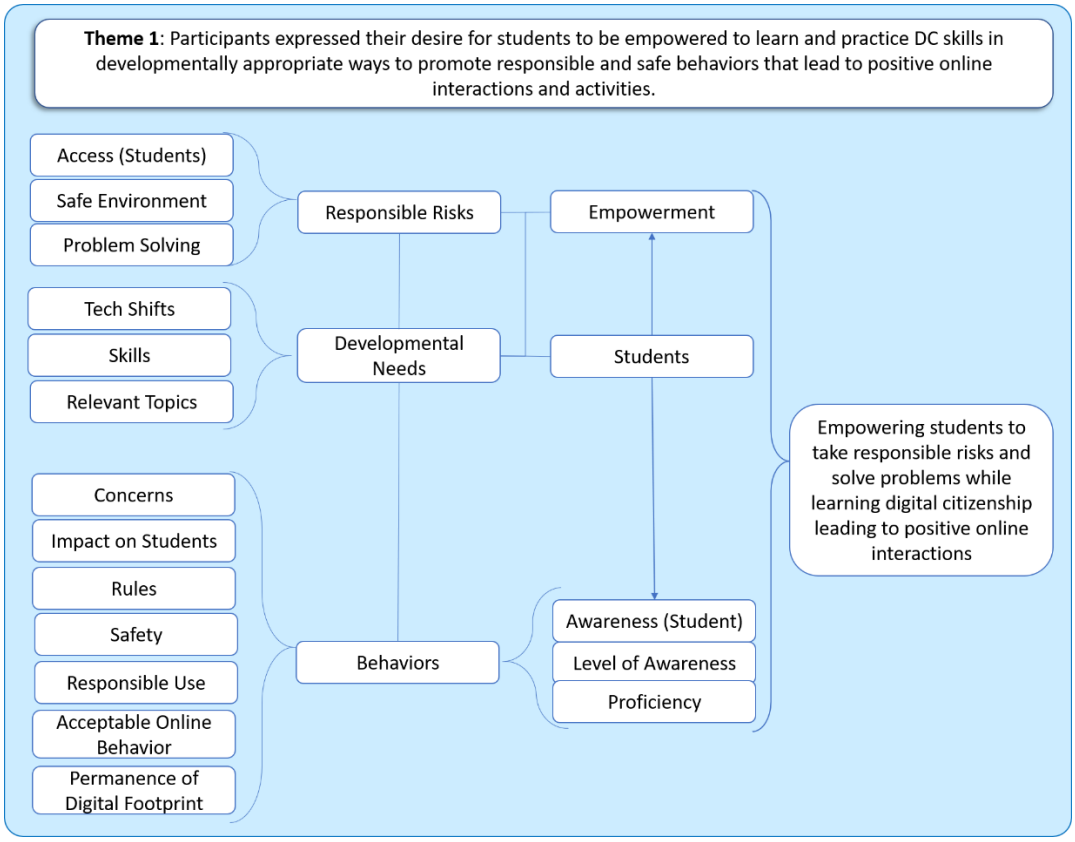


Figure 4.13. Theme 1 graphic organizer of categories.

In theme one, I equated *level of awareness* and *gaps in proficiency* from the first round to *awareness* and proficiency found in the second round of categorizing. I first used the category *level of awareness* when categorizing data from the design team exit discussion. I defined *level of awareness* as *talk about changes in awareness or the need for awareness related to DC*. As I reflect on my process now, I could have separated the category *level of awareness* to differentiate between teacher and student awareness. In the second cycle of categorizing data, I changed *level of awareness* to *awareness*. As I described the themes, I realized that I should have made a category representing teacher *awareness* and one for student awareness to differentiate between them. As a result, I had

to analyze the data carefully to choose examples for the descriptions of themes that demonstrate teacher awareness versus student awareness.

Gaps in proficiency was first used as a category in the survey data. I defined *gaps in proficiency* as *responses related to gaps in students' technological or DC proficiency and the effects of those gaps*. The category *gaps in proficiency* related to technology skills students lacked. The first-cycle category *gaps in proficiency* became *proficiency* in the second round of categorizing data. *Proficiency* retained the same definition as *gaps in proficiency* and was used to capture student proficiency with digital technologies and DC.

Insights into theme two categories. Though my fall 2020 data analysis was done independently, I tracked the definitions of all categories in a Microsoft Excel workbook as an audit trail to increase coding reliability and transparency of my thinking throughout the data analysis process (Bloomberg & Volpe, 2016; McMillan, 2016). The workbook also helped as a reference as I combined categories to develop themes.

I split the data for this theme into two major concepts based on categories from the second round of categorizing data – *awareness* and *approach*. I linked the category *instructional practice* to *awareness* in the graphic organizer because the teachers' awareness affects their instructional practice. Suggestions from participants for raising awareness and improving confidence were related to three categories found in the second cycle of categorization – the need for *training*, *support*, and *resources*. Table 4.9 shows sample records from the data workbook with the codes and categories, and Figure 4.14 illustrates the major categories and sub-categories from the second theme.

Table 4.9. *Sample Records in the Microsoft Excel Data Workbook*

Code	Definition	Sample Participant Responses
Training	Supporting teachers with training, PD	*In the past, I would have had Cheryl come in to address this topic* (Maci-DT, DTED)
Support	Digital citizenship support	*More help from our tech people* (June, Survey)
Resources	Creating and sharing resources	*Having a folder where all teachers could find and use lessons that would be appropriate at the time would be awesome* (Shay, Survey)

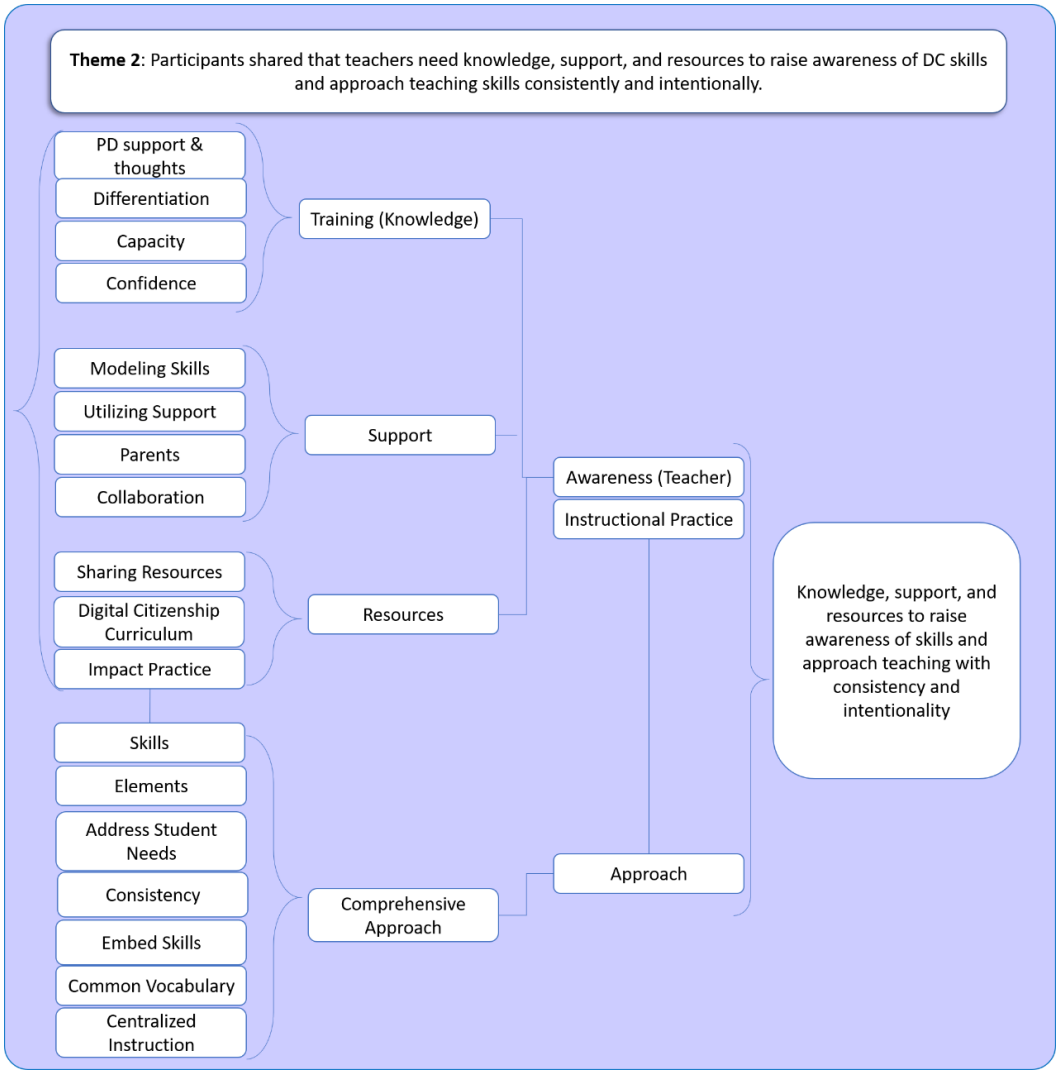


Figure 4.14. Theme 2 graphic organizer of categories.

Initially, I had a category named *PD support & thoughts* that I defined as *participants share needs, ideas, and other thoughts about PD and support*. As I reflected on the data after the first round of categorization, I separated the category into the categories *training* and *support* to quickly view the data for those terms separately as I reflected on the data. I noticed that once I separated them, I used each category more often in the second round of categorizing data than I used *PD support & thoughts* in the first round of categorizing.

By separating the *PD support & thoughts* into separate categories, it helped me examine the participants' needs by looking at keywords and phrases in their responses that showed the kinds of support and training they needed in the context. Participants suggested a variety of *support* that they needed. Training was among the requests for *support*, and the participants offered many ideas about the types of training that would help raise their awareness. Book studies, professional development sessions, *resources*, and idea-sharing were among the ideas they shared with me in their responses. Resources in terms of ideas, strategies, and lessons were requested as part of some participants' responses about their DC needs. *Resources* also related to accessing digital resources and issues they experience with equitable access of digital technologies. Another support strategy that participants suggested included support from instructional coaches to model or co-teach lessons in their classrooms. Parent involvement was another method of support that participants indicated in the data sources.

Comprehensive approach was a first-round category that stood out because the principal was interested in taking a comprehensive approach to DC instruction (see Figure 4.14 above). The category labeled *comprehensive approach* changed to *approach*

in the second round of categorizing the data. There were several approaches to teaching DC that participants shared in their responses, and the broad category helped me locate the participants' ideas about approaches in the data.

Insights into theme three categories. The major categories and sub-categories in Figure 4.15 below show how the categories in that theme related to each other. The category *responsibility to teach* came from categorizing the DTED initially and was defined as *thoughts related to a responsibility to teach DC*. Three teacher participants expressed the need or responsibility to teach DC skills to students directly. Their beliefs about the importance of DC were categorized as *level of importance*, *priorities*, and *importance* in the second round of categorizing. While most participants considered DC skills essential for their students to learn, they also shared their concerns about *time*, *rules* and regulations, a perceived lack of *access*, and *concerns* about adding to their instruction that will be evaluated in the *Presentation of Findings* section below.

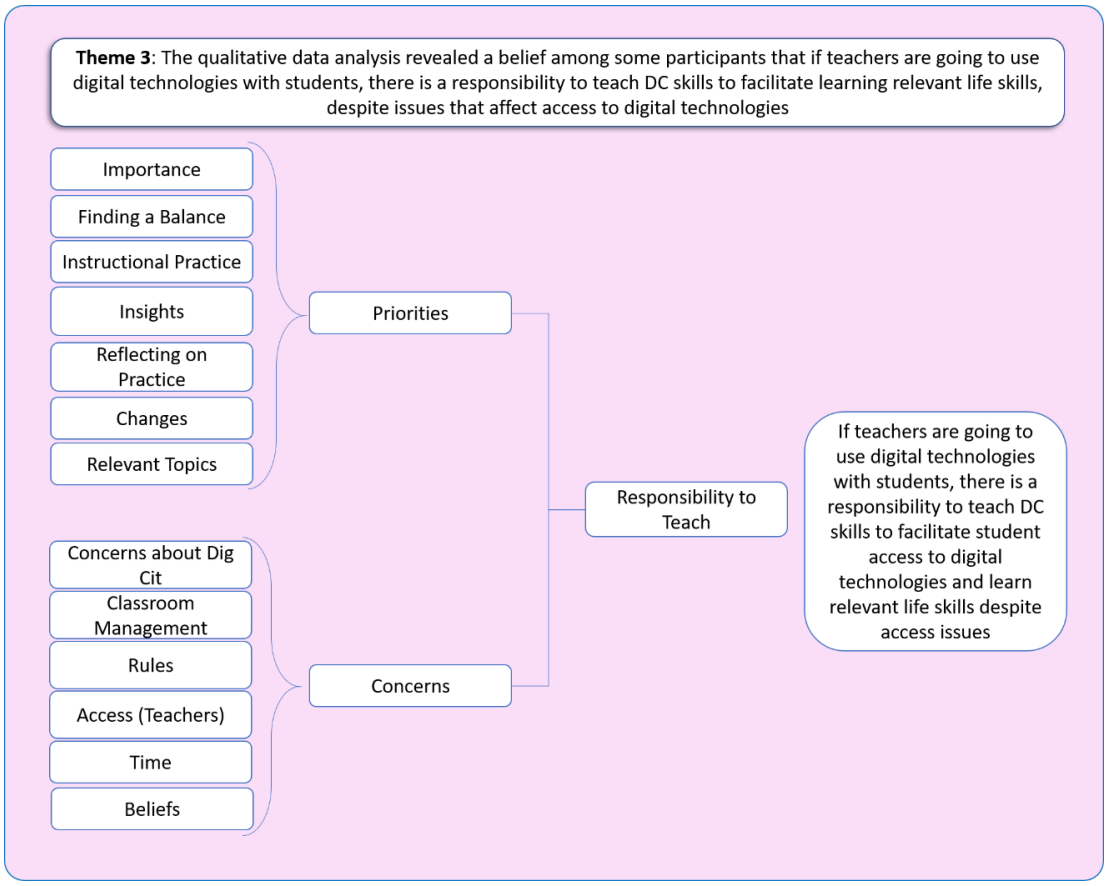


Figure 4.15. Theme 3 graphic organizer of categories.

Developing the story of the data. As another reflection piece to refine the data, I used large pieces of chart paper and removable tape to sort the data from the themeing process – from the eight sub-themes (see Figure 4.15 above) – into a narrative format. First, I sorted the eight sub-themes and combined them to make the three themes and assertions. Then I sorted the slips of paper under the corresponding major theme to tell the story of the data. The image below (see Figure 4.16) shows the process of organizing and sorting the data under each of the three themes created during the data analysis process.

Figure 4.16. Photos showing the process of sorting the strips of data into the themes created during data analysis.

When I finished the themeing process, I emailed the design team members and shared the themes with them as a form of member checking (Creswell & Poth, 2018). They had the most experience understanding the data because they participated in co-creating the DC plan and gave me extensive feedback during the initial data analysis that helped develop the DC plan. I wanted their feedback to serve as a final check of my interpretation, verify the accuracy, and offer suggestions as needed before writing the presentation of the findings (McMillan, 2016; Mertler, 2017; Mills, 2018). Quin-DT, one of the design team members, responded and stated that he had *no feedback other than this looks great* (Figure 4.17). Zoe-DT, another design team member, also stated that the themes *specifically sum up what our conversations and concerns were* (Figure 4.17). Their perceptions of the themes help reinforce the trustworthiness of the interpretation of the data (Bloomberg & Volpe, 2016). Figure 4.17 shows my email to the design team and the two responses that I received from them.

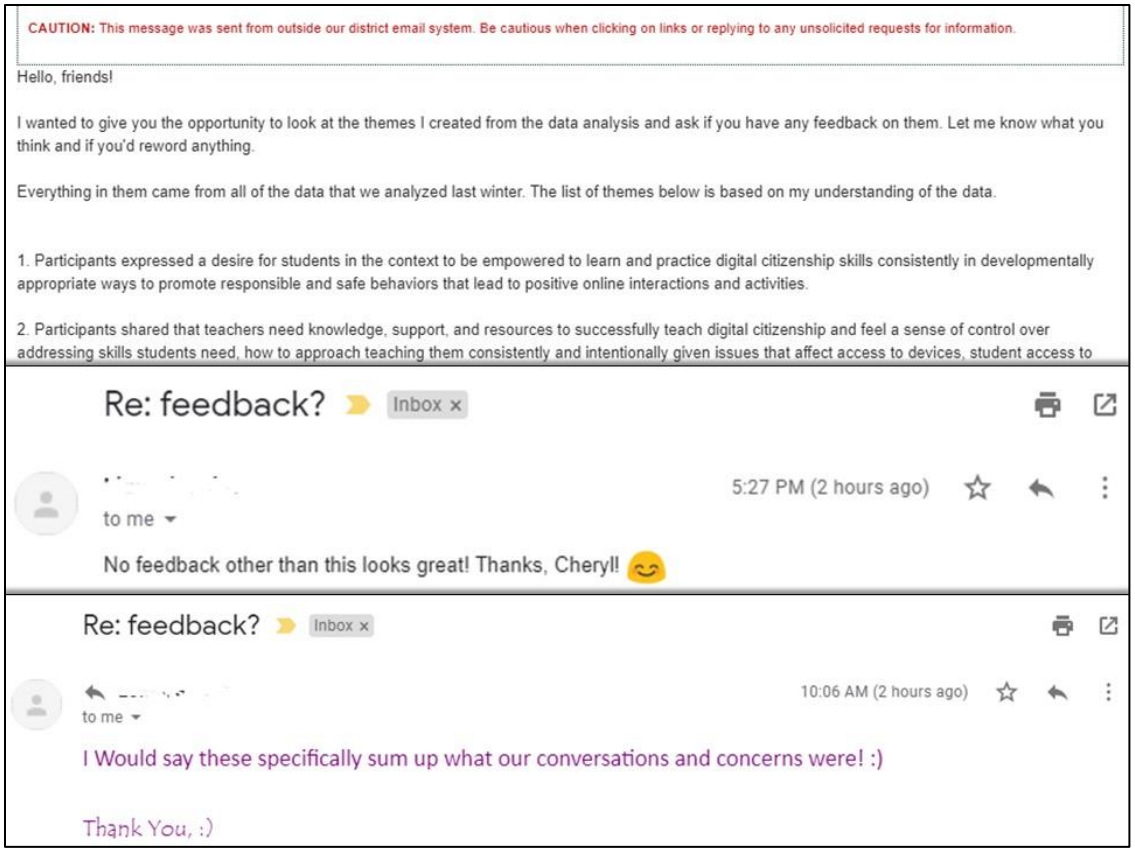


Figure 4.17. Email message to the design team asking for feedback on the themes I developed.

Presentation of Findings

The thick, rich descriptions in the presentation of the findings provide inferences and interpretations of the data that are thoughtful and sensitive descriptions of the issues associated with the instructional context from the participants' perspectives (Creswell, 2014; Frels & Onwuegbuzie, 2013; McMillan, 2016; Mertens, 2010; Mertler, 2017). The triangulation of the data helped "[seek] convergence of findings, cross-validation, among different sources and methods of data collection" (McMillan, 2016, p. 357). Triangulation helped justify the themes I developed (Creswell, 2014) and support validation of conclusions (Bazeley, 2013).

The qualitative data analysis and the data sources are found in Table 4.8, *Summary of Qualitative Data Sources*. Pseudonyms used in the presentation of the findings help protect the participants' anonymity. The design team members are set apart from the other participants with a -DT after their pseudonyms to help track their contributions in this study. Throughout the thick, rich descriptions, I used verbatim quotes to share interpretations of the data grounded in the participants' perspectives (Bazeley, 2013; Frels & Onwuegbuzie, 2013; Saldaña, 2016). The themes refer to teacher and learner needs within the context and are listed in Table 4.10 with corresponding categories from the first and second cycle of the fall 2020 data analysis.

Table 4.10. *Emergent Assertions and Themes from the Qualitative Data Analysis*

Themes and Related Categories	Assertions

Theme 1: Participants expressed their desire for students to be empowered to learn and practice digital citizenship skills in developmentally appropriate ways to promote responsible and safe behaviors that lead to positive online interactions and activities.
• *Empowering students to take responsible risks while learning digital citizenship*
  ○ Empowerment
  ○ Awareness
• *Addressing developmental needs to promote positive student behaviors*
  ○ Developmental Needs
  ○ Students
  ○ Behaviors
	Assertion 1: Students need to be empowered to learn and practice digital citizenship skills in developmentally appropriate ways to promote responsible and safe behaviors that lead to positive online interactions and activities.

Theme 2: Participants shared that teachers need knowledge, support, and resources to raise awareness of digital citizenship skills and approach teaching skills consistently and intentionally.
• *Providing a variety of knowledge, support, and resources to build teacher awareness of addressing digital citizenship*
  ○ Knowledge, support, and resources
  ▪ Training
  ▪ Support
	Assertion 2: Teachers need knowledge, support, and resources to raise awareness of digital citizenship skills and approach teaching skills consistently and intentionally.

Themes and Related Categories	Assertions
▪ Resources o Instructional practice ▪ Awareness ▪ Capacity ▪ Confidence • *Approaching digital citizenship skills consistently and intentionally to address student needs* o Approach o Consistency o Skills	
Theme 3: The qualitative data analysis revealed a belief among some participants that if teachers are going to use digital technologies with students, there is a responsibility to teach digital citizenship skills to facilitate learning relevant life skills, despite issues that affect access to digital technologies. • *Feeling a responsibility to teach digital citizenship and making it a priority* o Importance o Responsibility to teach o Instructional practice • *Accessing digital technologies to guide the development of relevant digital citizenship skills* o Life skills o Relevant topics o Concerns ▪ Access (Teachers) ▪ Time ▪ Classroom Management ▪ One more thing	Assertion 3: If teachers are going to use digital technologies with students, there is a responsibility to teach digital citizenship skills to facilitate learning relevant life skills, despite issues that affect access to digital technologies.

Theme 1: Participants expressed their desire for students to be empowered to learn and practice digital citizenship skills in developmentally appropriate ways to promote responsible and safe behaviors that lead to positive online interactions and activities.

Assertion 1: Students need to be empowered to learn and practice DC skills in developmentally appropriate ways to promote responsible and safe behaviors that lead to positive online interactions and activities.

Students need to develop an awareness of DC skills in a safe environment where they can be empowered to practice sharing and interacting online with feedback (Al-Zahrani, 2015; Blackwell et al., 2014; Holland, 2017). In order to foster appropriate online behaviors, it is helpful for educators to understand the cognitive and psychosocial development of 10- to 12-year-old children (Erikson, 1997; Mooney, 2013; Piaget, 1964; Powell & Kalina, 2009). Understanding their developmental stages and how they affect their developing digital identities can help teachers address students' needs as they help increase student awareness of DC skills by scaffolding them through learning the skills (Blackwell et al., 2014; Greenhow et al., 2009; Hollandsworth et al., 2017; Kim & Choi, 2018; Payne, 2016). Working together to co-create a plan to address the developmental needs of students in the school was an important part of the process to make the DC instruction correspond to the students' zone of proximal development (Powell & Kalina, 2009; Trif, 2015; Vygotsky, 1978). Participants in the study shared their beliefs that the DC skills their students should learn need to be taught at a level that is developmentally appropriate to their needs. As Paul stated:

> [The] way that we approach digital citizenship with kindergarteners, I believe it should be and is very different than how we do with high school students.

This section will present findings regarding (a) empowering students to take responsible risks while learning DC and (b) addressing developmental needs to promote positive student behaviors.

Empowering Students to Take Responsible Risks while Learning DC

Some participants indicated that using digital technologies in the learning process motivated and engaged students in the classroom. Ivy and Lola shared their thoughts:

Ivy: [Kids] love to get on – 'Oh, we're using the iPads today!' You know, that's just a motivator to begin with (Interview).

Lola: Students are highly engaged when able to utilize technology to enhance learning. After gaining knowledge of digital citizenship, student can apply their learning through a variety of projects and information sharing (Survey).

Other participants shared the importance of empowering students in a safe environment with guidance to use digital technologies to take responsible risks and use DC skills in their learning experiences (Churcher et al., 2014; Hope, 2007). The participants' quotes from the data indicated the importance of empowering students in a safe environment to help them learn the skills:

Lily: [To] make mistakes in a controlled environment (Survey).

Paul: [Truly] to be able to get kids to fully explore, be empowered, and excel in all areas, in um, you know, in all markets, and everything like that, they need to have more than just – *Oh, I know how to be safe and secure* – but that deep understanding of how to apply these skills in whatever profession they're going into (Interview).

Ivy: We want them to take those risks – those responsible risks (Interview).

Participants thought that motivating students with digital technologies and giving them opportunities to practice DC skills in a safe environment where they could make mistakes with feedback to increase DC awareness (Al-Zahrani, 2015; Holland, 2017).

The school's student handbook encouraged "positive risk-taking" in the learning environment to develop "engaged, self-motivated learners" (School student handbook, p. 2). In her survey, Jill shared her thoughts on student empowerment to expand DC skills development (Hope, 2007; Suppo, 2014):

> They need to explore the technology before they will be fully able to understand its possible uses and benefits. It can empower them by extending their access to knowledge and ability to show what they know and can do.

Participants want their students to practice skills with their peers and take responsible risks in a safe environment with feedback and teacher support to help them develop the DC skills they need to interact and share responsibly in online spaces (Hollandsworth et al., 2011; Hope, 2007; Suppo, 2014)

There was a desire for students to use digital technologies to practice learning objectives and complete projects while learning DC skills in a safe environment (Monterosa, 2017). Noel and Shay shared their thoughts about current practices:

> Noel: I feel the ELA unit project for unit 2 improves student awareness.
>
> Shay: Anytime students are using technology there can easily be a piece of digital citizenship involved in the activity. If students are on Google Classroom for example, a quick lesson or conversation could be done about appropriate ways to communicate on online forums. I think it is really simple to do, it's just about getting more resources out to teachers and

> helping them feel comfortable with squeezing in a quick digital citizenship piece.

While some participants believed that the students have a proper awareness of DC, others did not. Tess shared her belief that most students have a basic grasp of skills:

> Since technology seems to be readily available to most students, I feel most students have a basic awareness of digital technology. I think it really depends on when they have access to devices and how much their family/teachers discuss digital citizenship with their children.

Participants know that technology is a motivator for students, and there is a desire to use digital technologies as part of the learning process. Though participants shared that many of their students have ready access to digital technologies, they still need to practice DC skills (Ghosn-Chelala, 2019).

Some participants shared their belief that students need to practice DC skills to increase awareness and facilitate responsible risk-taking and problem-solving with feedback (Hollandsworth et al., 2011; Jones & Mitchell, 2016). Ivy suggested that students can be empowered to use technology creatively to solve problems they encounter in the learning process without her constant intervention:

> [We] just have to encourage them to be problem solvers and that sort of thing… [For] kids who've had technology all their lives, they're afraid to click on the different choices on the left-hand side [laughs], because 'Oh my gosh, it's going to take me somewhere' and 'How will I get back' and – you oft-, it's a constr-, it's a contrast, like kids who are usually so ready to try things and they amaze us, but then they're afraid to click on a link [laughs], so that's with me. Um, I'm like,

> so how do I address them? We gotta figure it out – problem-solve and, or ask a friend, or whatever (Ivy, Interview).

She recommended changing the instructional mindset and encouraging students to troubleshoot issues with digital technologies themselves to empower them "so they can figure some of this stuff out" without constant teacher intervention to encourage taking responsible risks.

Addressing Developmental Needs to Promote Positive Student Behaviors

Participants in this study indicated the belief that students need to learn DC to address developmental needs, build positive digital identities, and foster appropriate digital behaviors (Blackwell et al., 2014; Greenhow & Robelia, 2009; Monterosa, 2017; Simsek & Simsek, 2013). This section covers (a) addressing developmental needs and (b) promoting positive behaviors.

Addressing developmental needs. Fifth- and sixth-grade students learn to verify facts, collaborate with others, establish relationships, fit into social structures, and develop online habits, which participants noticed in the context (Blackwell et al. 2014; Erikson, 1997; Kim & Choi, 2018). During the DTED, Isla-DT shared her concern that if students do not learn good DC habits, it will be challenging for them to change once they are entirely "immersed in it." Iris-DT shared her belief that DC skills are "a lifelong reality for today's kids" (DTED). Children need access to content connected to their "social, emotional, and cognitive developmental stage," but children from ages 10 to 12 often find that websites and social media lack content geared specifically for their level of maturity (Blackwell et al., 2014, p. 14). This section explores (a) increased digital access

for students, (b) outside issues come into the classroom, (c) developing digital identities, and (d) lack of awareness and digital footprint.

Increased digital access for students. Students in the context have become more connected than ever to the Internet recently and need help in Internet-connected environments, according to participant responses (Hobbs & Jensen, 2009; U.S. Department of Education, 2014). Children at the intermediate school would be at Erikson's *industry versus inferiority* and *identity versus role confusion* stages of psychosocial development. Children at these stages are learning to collaborate with others to achieve common goals (Erikson, 1997) and developing their identities online (digital identity) and offline to fit into societal roles and relationships (Kim & Choi, 2018).

Their use of digital technologies has grown in recent years because it is more accessible to them in and outside of school. Isla-DT shared in the DTED that "it's grown so much and so quickly." As Shay indicated in her survey, educators should "address digital citizenship from the ground level up. The daily use of technology has vastly grown, and our students are more exposed to it than ever."

Paul stated that it was rare to experience behavior issues related to technology in the context when he became a principal at the intermediate school. He has seen more issues in the past three to four years, which he attributes to "more students having cell phones in their hands." According to participants, increased digital access for fifth- and sixth-grade students has led to increased DC-related behavioral issues (Hollandsworth et al., 2011; Jones & Mitchell, 2016). Paul, the principal, stated:

> I think back maybe 15-20 years ago – it was more along the lines of, I think we should be [teaching DC]… But now, given the fact that they're not just growing

> up with technology in their hands from the time they're born almost, um, but it's the way of life, it's the way of communication and so without teaching them the skills to be able to navigate safely and appropriately… it's just critical. (Paul, Interview)

Students at the intermediate school have become more exposed to digital technologies that require sophisticated DC skills and use apps with minimum age requirements that they do not yet meet (Blackwell et al., 2014; Dotterer et al., 2016). Many students at the fifth- and sixth-grade levels use apps that require DC skills beyond their cognitive and psychosocial developmental levels because they react and do not consider the consequences of their actions online. Several participants shared their thoughts about issues related to intermediate school students using social media and other digital technologies:

> Maci-DT: I think recently having a conversation about that there's age parameters on what kids are signing up for and they're [parents] like, 'Oh, there are? I didn't know that' (DTED).
>
> Shay: Many students are glued to their phones, using apps that they aren't even old enough to use. I used to have a graphic that showed the age in the Terms & Conditions of different social media apps and students would be shocked to see they weren't even old enough to use an app like snap chat (Survey).
>
> Ivy: [They] talk about Tik Tok and Snapchat and all those things that I have no clue 'cause I don't use those, so there's a parental piece that comes in here (Interview).

Researchers have found that children in the middle childhood age range of 8 to 12-years use web content either above or below their age level, which means that they miss the "opportunity to engage with content that meets them at their social, emotional, and cognitive developmental stage" (Blackwell et al., 2014, p. 14).

Outside issues come into the classroom. In this context, students have access to different technologies to learn, communicate, and share using various digital tools and media in a safe environment (Holland, 2017; Simsek & Simsek, 2013), while outside of school, their technology experiences, according to participants, were very different (Ohler, 2011). Most participants shared that they encounter behavioral issues related to DC in their classrooms, adding to classroom management issues originating at school and home. Many participants reported how students' behavior outside of the classroom affects classroom management. Participants provided insights into issues from outside of the classroom that have affected classroom management:

June: Usually, issues arise outside of school on social media but then trickle into the classroom. (Survey)

Lily: In past years, a lot of social 'out of school' behaviors were brought into the class. (Survey)

Joy: In the past, when students have used social media outside of school, it has spilled over into school. The students have been seen by the principal to help mediate the problems. (Survey)

According to participants, the concept of two digital lives (Ohler, 2011) is an issue because many students have limited supervision of their online behaviors outside of school. The aftermath of the negative behaviors spills over into the school day as a result:

Shay expressed her concern about how behaviors outside of school can impact the learning environment and classroom management and stated:

> So much of what happens on technology outside of school comes into the classroom. I can't begin to describe the amount [sic] of instances a student has come to me about students harassing them online or feeling like they are being bullied. Student behaviors online cause issues offline in the classroom.

The negative behaviors become classroom management issues for teachers, even when the initial DC-related issue occurred outside of school.

Developing digital identities. A digital identity is the abilities and literacies associated with "[citizens acting] as a person with culture and independence [using] critical abilities," and those abilities and literacies enable the development of the digital identity (Simsek & Simsek, 2013, p. 133). When students interact online and face-to-face, participants felt that they should understand the effects of their behaviors and interactions in their online and offline relationships (Curran & Ribble, 2017). Some mentioned their concern with students' mental well-being as they use apps and interact online:

> Noel: I also wish they didn't have to deal with personal drama outside of school with kids saying things they shouldn't on social media, then coming into school upset and it interferes with their social life and school work (Survey).
>
> Lily: Understanding that what you do online is as important as you behave in person. If you are behind a screen, it still can effect [sic] many other people (Survey).

Appropriate behavior in digital spaces has been a focus of DC initiatives in schools and connects to cyberbullying and social interactivity (Hollandsworth, 2017). Paul indicated that behavior issues have grown recently:

> [Now], in the more recent years, the last three to four years, is more and more students having cell phones in their hands – not just cell phones in their hands, but open access to the digital world, in terms of every app, uh, Internet access, YouTube access – all those things without a lot of parents restricting that. Seeing way more issues… than we ever used to. (Paul, Interview)

The DC-related issues that participants have noticed at school have increased with increased access to digital devices.

When using digital technologies, students are already developing their digital identities due to increased access to devices, according to participants, and need support to learn to use positive behaviors in online environments (Al-Zahrani, 2015; Gazi, 2016). Students at the elementary level do not connect their offline identities with their digital identities and lack awareness about how their posts represent their digital identities (Blackwell et al., 2014; Dotterer et al., 2016; Gleason & von Gillern, 2018; Erikson, 1997; Greenhow & Robelia, 2009; Payne, 2016). In her survey, Jada indicated that students need to be "aware of their digital presence" when interacting and sharing online. Paul has noticed increased behavioral issues related to DC and their effects on students as they develop their digital identities. He gave examples of the behaviors he has seen and their consequences:

> [The] ones I think I see most often, in terms of like cyberbullying for instance, is affecting students' self-worth, their self-esteem, their sense of belonging. (Paul, Interview)

The increase in negative behaviors due to the use of social media and other similar technologies has become more prevalent in recent years.

Noel noted that students "lack the self-control needed to be on the Internet," and Joy stated that they "only think of the here and now, and not the future." Children at this level do not understand how others could take the things they share and say online out of context (Holland, 2017). Students do not always think about the effects of their behaviors on others when they are "behind a screen," as Paul stated in his interview. Paul cited Maslow's hierarchy of needs, students' need for belonging, and how it can impact students in one of his interview responses:

> [Students'] sense of belonging from their peers is so critical. And so, we all feel strong behind a screen in terms of what we can write. It's much different to be mean or say something rude to someone's face. (Paul, Interview)

Paul also shared insights about students' lack of impulse control in his interview. In her survey, Jill suggested that students in the context have proficient DC skills. However, she also shared that their impulsive nature leads to negative behaviors:

> I think the students in our building understand digital citizenship skills at a proficient level. They still make poor choices, at times, through impulsivity, lack of experience, or lack of awareness. (Jill, Survey)

Paul associated behavioral issues he has encountered in the context with cognitive development in his responses during the interview. He stated:

> [Students] not having that impulse control, obviously their pre-frontal cortex that is responsible for their decision-making and their impulsivity is not nearly developed, especially in boys at this age. And so, all of those things play into it, and so, students are just so quick to fire things off that they don't necessarily mean. So, in the one sense, they're saying things to build status with other people, other kids – I'm dominant, or I'm the alpha, or will you accept me into your group if I go along with what you're saying or pick on this person. Those are the things we see a lot. And it does. It tremendously impacts other kids. (Paul, Interview)

When children make decisions online, they might encounter issues related to ethics, safety, or interpersonal interactions, and all of those decisions require different responses at different developmental levels (Erikson, 1997; Payne, 2016). Students at the fifth- and sixth-grade levels are beginning to establish their cognitive and psychosocial abilities to think about and respond appropriately to those issues (Erikson, 1997; Mooney, 2013; Piaget, 1964). Participants shared their concerns about students' lack of awareness about their digital footprint and how it could affect them in the future.

Lack of awareness and digital footprint. A *digital footprint* is a "trail of online activities" (Ghosn-Chelala, 2019, p. 51) that is "persistent" (McGillivray et al., 2016, p. 728). Students impact their digital footprint with every choice they make in what they share online. Many of the participants were concerned about students' lack of awareness of their digital footprint and how their online behaviors and interactions can affect them down the road (Common Sense Education, n.d.a, n.d.b; Gazi, 2016; Payne, 2016). June believes that students need to understand the *long-term impact* of their online activities. Others had additional insights into digital footprint issues their students face:

Inez: They are very familiar with the internet, YouTube, and various online games and apps . They still need to be taught how to responsibly and safely use those technologies . I also think they need exposure to online etiquette , communicating safely , security/sharing of personal information, cyberbullying , and their digital footprint (Survey).

Kami: Understanding the effects of your interactions and choices online (Survey).

Lily: I explain to them that whatever they do on line, we can still see it. Even if it is not on the screen that moment (Survey).

Joy: I think students use technology but don't understand that what they post will be out there for everyone to see and that information will follow them. I think they only think of the here and now and not the future (Survey).

Students in the context do not grasp the possibility that there could be unintended viewers of their online interactions (Payne, 2016). Educators at the intermediate school were concerned that students do not understand that nothing is private, and once it is out there, what they have posted is difficult to retract once it is shared publicly in a digital space (Common Sense Education, n.d.a, n.d.b; Holland, 2017; McGillivray et al., 2016; Ribble, 2015).

Promoting positive behaviors. When students lack awareness of DC skills, it can lead to negative behaviors and interactions online (Hollandsworth et al., 2011). Encouraging the cultivation of critical thinking skills and the responsible use of digital

technologies were suggestions reflected in participant responses to promote positive behaviors (Gleason & von Gillern, 2018; Ribble, 2015). Participants shared their ideas for promoting positive behaviors and interactions online with their students. Inez shared her belief in her survey response that students can be empowered "with the necessary strategies to be good digital citizens." Some teachers offered specific strategies:

> Lily: Empower [students] to make them want to have positive communications, so that they can use technology more and so that all kids feel good about themselves (Survey).
>
> Tess: I think the access to devices daily makes a big impact [on DC]. Additionally, trying to figure out where it fits within the new curriculum (Survey).
>
> Jill: With frequent opportunities to practice these skills paired with frequent feedback on how they are doing (Survey).
>
> Shay: [The] more [students] know and understand digital citizenship skills, the better prepared they are to follow them in school (Survey).

According to participants, practicing skills could increase student awareness of DC skills and promote positive behaviors.

In their interviews, Paul and Ivy shared that they have utilized a questioning strategy to walk through making better choices in the future when guiding students through DC issues (Churcher et al., 2014; Gleason & von Gillern, 2018; Hobbes & Tuzel, 2017). They have used that strategy to demonstrate the critical thinking process when interacting and making decisions online to help students *"*[get] all the details out on the

table" (Paul, Interview). Ivy shared that it was rare for her to experience any behavioral issues, which stood out from other responses because many participants shared experiences dealing with negative behaviors. Paul also explained the procedure he has used to help students critically think through choices they make online to promote positive behaviors:

> From my perspective, in my role, I try to take an experiential learning approach, of ok, so, when the issue happens or takes place, we kind of just go through a multi-step questioning method: 'OK what, so what happened? What led to this?' And getting all the details out on the table. Um, and then, try to understand how it affected that person, how it affected the other people around them. Um, and then finally, going into a stage of, 'Well now you know this, now you've been through this experience, how could you have handled it differently?' Or, 'What does this mean to you in the future?' … So, getting kids to really think about it from all different angles, all different perspectives, is really important. (Paul, Interview)

Paul shared that he has walked children at the school through the questioning strategy many times. However, students continue to exhibit negative behaviors in their online interactions.

Another solution that participants shared to raise student awareness of DC skills and promote positive behaviors was to teach DC skills from K-12, and at different levels of depth depending on the grade (Blackwell et al., 2014; Gazi, 2016; Holland, 2017; Hollandsworth et al., 2011; Payne, 2016). Gazi (2016) asserted that teachers should integrate DC skills at every educational level to promote the appropriate use of digital technologies. In terms of Piaget's stages of cognitive development, students at the fifth-

and sixth-grade levels are in the *concrete operational* or *formal operational* stages (Mooney, 2013; Piaget, 1964). Students at these stages of cognitive development are beginning to think in more complex ways with logic and ethical thought (Mooney, 2013). Teaching the skills throughout K-12 could promote good habits to help prevent online activities that could cause ethical and behavioral concerns down the road and prepare students for the issues they will encounter in digital environments, based on participant responses (Blackwell et al., 2014; Lindsey, 2015; Monterosa, 2017; Payne, 2016; Ribble, 2015). Educators in the context shared their perceptions about teaching DC skills and educator needs moving forward. Participants shared their thoughts about how DC should be taught going forward:

> Maci-DT: We need to figure out – it's like when we get taught things in staff meetings because it's something everyone needs to hear. Like, we need to find the most effective way to get as many people as possible to hear the message! [Me: Yeah! And multiple times a year.] Yes! And at younger ages than whatever it is we think it should be, we need to go younger than whatever it is we think (DTED).
>
> Shay: I wish our district would create resources and ask teachers to start it in the lower elementary levels and every grade is responsible for teaching a certain part of digital citizenship (Survey).

Paul: I think we really have to scaffold their learning though. It's about exposure, it's about hitting some of them really early on (Interview).

They indicated that teaching DC skills to kindergarteners should be different from the way high school students learn them (Blackwell et al., 2014). For example, Paul suggested "hitting all the nine elements at the right time" to meet students' developmental needs at each grade level.

Participants want their students to be aware of their online behaviors and how their activity online affects themselves and others (Ribble, 2015). Paul shared his hope that the conversations he has had with students whose online behaviors require his intervention will help them make better decisions and "[plant] a seed" to make better choices (Interview). At the fifth- and sixth-grade levels, participants shared their concerns about student behaviors online related to their digital footprint and not considering future consequences as they learn how to interact online (Ghosn-Chelala, 2019; Jones & Mitchell, 2016; Monterosa, 2017).

Theme 2: Participants shared that teachers need knowledge, support, and resources to raise awareness of digital citizenship skills and approach teaching skills consistently and intentionally.

Assertion 2: Teachers need knowledge, support, and resources to raise awareness of DC skills and approach teaching skills consistently and intentionally.

Understanding teachers' attitudes toward DC and examining their perceptions of teaching the skills was an essential aspect of encouraging the intentional integration of skills into instruction, which corresponds with the theory of planned behavior (Ajzen,

1991). Asking participants to share their beliefs and attitudes about digital citizenship helped determine strategies for increasing teacher intention to teach DC (Dunn et al., 2018) because adopting the plan would be voluntary. Using participant responses to raise teacher awareness of DC was done to help teachers approach DC instruction consistently and intentionally during the implementation of the plan (Ajzen, 1991; Dunn et al., 2018). The thoughtful participant responses helped determine the knowledge, support, and resources that would address teachers' needs, attitudes, and beliefs to raise awareness of DC instructional strategies to foster a desire to teach the skills (Ajzen, 1991; Gazi, 2016; Hollandsworth et al., 2011). The design team used the data they provided to co-create the plan using the participants' perspectives to affect their behavioral decisions to adopt the DC plan (Ajzen, 1991; Frels & Onwuegbuzie, 2013; Gretter & Yadav, 2018; Vygotsky, 1978). Design team participants shared that they benefited from the immersion into the collaborative planning process to create a cohesive plan based on their colleagues' needs (Greenhow et al., 2009; Vygotsky, 1978).

This section will encompass: (a) providing a variety of knowledge, support, and resources to build teacher awareness of addressing digital citizenship skills; and (b) approaching digital citizenship skills consistently and intentionally to address student needs.

Providing a Variety of Knowledge, Support, and Resources to Build Teacher Awareness of Addressing Digital Citizenship Skills

The study raised awareness of DC and inspired DC conversations about teachers' needs related to knowledge, support, and resources that could help them integrate DC into their instruction more consistently. In chapter 2 of this descriptive study, I combined

professional development, support, and resources in my discussion related to *supporting professional learning and implementation efforts*. When examining the major categories I developed, I noticed that *support* was often connected to *training* and *resources.* As a result, I combined them because *training* is a form of *support,* and *resources* are often part of training to allow teachers to refer back to their learning once they return to the classroom to try what they have learned. In my role as an instructional coach, I provide training (knowledge), support, and resources to educators. The combination of training, support, and resources in the data supported combining the categories as part of the descriptive analysis. Monterosa (2017) conducted a study on a DC initiative that involved training, support, and resources among the components of their approach to DC.

This section explores (a) awareness to impact practice and (b) knowledge, support, and resources for consistent instruction.

Awareness to impact practice. Awareness is an essential part of teaching DC skills effectively (Ashmeade, 2016; Gazi, 2016). The teachers in the context have a range of awareness of DC skills. Participants shared their thoughts about their levels of awareness:

Lola: Limitations with my own understanding of some technology (Survey).

June: Teachers [are] not sure how to teach it or what to use to teach DC (Survey).

Maci-DT: As you [Quin-DT] were talking, I was thinking like, it was more like I've been addressing it, just as digital awareness,

> instead of, you know, the specific components. And I think that common language is really going to help (DTED).

Some indicated their feelings that the coverage of DC in the context was not enough:

> Ivy: I don't even think we've begun to touch the surface of the issues kids are going to have in the future (Interview).
>
> Paul: We need more time, plain and simple, um, to be able to do that well, because otherwise we're just scratching the surface. I think we're barely taking a superficial approach to expose the students about these things (Interview).
>
> Shay: [We] need to be forced to address digital citizenship throughout the year (Survey).

Design team members expressed an increase in their awareness of instructional strategies for teaching DC at a deeper level due to their participation in the study and collaboration developing the DC plan (Ashmeade, 2016; Hollandsworth et al., 2011; Kafyulilo et al., 2016). Maci-DT stated that "in the past, I felt like unaware and lacked confidence in how to attack it" (DTED). During the DTED, Quin-DT shared that he gained awareness he did not have previously:

> [In] the past, when I've taught digital citizenship, it's like, 'Ok, understand that no email is private. It doesn't go away. And the Internet sites you visit don't go away,' and I thought that I was teaching digital citizenship. And that's just a slice of so much more, and I think that being a part of the study has really allowed me, um, to understand just how big of a topic digital citizenship is. And just how

> many topics it covers when the kids are using any kind of digital tools, so that was enlightening. (Quin-DT, DTED)

The increased awareness that members of the design team, such as Maci-DT and Quin-DT, experienced changed the way they talk to students about DC concepts. The shift in their practice creates an environment for students that better "[facilitates] culturally appropriate behavior online" (Kim & Choi, 2018, p. 158).

Design team members expressed their enthusiasm for the collaborative process that they used to develop the plan using the data we collected and analyzed together and how it helped build an awareness of DC skills and instruction at the same time (Clifford, 2007; Kafyulilo et al., 2016; Vygotsky, 1978). Quin-DT felt that other teachers in the context could benefit from participating in a similar process to gain the same insight into DC instruction that they gained from being part of the design team. He indicated during our exit discussion:

> I would like to start learning where I left off. Instead of relearning…. But there are people who, it would benefit them to go through the process like we went through and that way they could learn the things that we learned. (Quin-DT, DTED)

In the DTED, Quin-DT also shared his belief that training should be differentiated according to the needs of the teachers.

The immersion into collaborative planning for DC instruction helped develop the design team members' skills (Ashmeade, 2016; Saini & Abraham, 2019). The team had the advantage of sharing knowledge and media while collaborating and remixing

information from other participants into a cohesive DC plan (Greenhow et al., 2009; Vygotsky, 1978). Quin-DT articulated that when he shared:

> [There] is so much work that we've done, that um, it was nice to be able to work at it along the way, rather than looking at it after it's done, and there's this huge plan, and then you have to make sense of it. We have the, um, we have the advantage of being part of the process along the way. (Quin-DT, DTED)

The design team members appreciated the collaboration and found the work to increase their awareness and confidence in teaching the skills in their own classrooms due to their participation. The knowledge-building activity of co-creating the DC plan together was seen as a beneficial way to raise awareness and learn about DC (Churcher et al., 2014; McGillivray et al., 2016; Vygotsky, 1978). Participating in design teams can promote continued collaboration (Bakah et al., 2012; Vygotsky, 1978). Participants in other studies have expressed the value of the time spent sharing and their experiences as part of the team (Kafyulilo et al., 2016). Design team members in this study demonstrated the value they perceived in their co-creative work on the DC plan, as evidenced in responses from design team members in their responses during the DTED and comments they made throughout our time together.

Participants, particularly design team members, who thought they knew DC well came away from their participation in the study with a newfound understanding of the concept's depth. Isla-DT reported having:

> [More] in-depth conversations, like about specific areas of the study… I had never thought to break [digital citizenship] down by the coding type areas [elements]. (Isla-DT, DTED)

Maci-DT and Quin-DT also indicated that they gained a new level of knowledge about DC concepts. Quin-DT made an insightful comment when he shared:

> If [there is] one thing we learned from this process is what we thought we knew about digital citizenship was just a low percentage of what digital citizenship is. So even right now, I'm sure what we've learned along the way is still incomplete – there's still so much to learn. (Quin-DT, DTED)

Quin-DT rated his level of digital citizenship awareness at a five – the highest level. He felt that he learned more about DC due to participating in the co-creation process, despite rating his DC awareness at the highest possible rating before participating.

Isla-DT shared a shift in her thinking about her growth in DC awareness that other participants also articulated (Kim & Choi, 2018; Suppo, 2014). She indicated that she came away from her participation with the understanding that DC has "distinct parts" (elements) and was "more than I was originally thinking" (Isla-DT, DTED). However, at times, Isla-DT felt that the process was "overwhelming" and shared:

> It was a little overwhelming, and I'm sure others would have fabulous ideas as well. I definitely feel this has been valuable, and I think this topic is ever-increasingly important. (Isla-DT, DTED)

Isla-DT rated her level of digital citizenship awareness at a four. She felt the process was both overwhelming and valuable and realized that DC involved more than she initially thought.

Other participants in the study indicated that they benefited from participating because it caused them to reflect on and increase their awareness of the topic and related instructional practices. In her survey response, Lola reflected on her "level of

understanding and comfort with digital citizenship." Similarly, Noel thought about what she and her students accomplished that school year by January 2020 related to DC when she took the survey. She stated, "Sure, it is a good reflection for myself on what I have done this year with these students and where I need to go" (Noel, Survey). Joy shared in her survey that taking part in the study made her "admit to [her] weaknesses and think of ways to overcome them." Shay indicated in her survey that she wanted to "find more ways to incorporate it every year." Ivy shared in her interview that she became more aware of DC elements due to her participation in the interview for this study because initially, she noted, "Do I as a teacher completely understand all those components? No."

One participant had a different perception of gaining DC awareness and skills. As we debriefed during our DTED, Maci-DT had a chance to reflect some more on her developing DC awareness and added this insight:

> [As] I was answering this and reflecting on this, I was thinking about, um, for me… I get more and more hyper-aware, I think, of security, and like, I had used Google Classroom for two years, and then this year, stopped doing it because I'm just – I'm unclear when I hear out there that there's ways for people to, you know, get information and share, that things could be seen, I get this, like, panic that I will be the one that happens to or something, or that something will go wrong, as a result. Um, so I feel like I've almost pulled back instead of moved forward in some of those ways. (Maci-DT, DTED)

Maci-DT's hesitation in using collaborative tools was due to her increased awareness of DC concepts related to privacy and security.

Knowledge, support, and resources for consistent instruction. Participants shared their thoughts and beliefs about what they need to build DC capacity and gain the confidence they need to teach these skills in their classrooms (Ashmeade, 2016; Coldwell, 2017). The need for training, support, and resources were included in many responses that participants suggested would increase their awareness of DC and facilitate effective DC instruction (Ashmeade, 2016; Blackwell et al., 2014).

This section includes participant thoughts about (a) training, (b) support, and (c) resources.

Training. I defined the *training* category as *supporting teachers with training, PD* in my Microsoft Excel codebook that houses all of my data with the definitions of the categories I used in my data analysis during this descriptive study. Teachers in the context shared the need to raise teacher awareness of DC with training, support, and resources, which is evident in the literature (Ashmeade, 2016; Choi et al., 2018; Hollandsworth et al., 2017).

Educators in the context requested DC training to practice and teach the skills (Lindsey, 2015), and participants expressed their desire for training to learn strategies to teach skills. In his interview, Paul suggested training on various topics, such as cyberbullying and updated professional development as innovations emerge, would help teachers in the context (Hollandsworth et al., 2017; Jones & Mitchell, 2016). He stated:

> As part of professional learning, I think we need to build in the reflection of our own experiences. So, just because I've never been hacked with my credit card online doesn't mean that it couldn't happen tomorrow…. so really that deep reflection on our own experiences, and the paradigms we have embedded in us –

> looking at some case studies of what's happened in schools with some different situations… Whether it's cyberbullying or hacking systems, or whatever the case may be… So people know what is—or what are the dangers out there with digital citizenship. And then, I think really the core of the learning that needs to take place is: How do we infuse this into the curriculum? You know, beyond just one more thing. How do we make sure that it's something that we're doing on a daily basis in the classroom, in the library, all locations in the school? And then, lastly, it's just on-going professional learning as the internet changes, as apps get developed. (Paul, Interview)

Paul made suggestions for the training that teachers should experience as part of the DC implementation. Other participants shared their ideas, as well.

Participants were interested in DC-related professional development "differentiated" by need and interest, as Quin-DT and others requested, so "teachers can intentionally and confidently integrate technology" (Quin-DT, DTED). Offering training and resources based on educators' needs can increase confidence with DC instruction (Ashmeade, 2016). Book studies, classes, time to work, examine and develop resources, and share ideas during training were suggested as possible professional learning opportunities by educators in the context. They shared that professional development should offer a variety of relevant topics with immediately useful strategies and resources to use right away that would be differentiated to meet the educators' needs in the context.

Differentiating training to the needs of the learners could benefit teachers in the context (Houston, 2015). The design team members' desire to go beyond what they had already done during their work on the design team was a recurring suggestion during the

DTED. The design team members shared a range of interest in professional development and how differentiation and time to explore (Ertmer, 1999; Kopcha, 2012) would encourage participation in future training on DC instructional strategies (Gleason & von Gillern, 2018). During the DTED, design team members shared their thoughts on participating in DC training as they moved toward the potential implementation:

Lea-DT: I think I would be less inclined as a result of this because I feel like we are… we were so involved in it and that we know so much more about it (DTED).

Quin-DT: [In response to Lea-DT]: Yeah, and that's why I said 'depending on what it is.' Because, you know, if there's professional learning, but it's on things that we've already done in this cohort, then I don't know if that would be the best use of our time. But if it's something in addition, you know, adding on to what we've done or something different that we haven't talked about, then yeah, absolutely! So, I mean, it would just have – I would just have to see what is available (DTED).

Maci-DT: [In] terms of professional learning, time to go through and actually look at those things [resources in the plan] – even within our partners, we divided and conquered becau- you know, because of time constraints. So even just having time to sit and say this is where you access these things, this is how you access things, where you access things, and take some

> time to actually watch them because – yes, it's great that there are, you know, that there are resources, but it's like anything, you know - if you're about to teach the Civil War, you need to go through all the resources you have for Civil War and pick which things you're gonna use. Like, you aren't gonna go through, you know, the digital etiquette, for example, and go bullet by bullet and just say, *Today, we're doing bullet one, kids*! [laughter] and just like having time to look through things [Me: Yeah], even if we have been here [in our work on the plan], you know, to look at the other things that are there, I think would be helpful (DTED).

The ideas for professional development were listed in the DC plan (Appendix C), co-created by the design team during this inquiry, and included suggestions based on participant perspectives (Frels & Onwuegbuzie, 2013). Participants shared their perspectives about raising awareness of DC skills and strategies with training and support to increase intentionality and consistency in planning and teaching the skills (Ashmeade, 2016; Coldwell, 2017; Couldry et al., 2014; Lindsey, 2015; Monterosa, 2017; Payne, 2016).

Support. *Support* was a major category in the final rounds of categorization that originated from the category *PD support & thoughts* from the initial rounds of categorizing data. The *support* category was used to tag examples of better utilizing instructional support coaches in the district for DC support to model and co-teach lessons.

Support was also used to categorize data that referred to parent support, resources, ideas, and strategies for teaching DC skills.

Participants suggested that more support would be necessary to increase DC confidence to implement the DC plan. Students need guidance to learn the skills (Kopcha, 2012. As Tess indicated in her survey, the "[teachers] cannot do it all in just the classroom setting, [it] takes everyone working together." Paul shared his belief that not teaching the skills was a disservice and dangerous (Hollandsworth et al., 2011). He was firm in his belief in a "comprehensive approach" to support teaching and learning DC (Paul, Interview). He suggested that everyone, regardless of whether they are in the classrooms with students, should be invited to support DC skills instruction and reinforcement (Monterosa, 2017). Paul suggested:

> I think everyone has to be involved in this. As I mentioned before, that comprehensive approach, not just with building into the curriculum, but I feel like, just the old saying of *it takes a village to raise a child*, I feel like whether you're, uh, um, uh, a teaching assistant, a teacher, an administrator, a custodian, or any other support staff in the building, I think we all need to not necessarily just be aware, but we all need to be involved, if, no matter what your role is or within your role to help students to understand again how to safely and appropriately navigate the digital world. (Paul, Interview)

The participants realized the need to teach the skills and offered many ideas for helping their students learn to interact appropriately online. The comprehensive approach that involves all stakeholders in the school and the community that Paul suggested was

present in the other participants' responses and evident in the literature (Gazi, 2016; Gleason & von Gillern, 2016; Hollandsworth et al., 2017; Ribble, 2015).

Better utilization of support personnel in the district could benefit instructional staff at any skill level (Coleman, 2004), and some participants expressed their feeling that they need to better utilize support. June and Noel shared the same belief in their survey responses that having instructional support coaches co-teach and model lessons with embedded DC skills would support teachers as they learn to implement the skills in their classrooms. Classroom support in modeling and co-teaching DC lessons could help teachers observe best practices to increase capacity and confidence with DC instruction, according to responses from two participants (Gretter & Yadav, 2018; Lindsey, 2015). June and Joy shared other ideas related to improving support at the intermediate school:

> June: [More] help from our tech people (Survey).
>
> Joy: [Make] better use of [our instructional support coaches] to come in and help show me how to incorporate technology in my lessons. Once I grow that way, I would be able to pass that along to students (Survey).

Teachers shared many possible approaches to DC instruction in their responses. Participants shared their belief that parent collaboration with teachers would facilitate collaboration on reinforcing skills at home and school (Blackwell et al., 2014; Hollandsworth et al., 2011). Without parent support, as Maci-DT suggested during the DTED, "we're going to be fighting an uphill battle."

Tess shared her belief that teachers cannot effectively teach DC skills without parental support (Blackwell et al., 2014; Hollandsworth et al., 2011; Hollandsworth et al., 2017). She stated:

> I believe we can empower students to practice digital citizenship skills by teaching families the implications of how much technology is impacting our students, as well as the seriousness of misusing technology on their child's future. We need to get the parents on board to help reinforce these skills. Teachers cannot do it all in just the classroom setting. It takes everyone working together. (Tess, Survey)

Zoe-DT shared her view from the parent perspective in her written response on her question sheet for the design team exit discussion:

> Students also need good parent supervision, and that takes work (a lot of it) on the parents' end. Many parents are too tired or not aware of what their child is doing on their devices. (Zoe-DT, DTED)

Establishing a strong collaborative relationship with parents would keep them informed about DC skills taught at school and ways parents could help reinforce skills at home (Curran & Ribble, 2017; Hollandsworth et al., 2017).

Resources. *Resources* was a major category in the last rounds of categorization that connected to other categories in the initial categorization process: *sharing resources*, *scheduling resources* (devices), and an aspect of *support*. Rather than starting from scratch, teachers requested resources to begin embedding DC skills into their instruction. Some participants indicated that they need strategies and resources for teaching DC and lack confidence in the concept, impacting their ability to approach DC with their students

(Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; Jones & Mitchell, 2016; Kim et al., 2013; Kopcha, 2012; Tondeur et al., 2017). Participants shared their concerns about DC instruction:

> Lily: We have so much that is required now. Ideas on how to integrate into subjects (Survey).
>
> Isla-DT: More technology needed in our building, more resources and supports, we need to make the best use of what we have (DTED).
>
> Ivy: [We] need some sort of curriculum resources – something (Interview).
>
> Shay: I wish our district would create resources (Survey).

Shay shared that she "[wishes] our district would create resources" to support teaching DC skills. Similarly, Iris-DT shared a written response to a question in the DTED that said, "We shared/learned/researched so many ways to teach digital citizenship embedded in our everyday instruction. It is as easy as teaching manners and etiquette."

After the completion of the plan, the design team members shared their impressions of the resources they compiled in it. Quin-DT appreciated the plan:

> I feel the process was valuable for a couple reasons. For me, it was valuable just because being a part of the process, contributing to the digital citizenship plan, allowed me to have a comfort level, which makes it easier for me to implement it in my own classroom. [C Tice: Mm hmm.] But then also, this is just something that teachers need. You know? And now, instead of saying, 'OK, go out and find resources for this component, or go out and find resources for that component,'

now it's right in front of us in one hub. And that makes it so much better for teachers to be able to access and implement whatever they need at that time, so definitely valuable!

The design team members shared additional information about the resources in the plan and their beliefs about why they found them valuable. Quin-DT and Isla-DT shared some specific insights during our DTED:

Quin-DT: I feel like one of the big barriers that teachers were articulating was, well this was just one more thing we have to do on top of everything else. So, I really enjoyed that when we were going through that plan and coming up with resources, it was stressed that when you were coming up with those resources and tools that you're doing it in a way where teachers can integrate it into whatever they're doing. So, it's not one additional thing, you're doing it while you're teaching something else. So, integrating that, um, has been a great way to break that barrier and overcome whatever situation that that teacher is facing (DTED).

Isla-DT: [It] really helped me to see how I can be more intentional about it, and just in different resources to go to (DTED).

The design team was focused on the data as they collaborated on decisions about aspects of the plan during our planning process. The design team members valued the collaborative knowledge-building during the planning process, and the resulting resources were perceived as positive (Vygotsky, 1978).

Approaching Digital Citizenship Skills Consistently and Intentionally to Address Student Needs

In this inquiry, participants shared the need to be consistent and intentional about teaching DC skills to address student needs. This section includes participant insights into (a) approaches, (b) consistency, intention, and student needs, and (c) skills.

Approaches. There are many approaches to DC instruction in the literature that include models and curricula (Churcher, Downs, & Tewksbury, 2014; Dezuanni, 2015; Gleason & von Gillern, 2018; Greenhow, Robelia, & Hughes, 2009; McGillivray et al., 2016) and pre-packaged DC materials (Ashmeade, 2016; Blevins et al., 2014; Gretter, 2018; Holland, 2017; Lindsey, 2015; Payne, 2016). Participants identified different approaches to DC instruction, such as involving an expert, creating a separate course, or having another teacher teach the skills. Table 4.11 contains participants' suggestions for approaches to DC instruction. The table shows that many participants believed that embedding skills into curriculum and teaching skills in a central location would benefit students. However, Ivy was not certain that embedding was the best method because as plans and projects changed in her classroom out of necessity, it could impact whether skills get taught or not. As part of the comprehensive approach to DC that Paul expressed in his responses during his interview, participants shared different beliefs about teaching the skills and how that could be integrated into existing practices. Some participants shared the belief that teaching DC in a centralized location and reinforced in the classrooms could promote consistency and intentionality in instruction and support skill development.

Table 4.11. *Suggested Approaches to Digital Citizenship Instruction*

Digital citizenship approach	Participant quotes on the approach
Curriculum, benchmarks, and materials	• "comprehensive approach, not just with building into the curriculum" (Paul, Interview) • "I look at it as we need some sort of curriculum resources – something" (Ivy, Interview) • "to have either a curriculum, or here are a suggested list of activities" (Ivy, Interview) • "currently do not have any type of curriculum that promotes digital citizenship" (Inez, Survey) • "set of criteria that teachers need to follow when teaching/using technology (same set of criteria and follow through- ex. how to properly shut down a computer" (Tess, Survey) • "better if there was a set digital citizenship curriculum and/or class for students to participate in" (Inez, Survey) • "set digital citizenship curriculum" (Inez, Survey) • "design a curriculum for digital citizenship" (Lola, Survey) • "THEY (students) could design a curriculum for digital citizenship" (Lola, Survey)
Embed skills in curriculum	• "looking at places we could embed the ideas into the content naturally" (Iris-DT, DTED) • "in general, adding digital citizenship skills, not so much to the lessons, but how I utilize the technology within those lessons" (Quin-DT, DTED) • "so many ways to teach digital citizenship embedded in our everyday instruction" (Iris-DT, DTED) • "needs to run parallel to the learning that's taking place" (Paul, Interview) • "I think it can fit into the curriculum in every subject area and should fit into the curriculum in every subject area" (Paul, Interview) • "if we really embed it into what we do in the curriculum, uh, I think that can save some time (Paul, Interview) • in conjunction with specific lessons in the content area" (Joy, Survey) • "Each use of technology within a content lesson would allow for even small lessons on digital citizenship" (Jill, Survey) • "integrated into what we are already doing" (Jill, Survey)

Digital citizenship approach	Participant quotes on the approach
	• "fits in every aspect of the curriculum that uses technology in some way" (Shay, Survey) • "integrated in any subject" (Lily, Survey) • "I think it can fit in anywhere and anytime we use technology" (Tess, Survey) • "ways to integrate it into the curriculum we have" (Noah, Survey) • "can be integrated into any subject area" (Lola, Survey) • "Right now, I make room for it just as… within the curriculum" (Ivy, Interview) • "not stand-alone – embedded into everything that we do, into the content, into our instructional practices" (Paul, Interview) • "I usually incorporate it into ELA" (June, Survey) • "integrated into any subject area" (Lola, Survey) • "I think it fits in the content areas of ELA, science and SS" (Joy, Survey) • "ELA and Science" (Noel, Survey) • "It would fit into a technology curriculum, but it could be adapted into any class" (Noah, Survey) • "design our lessons with technology in mind and how it can enhance the learning experience" (Lola, Survey)
Central location and teacher, reinforced in classrooms	• "In a perfect world, I would love someone to come in, like I wish we had a computer lab that was one piece of it" (Ivy, Interview) • "taught originally there (library) and reinforced in the classroom in the content areas or vice versa, or simultaneously" (Paul, Interview) • "someone- uh an expert to teach it, because I worry that I will never become an expert or close to an expert" (Ivy, Interview) • "dedicated technology instructor (in building) and a dedicated technology class would be very helpful!" (Lola, Survey) • "a lot of districts have technology/computer teachers. This would be a huge asset to our building!" (Inez, Survey) • "having a technology teacher to teach a class on technology" (Tess, Survey) • "having a dedicated technology teacher would allow students to have the time and tools to learn about and explore digital citizenship" (Lola, Survey)

Digital citizenship approach	Participant quotes on the approach
Common vocabulary	• "full-time technology teacher to teach these skills consistently would be awesome" (Iris-DT, DTED) • "Not exactly – some language that uses a common vocabulary" (Maci-DT, DTED) • "using the lingo" (Isla-DT, DTED)
Conversations	• "within those conversations, it's teaching" (Paul, Interview) • "importance of appropriate behavior on technology" (Noah, Survey) • "We have talked a lot about the digital footprint, specifically" (Lea-DT, DTED)
Lessons	• "I typically introduce digital citizenship (or have one of our technology experts come in) to students in the beginning of the year" (Lola, Survey) • "Digital citizenship mini lessons can be tied into any element of the curriculum when technology is used" (Inez, Survey) • "continually exposing them to lessons/activities in school" (Inez, Survey) • "mini lessons were taught in ELA" (Joy, Survey) • "Introduce it before students start using technology" (June, Survey) • "remind students before working with technology" (Noel, Survey) • "Teach about it at the beginning of the year and review it throughout" (June, Survey)
Connect with existing initiatives	• "come in for Juvenile Law and he does a presentation about digital citizenship" (Lily, Survey)
Modeling and practicing digital citizenship skills	• "I think we need to build in the reflection of our own experiences" (Paul, Interview) • "when the issue happens or takes place, we kind of just go through a multi-step questioning method" (Paul, Interview) • "modeling good digital citizenship" (Joy, Survey)
Separate course	• "I wish it was an entity to itself" (Ivy, Interview) • "helpful if we had a full-time health/wellness program and incorporated it into that" (June, Survey) • "class for students to participate in" (Inez, Survey) • "could be a week or two each year and progress throughout the grades" (Noah, Survey)

Digital citizenship approach	Participant quotes on the approach
Following rules and guidelines	• "good citizen in an online community/platform" (Isla-DT, DTED) • "importance of appropriate behavior on technology" (Noah, Survey) • "remind them from time to time how to properly use the laptop" (Tess, Survey) • "Introducing expectations prior to the use of any type of technology" (Lola, Survey)

Consistency, intention, and student needs. Students need opportunities to practice DC skills with depth and consistency to enhance their DC skills to successfully navigate, share, learn, and interact with others (Hollandsworth, 2011; Lindsey, 2015). The principal suggested that DC skills were not taught with an in-depth approach:

> [When] we're structuring our school day and we're developing our curriculum, is how do we best do that, while putting this as a priority.

In her survey, Jill indicated:

> It should be integrated into what we are already doing. The time, in my opinion, should be prioritized for professional development and/or planning, so that teachers can intentionally and confidently integrate technology.

Teaching DC skills with consistency and intentionality was an aspect of the participants' instructional practice in their responses (Couldry et al., 2014). Iris-DT and Paul shared their thoughts related to teaching DC with consistency:

> Iris-DT: [Written response] A full-time technology teacher to teach these skills consistently would be awesome, but where would that money come from? (DTED)

Paul: And I keep going back to that comprehensive approach. If it's built into our curriculum, if we're doing it with purpose, intention, and we're tackling this strategically (Interview).

Some participants used what they learned during the inquiry to teach DC skills intentionally using vocabulary learned during their participation. Maci-DT shared that she began using common DC vocabulary with students to explain the skills and help students gain proficiency that teachers desire and provide continuity from fifth to sixth grade as they develop the skills (Ribble, 2015). Maci-DT conveyed her increased awareness and intentionality that she experienced after participating in the design team:

> I found myself using some of the language that we've talked about. Like, digital etiquette, students having a digital footprint, um digital security especially, when we did our project books recently, our Book Creator project books…. with intentionality, with like the language, having a common vocabulary for what to use, I think, has been helpful.

Participation in the design team's planning process shifted Maci-DT's conversations with her students and provided new DC vocabulary to embed in her instruction.

Participants indicated that a central location and dedicated teacher to teach DC would foster consistency in DC instruction (Hollandsworth et al., 2011). Some also suggested reinforcing skills in the classroom and at home could further strengthen student understanding and application of the skills when paired with a central location for students to learn skills consistently. Isla-DT shared her belief about consistent messaging related to DC:

> I don't think all kids are getting the same message, and I think it's stuff that they need to know. And I put down here [on her paper of questions] that the earlier we establish these good habits and this knowledge, the better. (Isla-DT, DTED)

Zoe-DT, the new librarian, and Paul suggested the library as a central location for DC instruction. Maci-DT stated that it is important for students to receive instruction on DC elements multiple times:

> You know, it's like when you first hear a song, and you don't know the words the first time through, but by the second time you've caught on to the chorus, and by the third time you're picking up lyrics. Like, I think some of these topics are things you really need to hear repeatedly and that's a good thing. (Maci-DT, DTED)

In his interview, Paul concluded, "I just think that a very conscious effort of how we approach it is gonna be the most important part to its success." He also stated:

> If it's built into our curriculum, if we're doing it with purpose, intention, and we're tackling this strategically, I think you can make sure we're hitting all the nine elements at the right time. (Paul, Interview)

Encouraging teachers to teach the skills by building them into instruction could influence teacher intention to teach DC (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018).

Skills. Participants shared their beliefs about teaching DC skills to students in the context based on their developmental needs (Blackwell et al., 2014; Erikson, 1997; Piaget, 1964). Shay offered some perspective on the students' experiences from a district perspective and her assessment of students' needs in the context related to developing DC skills and awareness. She stated:

> In our district, students are coming from many different buildings and all have different levels of understanding/awareness of digital citizenship. [We should] address digital citizenship from the ground level up. The daily use of technology has vastly grown, and our students are more exposed to it than ever. They need to see the appropriate ways to use technology, learn ways to keep themselves safe online and see modeled safe practices. We can check their awareness through monitoring their use of technology. There are so many real life resources and articles available, we need to find ways to integrate real life stories into our teaching of digital citizenship to help them see the importance. (Shay, Survey)

Shay shared many strategies in her survey response to help students at differing levels of DC awareness develop skills by integrating real-life DC skills and stories into the learning process to make it relevant to students. Learning how to interact responsibly in digital spaces is best learned when participating in authentic DC-related activities online (Gleason & von Gillern, 2018).

The DC skills that participants shared focused heavily on digital access, etiquette, literacy, rights and responsibilities, and security. Only two elements were not represented sufficiently in the bracketed text from the data sources to warrant category labels – digital commerce and digital law. Some teachers stated that commerce was not crucial for students to understand at the fifth- and sixth-grade levels. Paul mentioned that commerce might be more applicable to high school students as they begin to use credit cards and other participants agreed that commerce at this level would not be as important as other elements. Ivy stated in her interview that “for our level of sixth grade, I don’t think commerce is super important.” Educators at this level wanted to be certain that students

in the context learn deeply about essential DC skills that meet their developmental needs (Blackwell et al., 2014; Gleason & von Gillern, 2018; Holland, 2017; Kim & Choi, 2018; Paver et al., 2014; Zhang & Zhu, 2016). Table 4.12 shows the Ribble (2015) elements and the corresponding cycle one categories that reflected information about the elements that teachers felt were relevant for skill development in the context.

Table 4.12. *Digital Citizenship Elements and Corresponding Cycle 1 and Cycle 2 Categories*

Elements (Ribble, 2015)	Corresponding cycle 1 and cycle 2 categories
Digital access	Acceptable behavior online
	Digital access thoughts
	Responsible use
Digital commerce	* No specific categories
Digital communication	Proper communication
Digital etiquette	Considering others
	Cyberbullying
	Digital drama
	Etiquette
	Manners
	Permanence of digital footprint
	Respect
Digital health and wellness	Digital identity
	Healthy consumers of tech
	Promoting healthy interactions
Digital law	Rules
	Rules and consequences
Digital literacy	Collaboration
	Digital literacy skills
	Life skills
	Media-info lit
Digital rights and responsibilities	Choices
	Digital rights
	Digital rights & responsibilities
	Empowering students
	Responsible use
	Student behaviors
Digital security	Privacy issues
	Safe environment
	Safety
	Safety & security

The following section examines (a) embedding skills in the curriculum, (b) skills related to online behaviors, (c) skills related to etiquette, (d) skills related to safety and security, and (e) skills related to digital literacies.

Embedding skills in the curriculum. Some participants suggested embedding DC into instruction and immersing students into learning experiences and projects where they could practice skills connecting DC with other required responsibilities (Curran & Ribble, 2017; Gazi, 2016; Saini & Abraham, 2019). Embedding DC skills, teaching them in parallel to the content-based materials, and scaffolding student learning to facilitate learning skills to help students resolve issues independently and save time were popular themes in participant responses (Ertmer, 1999; McGillivray et al., 2016; Monterosa, 2017; Simsek & Simsek, 2013). Ivy has been embedding DC into her instruction, but she was not convinced that embedding is the most effective way to teach the skills consistently. Other participants shared their belief that embedding would save time and could help them overcome feeling overwhelmed with more to do. Paul felt strongly about embedding DC into the curriculum and stated that the skills need to be:

> [Embedded] into everything that we do, into the content, into our instructional practices. And it just needs to run parallel to the learning that's taking place in the classroom in terms of content and skills. (Paul, Interview)

Ivy shared an alternate view of embedding DC skills into the curriculum and the issues that she has experienced when embedding:

> I have things I want to talk about – like for example, um we're making commercials right now for anti-tobacco, or we're going to start making anti-tobacco commercials and I don't know… I'm teaching them… you know, I'm

> giving them resources, we're looking for resources, we're talking about um… like what are good resources, good websites to use but that's all being done within that context – where next year I might not do that project, so then I have to find another way to do it, and I just sometimes wish it was – I'm not saying this is the right answer – but I wish it was an entity to itself, like with an expert teaching them, because I forget things when I'm trying – like, Oh shoot! I didn't talk about where to post a vid – like uh safety –uh I don't know but there's always things we forget because we're doing it flying by the seat of our pants, I feel sometimes, or most of the time, not even sometimes… that's how I feel… They felt that teaching digital citizenship in one central location in the building would provide a more consistent and intentional way to build skills in the context. (Ivy, Interview)

Many studies discuss the benefits of integrating technology and DC skills into instruction (Curran & Ribble, 2017; Gazi, 2016; Gleason & von Gillern, 2018; Holland, 2017; Hollandsworth et al., 2011; Payne, 2016). While many participants suggested the importance of embedding skills into the curriculum, Ivy shared that embedding was not always the best solution because plans can change, and skills might be missed.

Skills related to online behaviors. Learning responsible use for accessing digital technologies was a common theme in the participant responses (Mossberger et al., 2008; Ribble, 2015). The district acceptable use policy offered many examples of rules to guide students' responsible use of network resources. An example of responsible use from the district acceptable use policy:

> [Uses] of the Internet must be in support of education and consistent with the purposes of the [Upstate New York] School District.

Lea-DT's description of DC related to responsible use in the DTED suggested that "knowing when and how to responsibly use technology."

Acceptable online behavior is connected to responsible use and was prevalent in the data (Gleason & von Gillern, 2018; Lindsey, 2015; Ribble, 2015). Participants in the study shared their belief that students lack awareness of DC skills, impacting their behaviors online. As a result, participants suggested that students need to develop DC skills to access digital technologies to better understand digital citizens' rights and responsibilities (Ribble, 2015). Responsible behaviors can encompass digital access, digital communication, digital etiquette, and digital rights and responsibilities (Ribble, 2015), which were frequent behaviors and skills represented in participant responses.

The district acceptable use policy indicated that "use [of the network resources] entails responsibility." Shay (Survey) and Noah (Survey) stated their belief that students need to talk about and see ways to access and use digital technologies appropriately to practice responsible use of digital technologies. Noel suggested helping students avoid behavior "that isn't useful or respectful" (Survey). Both Lily (Survey) and Paul (Interview) agreed that saying hurtful things to others online is much easier than face-to-face. Lily's (Survey) thoughts were similar to Noel's (Survey) in that she wants students to "use technology in a positive manner that will positively affect all that are involved." Tess stated in her survey that "behaviors can impact the learning environment if the students are not held accountable for their actions (Survey). Responses from participants indicated that they want students to use technology responsibly; it places responsibility on their shoulders to exhibit appropriate behaviors when interacting online (Monterosa, 2017) to encourage personal accountability (Hollandsworth et al., 2011).

Students could learn how to improve their interactions in digital spaces with support and practice to think through the consequences of their behaviors when accessing digital technologies. The concerns about student behavior online connect to digital footprint issues that result from interactions outside the context. Ivy stated her belief that of all the DC skills students learn, safety issues are most critical (Dezuanni, 2015; Hollandsworth et al., 2017; Jones & Mitchell, 2016; Kim & Choi, 2018; Monterosa, 2017; Payne, 2016). She wondered if the constant access is healthy for children and wanted them to become *healthy users* of technology (Ohler, 2011; Ribble, 2015; Suppo, 2014).

Skills related to etiquette. Students who participated in the student focus group shared ideas that related primarily to digital etiquette. Table 4.13 shows the student responses. Their focus on digital etiquette and responsible behaviors could reflect teachers' focus on responsible behaviors online and face-to-face.

Table 4.13. *Student Focus Group Responses about Digital Etiquette*

Student number	Quote
Student 1	*Being nice to people online*
Student 2	*Being kind and respectful*
Student 3	*Not saying mean words to people*
Student 4	*They compliment you*
Student 1	*Etiquette…. Use manners, uh… just like that*
Student 5	*Not being disrespectful*
Student 6	*Make sure everyone is included*

The students indicated their awareness of appropriate etiquette online. Student 3 gave some insight into practicing skills in her response that students should:

> [Practice] with [their] classmates online…. Uh, to interact with them, and make, um, like ask them questions online and try to be polite while doing it. (Student 3, Student Focus Group)

Teachers shared that students have come to school upset about issues they have experienced in digital spaces outside of school. Teachers also shared strong feelings about students learning digital etiquette skills (Common Sense Education, n.d.b; Ribble, 2015). Lola shared:

> I think that students learning how to appropriately communicate with others via technology is imperative. (Lola, Survey)

Many participants indicated that digital etiquette was critical for students in the context to learn. The district acceptable use policy stated that students have a responsibility to "understand and follow the rules of computer etiquette" (p. 2). Iris-DT indicated in her DTED response that teaching DC skills "is as easy as teaching manners and etiquette." Both student and adult participants agreed that digital etiquette is essential for students to learn and practice as they interact in digital spaces.

Skills related to safety and security. Many studies focus on the safety and security aspects of using digital technologies when learning DC skills (Payne, 2016; Ribble, 2015). Participants are concerned about digital security issues when students use digital technologies in and outside of the classroom. Participants shared their beliefs about students' right to safe, healthy, and positive interactions face-to-face and online that promote digital safety and security (Choi, 2016; Hollandsworth et al., 2017; Jones & Mitchell, 2016; Wang & Xing, 2018).

According to participants, students are typically able to navigate and use digital technologies, but they lack the ability to predict the full consequences of online activities and interactions (Greenhow & Robelia, 2009). Inez shared her concerns about her students' understanding of digital technologies and related DC issues:

> I think fifth graders have a very basic understanding of digital citizenship skills. They are very familiar with the Internet, YouTube, and various online games and apps. They still need to be taught how to responsibly and safely use those technologies. I also think they need exposure to online etiquette, communicating safely, security/sharing of personal information, cyberbullying, and their digital footprint. (Inez, Survey)

Due to the knowledge that she has gained in recent years about digital security and safety, Maci-DT has become more cautious of allowing collaboration among students online. She has taken extra measures to lock down student work, so it cannot be deleted or vandalized by other students. She shared some helpful insights into her thinking:

> And, yes, I'm increasing my knowledge, I guess, in that – or I'm being more secure myself, but I also feel like I'm – some of it is fear – and I don't want to pass that along to kids, but I also think there's a healthy amount of fear to have. And I don't know if that's digital health, or what, but. (Maci-DT, DTED)

Participants were concerned about gaps in student proficiency with technology. While students are familiar with navigating the Web, they still need to learn responsible and safe use of internet-connected apps to establish positive digital identities. Maci-DT (DTED) shared her belief that she thinks about DC and how her use of technology might impact student privacy and security to protect her students' digital health.

Skills related to digital literacies. Fifth- and sixth-grade students begin to learn digital literacy skills in this context and will continue to learn more at each grade level. Paul made a connection between students' online behaviors and a lack of strong digital literacy skills:

> [The] lack of digital literacy - being able to decipher what is a valid source or reliable piece of information as opposed to – 'Oh no, I read this or heard this from somebody' or 'This YouTuber said it, so it must be true,' um, and so I think those are the issues we're running into most often. (Paul, Interview)

Whereas Ivy shared that most of the digital literacy issues she has encountered are trivial, such as issues navigating through electronic materials by clicking web links, even though they might have other impressive skills. She suggested having them "figure it out – or problem solve and, or ask a friend" (Ivy, Interview).

Sometimes teachers in the context are not aware of DC skills that they are already teaching, and as a result, they are not aware of what they have done. Maci-DT shared her thoughts about teaching the skills intentionally. She suggested:

> It's like when we talk about having hidden objectives in our lessons, like, you know, that sometimes there's intentionality behind that, and identifying, but sometimes there's things that I didn't even realize I was doing, pertaining to digital citizenship that I am like, 'Oh yeah, I'm really doing an ok job with that, I think,' or I address it, at least. (Maci-DT, DTED)

I noted an example in the research journal from Shay's classroom. A student asked a question, and she quickly ran through a digital literacy lesson for that child to help him understand where to go to find the information he needed, rather than simply

telling him. When I shared what she had done, she did not realize that she taught DC skills in that mini-lesson. Her impromptu DC lesson touched on several DC concepts related to digital literacies all at once. Developing an awareness of what is being taught by learning about DC elements and corresponding strategies can help teachers intentionally implement the skills in their instruction (Holland, 2017).

Theme 3: The qualitative data analysis revealed a belief among some participants that if teachers are going to use digital technologies with students, there is a responsibility to teach digital citizenship skills to facilitate learning relevant life skills, despite issues that affect access to devices and certain applications.

Assertion 3: If teachers are going to use digital technologies with students, there is a responsibility to teach DC skills to facilitate learning relevant life skills (Gleason & von Gillern, 2018; Greenhow, Robelia, & Hughes, 2009; Payne, 2016), despite issues that affect access to digital technologies (Ertmer, 1999).

Studies indicate that providing students opportunities to practice DC skills is an important aspect of building the skills (Gazi, 2016; Hollandsworth et al., 2011; Jones & Mitchell, 2016). With students' increased access to digital technologies, learning DC skills should be part of the learning process if teachers use devices with students to address (Hollandsworth et al., 2011). Students have been accessing social media and other websites, and they do not meet the minimum age requirements at their age level (Blackwell et al., 2014; Hollandsworth et al., 2017). Participants understood the importance of DC skills, and some share their belief that there was some responsibility to teach it when using digital technologies. However, they shared concerns about the perceived lack of access to devices and wondered how to prioritize DC in addition to

their other responsibilities. Their attitudes and beliefs about teaching DC impact their intention to perform certain behaviors, such as teaching DC skills (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018; Lindsey, 2015). Gathering their perspectives, beliefs, and attitudes about DC and co-creating a plan based on their responses was part of encouraging teachers to voluntarily participate in implementing the completed plan to teach the skills and help them overcome barriers to implementing the plan (Ajzen, 1991; Frels & Onwuegbuzie, 2013; Vygotsky, 1978).

The descriptions in this section will focus on (a) feeling a responsibility to teach digital citizenship and making it a priority and (b) accessing digital technologies to guide the development of relevant digital citizenship skills.

Feeling a Responsibility to Teach Digital Citizenship and Making it a Priority

Participants in the study shared their thoughts about empowering students to learn and apply DC skills. They understood the importance of teaching students about DC, and some claimed it is a responsibility. This section covers (a) responsibility to teach and (b) concerns about adding one more thing.

Responsibility to teach. Many studies express the importance of DC skills instruction (Choi, 2016; Gazi, 2016; Ribble, 2015). The participants recognized the importance of DC skills and shared their thoughts about teaching the skills:

> Jill: [DC] should be integrated into what we are already doing. The time, in my opinion, should be prioritized for professional development and/or planning, so that teachers can intentionally and confidently integrate technology (Survey).

Shay: I wish our district would… ask teachers to start it in the lower elementary levels and every grade is responsible for teaching a certain part of digital citizenship. If we can make maturation a requirement every year, why not this? It is just as important (Survey).

Paul: I think it's [DC] beyond important for children to learn (Interview).

Iris-DT: [Make] sure that these kids (my own children included) learn the best ways to be safe and kind in the world, online or otherwise (DTED).

Participants shared a belief in the importance of DC skills because digital technologies are a ubiquitous part of children's lives (Curran & Ribble, 2017; Greenhow et al., 2009). They felt that learning the skills will lead to responsible interactions in a digital world (Choi, 2015). Joy shared in her survey that:

> Technology is part of many aspects of [students'] lives. They will need to explore new ways to access information, create new products or ways of making life easier. When we teach new information, we empower students with the feeling they are able to access information and navigate the digital world. (Joy, Survey)

Research indicates that practicing DC skills is an essential part of developing the skills (Gazi, 2016; Hollandsworth et al., 2011; Jones & Mitchell, 2016). Participants have seen increased issues related to lacking DC skills trickle into the classrooms from outside of school and suggest that students need opportunities to access digital spaces and practice DC skills.

Data analysis revealed a belief among some participants that if teachers are going to use digital technologies with students, there is a responsibility to teach DC skills to interact responsibly and safely online. In the district acceptable use policy, it states, "Use [of networked technologies] entails responsibility" (District Acceptable Use Policy). Paul shared in his interview that not teaching the skills is "not just doing [students] a disservice…, it's dangerous," which was supported in the literature (Hollandsworth et al., 2011). In her survey, Shay stated, "At some point, I think we need to be forced to address digital citizenship throughout the year." Ivy indicated that the use of technology places some responsibility on teachers to teach the skills. In her response to the interview question, she shared:

> I think we just put it in front of them, and they have it in front of them and, um, but we don't think about the consequences, so… and we know that there are consequences, so we have to do something to help them navigate their way through it, especially at the younger ages, but I'm sure… I'm talking 6th or lower… because I don't have any background for the older kids so, I'm sure it's important there as well. (Ivy, Interview)

The consequences of not teaching students digital citizenship can lead them to develop habits that are difficult to change by the time they reach the age of twelve (Hollandsworth et al., 2011).

Parents might assume students are learning digital citizenship skills at school, so they might not work on DC skills at home, and Isla-DT indicated:

> [It's] too worrisome when they're putting information out there and all, and I think that we have a responsibility to do that because parents might think – I think

> some parents might think, 'Oh, they're learning that at school,' so they might not talk to them about that. Other parents, I'm sure, are talking to them, but I don't think all kids are getting the same message, and I think it's stuff that they need to know.

Maci-DT shared her concerns as a parent related to the need to teach DC skills:

> [As] a parent, I need to be educated about where things are, and [think about] how we approach that because I can tell you… there is not a real awareness with a lot of people with what their kids are doing and what's going on out there.

Paul shared his belief that "everyone has to be involved in this" (Interview). Lola suggested in her survey that having students in the context be more involved in designing lessons and teaching skills could impact their understanding of the skills:

> I think students would feel empowered if they were asked to use personal experiences in discussing the important components of technology use. From there, THEY could design a curriculum for digital citizenship, design instruction/lessons, and perhaps even introduce/share it with parents, peers, or younger students! (Lola, Survey)

Students need consistent messages about DC with parent support and ways to empower students as they learn and practice the skills, according to participants, which is consistent with the research (Couldry et al., 2014; Hollandsworth et al., 2011; Kim et al., 2013; Lindsey, 2015; Monterosa, 2017; Payne, 2016).

Some participants shared their belief that students should learn DC skills because they are important life skills (Gazi, 2016; Holland, 2017; Ribble, 2015). Paul, Tess, and Lola shared their insights about the authentic exploration of DC skills:

Paul: But, truly to be able to get kids to fully explore, be empowered, and excel in all areas, in um, you know, in all markets, and everything like that, they need to have more than just – Oh, I know how to be safe and secure – but that deep understanding of how to apply these skills in whatever profession they're going into (Interview).

Tess: I also believe we can empower the students by giving real-life experiences (especially MS and HS students) as to what could happen if they do not follow the rules (Survey).

Lola: I think students would feel empowered if they were asked to use personal experiences in discussing the important components of technology use (Survey).

Participants shared that helping students learn relevant DC skills that address their developmental needs could be empowering and help them in the future as they learn how to communicate, share, and interact online responsibly and eventually enter the workforce. Inspiring teachers to teach the skills by addressing their concerns could support more consistent implementation of the skills in the context (Ajzen, 1991; Dunn et al., 2018).

Concerns about adding one more thing. While it was seen as important, participants did stress several concerns about DC instruction and the use of digital technologies in the context. Currently, DC skills are not prioritized as a set of skills required for teachers to include in their instruction. As a result, the skills are not taught consistently (Gazi, 2016), despite participant beliefs that it is an important topic

(Hollandsworth et al., 2011). Shay saw it as a priority and suggested that teaching DC should be mandatory:

> I think it fits in every aspect of the curriculum that uses technology in some way. I think we need to be forced to address digital citizenship throughout the year. (Shay, Survey)

Noah shared a dose of reality when he stated:

> Time is always the most difficult thing to overcome. Teachers [cannot] make room for it unless it is given equal importance by the state. Otherwise, teachers will always prioritize what they are being scored on. (Noah, Survey)

While participants indicate the importance of the skills, time and other responsibilities can become barriers to consistently embedding the skills into instruction (Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; Kopcha, 2012; Tondeur et al., 2017).

Many participants indicated that time is a factor that prevents them from adding one more thing to their responsibilities in the classroom. Participants in the study shared that adding one more thing to their responsibilities means added time and classroom management issues that will result from adding DC skills to their lessons. Paul indicated that time is a significant factor when it comes to teaching the skills:

> I feel like we need more time in our school day for many reasons, just because [of] the mandates from the state, the pressure with teaching deeper within the standards is all there. I don't feel like we have enough time even to teach the core curriculum right now, so we're talking about building in all of those extra things, like strong technology skills and strong digital, um, citizenship skills. We need

> more time, plain and simple, um, to be able to do that well, because otherwise, we're just scratching the surface. (Paul, Interview)

Quin-DT felt the planning process helped address time as a barrier to DC skills instruction and explained his thoughts in the DTED:

> I feel like one of the big barriers that teachers were articulating was, well this was just one more thing we have to do on top of everything else. So, I really enjoyed that when we were going through that plan and coming up with resources, it was stressed that when you were coming up with those resources and tools that you're doing it in a way where teachers can integrate it into whatever they're doing. So, it's not one additional thing, you're doing it while you're teaching something else. So, integrating that, um, has been a great way to break that barrier and overcome whatever situation that that teacher is facing. (Quin-DT, DTED)

Despite the barriers to DC instruction that some participants shared, the co-creation of the plan based on participants' perspectives was seen as a way to begin to address some concerns (Ertmer, 1999; Frels & Onwuegbuzie, 2013). Addressing barriers as part of the planning process and establishing a DC committee to take care of perceived barriers as they arise throughout the implementation could influence teachers to integrate DC skills into their curriculum (Ajzen, 1991; Ertmer & Ottenbreit-Leftwich, 2013; Kopcha, 2012; Tondeur et al., 2017).

Accessing Digital Technologies to Guide the Development of Relevant Digital Citizenship Skills

Participants agreed that teaching the skills was essential for students to learn those life-skills, but the perceived lack of access to digital devices has been a challenge to

teaching the skills. This section examines (a) developing relevant digital citizenship skills and (b) accessing digital technologies.

Developing relevant digital citizenship skills. Participants suggested that students need to access and navigate the digital world in authentic and relevant ways to solve problems and build knowledge as they develop DC skills according to participants in the context. In her survey response, Jill shared her belief that students could benefit from "the logical integration of technology with other aspects of life." Connecting technology integration and DC skills practice with authentic experiences in the classroom could help students connect the need for DC skills in and outside of the classroom (Dezuanni, 2015; Ohler, 2011). Similarly, others suggested "giving [students] real-life experiences" (Tess, Survey) and use digital skills to "create new products or ways of making life easier with real-life resources and articles available" (Joy, Survey). Paul shared his thoughts about the need for students to develop relevant, lifelong skills as they develop their digital identities:

> [The] way we live in our digital world in the year 2020, um, students are not going to be as successful, especially in a global market, without having digital skills. (Paul, Interview)

Giving students opportunities to allow students to help teachers was a strategy used by Ivy:

> And it really took a change in mindset to think they can figure some of this stuff out. I mean really, just to try it and not be afraid… I think the kids are more resilient, and they like knowing that they are helping you figure something out, so

> I think that's an important piece – rely on what the kids know, too. (Ivy, Interview)

At this level, participants focused on the need to make DC instruction developmentally appropriate for students (Blackwell et al., 2014; Churcher et al., 2014; Erikson, 1997; Kim & Choi, 2018; Piaget, 1964; Vygotsky, 1978). Some participants indicated the importance of making DC skills relevant and authentic for their students.

Participants recognized the need to use digital technologies and engage students with relevant and authentic topics to help students practice DC skills. They expressed the importance of DC skills as life skills that children need (Ribble, 2015). Tess and Shay shared their beliefs:

> Tess: We can empower the students by giving real-life experiences (Survey).
>
> Shay: There are so many real-life resources and articles available, we need to find ways to integrate real life stories into our teaching of digital citizenship to help them see the importance (Survey).

However, many participants indicated that consistent access to digital technologies was a perceived issue in their classrooms and posed challenges to guiding DC skills development.

Accessing digital technologies. The decision to use digital tools and teach DC skills has been left up to the teachers' discretion in the context. Most teams shared a laptop cart or iPad cart, and devices were part of the students' learning environment. Teachers in the context would use digital technologies with students when they were available. The perceived lack of access to digital devices was a barrier that could have

adverse effects on implementing the DC plan because reserving devices is already perceived as an issue when integrating technology (Ertmer, 1999). Examining the perceptions and attitudes around perceived barriers to implementing the plan and attempting to address them could improve the teachers' intention to implement the plan in their classrooms (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018). In this section, I examine barriers that can limit DC instruction due to (a) perceived lack of access, (b) teacher comfort level, and (c) rules and regulations.

Perceived lack of access. Participants saw the availability of digital devices as necessary, but there were issues accessing carts and devices from their perspective (Clifford, 2007; Ertmer, 1999; Ghosn-Chelala, 2019; Kopcha, 2012). The participants in the context perceived the need for more consistent access to digital technologies to provide opportunities for immersion into DC for skills practice (Ghosn-Chelala, 2019; Mossberger et al., 2008). Tess indicated in her survey that "access to devices daily makes a big impact" on DC awareness. Many teacher participants in the study reported concerns about a lack of access to devices. The participants below shared specific examples:

Inez:	[Not] enough technology in the building for all students to use (Survey).
Lola:	Shared carts not being available when needed (Survey).
Isla-DT:	More technology needed in our building (DTED).
Iris-DT:	If you don't have the access, you can't practice/use the skills you are learning in class (DTED).
Ivy:	[We] have some teams that don't have devices, so that's an issue (Interview).

Lily shares a laptop cart and an iPad cart with her partner teacher. She shared that:

> My use of technology is affected because I do not have a full class of laptops for just me. I share them with another teacher. She does a lot, so she uses them more. It is not convenient to try to figure out who has them, so it is easier to just let my team teacher keep them. (Lily, Survey)

Other teachers who participated shared similar thoughts. Tess indicated that "[having] one laptop cart per team is one way it affects my use of technology with my students" and suggested that "[focusing] on 1:1 devices would be a big help" (Survey). Shay appreciated getting her own laptop cart and stated, "Now that I have my own laptop cart (team cart), I feel that I am able to integrate more technology" (Survey).

While there are over 300 devices in the context, not all were available for student use. The data from the assistant superintendent and technology coordinator's data analysis indicated that there are more advantageous ways to distribute the technology assets in the building (Research Journal). They plan to make changes to improve the perceived lack of access to devices in the building and the rest of the district (Research Journal).

Maci-DT made a comment about the lack of an initiative to get one-to-one digital devices in our district. She stated:

> [Access] at school – like it's great that we're almost at a point where every team has a cart [of devices], but then again, that's still two classrooms of kids, so we're still – we're not even anywhere near, you know, 50% access all the time, and that's a frustration for me, when I see other districts that I feel like are similar socioeconomic status that have found a way to do it, I ask why not? Why haven't

> we gotten there, and you know, again, I don't know how to fix that but, I think that's hard.

Iris-DT shared her perspective on one-to-one computing initiatives, indicating:

> [One-to-one] devices are only successful if the people using them know what to do, how to act, and have Internet access.

While some participants wondered about one-to-one computing initiatives, others focused on the barriers related to the perceived lack of access that limits technology integration and DC instruction at the school.

Despite the perceived lack of access to digital devices (Ghosn-Chelala, 2019; Kopcha, 2012), Isla-DT indicated that teachers should "make the best use of what we have" (DTED). Shifting instructional practice to connect the digital technologies that students use to their learning could, as Jill stated, "help students to see the logical integration of technology with other aspects of life" (Survey). While students use digital technologies to learn, educators could be "modeling good citizenship" (Joy, Survey).

One participant focused on her mindset about her instructional practice and how it needed to change. Ivy explained:

> [When] I was more uncomfortable with technology, like, I always thought I had to teach the kids how to do ev-ery-thing. And it really took a change in mindset to think they can figure some of this stuff out… so I think that's an important piece – rely on what the kids know, too. (Ivy, Interview)

Ivy's increasing comfort level with technology over her years of teaching has led her to shift her instructional practices. She shifted her instructional practice away from the teacher being responsible for teaching every detail to asking students to help figure things

out for themselves, such as digital technologies and working together to find solutions (Bovill et al., 2011; McGillivray et al., 2016).

Quin-DT shared his thoughts on how he shifted his approach to teaching DC skills in parallel with content-based lessons that resulted from his participation in the study:

> In general, adding digital citizenship skills, not so much to the lessons, but how I utilize the technology within those lessons, and just being more intentional with, um… being more intentional with teaching digital citizenship alongside of whatever skill or lesson we're doing using digital technology and platforms. Where before, I would be so focused on, ok, well we're doing a jigsaw, so you know, you need to do this slide, you need to do that slide… Well now it's ok, how do we respectfully communicate with each other on the slides?... So, just being more intentional with those conversations and the way that those are taught.

Experience over years of practice shifted Ivy's instructional practice. Quin-DT's approach and vocabulary related to DC changed because he participated in the design team planning process.

Teacher comfort level. Teacher comfort level with digital technologies can impact accessing digital devices with students (Gleason & von Gillern, 2018; Hobbs & Tuzel, 2017; Saini & Abraham, 2019). In the past, when teachers in the context wanted to teach DC skills or embed digital technologies into lessons (Curran & Ribble, 2017), they would contact instructional support and ask for help because of a lack of comfort and confidence to do so independently. Maci-DT shared that "I think in the past, I always would just email Cheryl [Tice] [to talk] about digital citizenship" (DTED).

The lack of comfort with digital technologies has affected their access and use of the tools in the classroom, which limited DC instruction.

> Shay: I think many teachers do not feel comfortable doing digital citizenship curriculum because they do not understand how. If it was something where we were told we needed to teach specific parts of digital citizenship and integrate it into our curriculum it would help (Survey).
>
> Noel: Technology support staff can come in and teach using technology to the students, but also the teachers who are in that classroom, so they are exposed and comfortable (Survey).
>
> Joy: I think it fits in the content areas of ELA, science and SS. It may also work for math, but I am not sure how to incorporate it (Survey).

Participants recognized that some teachers at the school need support to develop their awareness of DC and instructional strategies to teach the skills. They also indicated that instructional coaches could support the integration of DC into the curriculum.

There was a desire among staff members to learn more and gain a level of comfort teaching DC skills (Hobbs & Tuzel, 2017). Noah suggested:

> It would help if we learned ways to integrate it into the curriculum we have without taking away more time from other subjects. (Noah, Survey)

In regard to her participation in the survey, Lola indicated that "I am forced to consider my own thoughts and level of understanding and comfort with digital citizenship"

(Survey). Ivy suggested that, at a certain point, she thinks teachers need "just try it" and stated:

> [Earlier] in my teaching, um, when I was more uncomfortable with technology, I always thought I [demonstrated] ev-ery-thing. And it really took a change in mindset to think they can figure some of this stuff out. I mean really, just to try it and not be afraid because sometimes you just try it and it's a disaster and to let it be a disaster, you learn from the disasters. (Ivy, Interview)

Maci-DT's participation in the design team led to her recognizing DC skills she did not realize she was teaching and recognizing in her DTED response that "I'm really doing an ok job with that, I think or I address it at least." Her experiences of co-creating the DC plan with the design team led her to reflect on her practice and recognize that she is already doing well teaching the skills.

Rules and regulations. DC is about developing guiding principles for behavioral norms to help individuals use technology appropriately, and following rules online and offline were essential parts of developing skills (Churcher et al., 2014; Ertmer, 1999; Gazi, 2016). The district acceptable use policy was focused on *following the rules* of acceptable use of the district network resources with specific examples of unacceptable use of the network. Teachers understand the importance of setting a good example by following the rules while supporting student DC skills development so that they can practice healthy interactions in digital spaces (Dotterer et al., 2016; Lindsey, 2015; Livingstone & Brake, 2010; McGillivray et al., 2016; Monterosa, 2017; Ohler, 2011).

Part of being a responsible digital citizen involves understanding following rules in online spaces. Participants indicated the need for rules and regulations to guide online

behavior and keep students safe and help them understand the limits of responsible online interactions and positive interactions in digital spaces as they access digital technologies (Dotterer et al., 2016; Lindsey, 2015; Monterosa, 2017; Ohler, 2011).

Lola: In order for students to excel in any aspect of their learning (and using technology to do so) they need to be able to explore the idea of digital citizenship and be empowered to follow the guidelines and encourage others to do so in order to make the most out of the technology provided to them (Survey).

Rose: [In] real life, we have expectations and behaviors for how we interact, and those exist online, too (Survey).

Ivy suggested that her awareness of the rules and regulations was not complete but recognized the need for the rules to prepare students to understand and work within them in online spaces (Payne, 2016). She has encouraged students to practice skills within the boundaries, despite limitations to student access caused by some regulations, based on network and legal requirements:

> [We] have to teach kids that there's an appropriate time for rules and in the digital world as well. I don't think as teachers, me, myself, I don't always understand the rules. I know we have that in place for a variety of reasons and sometimes I just go, 'Hmph, that's so stupid,' you know because I don't have a good enough understanding – it may or may not be stupid, but it's partially my understanding. (Ivy, Interview)

Ivy was the only participant who shared insights about limitations on digital access due to rules and regulations related to age, network requirements, and other issues that sometimes require an alternate plan.

She expressed her concern that occasionally rules and regulations for accessing technology have made it challenging for students to access and practice skills to increase DC awareness (Holland, 2017; Hollandsworth et al., 2017). Ivy wondered if students in the context were truly empowered to take responsible risks while accessing digital technologies at school due to network requirements limiting responsible risk-taking as a result. She stated:

> [Sometimes] those rules and regulations tie our hands to allow the kids to explore, empower, and excel… but oh no, you can't do because it's not allowed or you're not 13, which – there's rules for a reason… so that's a frustrating piece. (Ivy, Interview)

While Ivy shared in her interview that she was not always aware of the purpose for limits on apps and devices, she shared that rules were necessary, even though she sometimes wondered about the rationale for them.

Chapter Summary

Chapter four reviewed the quantitative descriptive data and qualitative findings based on the study's data sources. The analysis of the qualitative data led to developing three themes and assertions that were presented in chapter four using direct quotes from participants and then situated in the literature base. Chapter four findings will be discussed in chapter five with recommendations, implications, and limitations.

CHAPTER 5

DISCUSSION, RECOMMENDATIONS, IMPLICATIONS, AND LIMITATIONS

Chapter five connects the findings from chapter four with the literature related to developing a plan for DC for the Upstate Intermediate School. This descriptive study aimed to evaluate the process used to develop the DC plan for the context based on participant perspectives. The process involved a design team using SAM (Allen & Sites, 2012) and the Ribble (2015) model to develop the DC plan. Data analysis revealed three central themes (see Table 4.10). A plan was successfully co-created by the design team. Qualitative methods (i.e., surveys, interviews, student focus group, and DTED) were utilized for data collection and analysis. The qualitative data were supported with quantitative descriptive statistics (i.e., participant demographics, ranking of DC elements based on a Likert-style scale). This chapter includes the (a) discussion, (b) implications, and (c) limitations.

Discussion

Situating the results of the study within the larger literature base of DC is essential to determine if the findings connect with concepts from other researchers who have studied similar phenomena. The researcher combined the data from the data sources and filtered them through the lens of evidence-based characteristics of co-creating a DC plan and related conceptual understandings and theories. The discussion is organized by the three research questions guiding this descriptive study:

- Research Question 1: What do fifth- and sixth-grade teachers perceive as barriers to integrating DC skills in their instruction?
- Research Question 2: What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a DC curriculum in the instructional context?
- Research Question 3: What are teachers' perceptions of being involved in the co-creation of a DC plan for implementation at the fifth- and sixth-grade levels?

The discussion of each research question combines evidence from the literature base, frequency counts of categories from Table 4.7, participant perspectives, and theoretical frameworks that underpin the research.

Research Question 1: What do fifth- and sixth-grade teachers perceive as barriers to integrating digital citizenship skills in their instruction?

The first research question examined teachers' perspectives on their beliefs about DC and barriers to teaching the skills they perceived in the context. (Ertmer, 1999; Ertmer et al., 2012; Kopcha, 2012; Tondeur et al., 2017). Research indicates that teacher beliefs and attitudes can affect the integration of technology and DC skills (Ajzen, 1991; Choi et al., 2018; Coldwell, 2017; Dunn et al., 2018; Payne, 2016; Saini & Abraham, 2019). This research questions' purpose was to examine the perceived barriers to DC integration in the context (Ertmer, 1999; Fowler, 2007; Kopcha, 2012)

Teachers in the school generally have a positive attitude about using digital technologies with their students in their instruction (An & Reigeluth, 2011; Bai & Ertmer, 2008; Ertmer, 1999; Kopcha, 2012; Tondeur et al., 2017). In the data collection process, participants explained barriers to integrating digital technologies and teaching

DC skills aligned with barriers to integrating digital skills found in the literature base (Ertmer, 1999; Kopcha, 2012) and found in Table 5.1.

Table 5.1. *Digital Citizenship Barriers by Category from Fall 2020 Data Analysis*

Barriers	Categories relating to barriers from fall 2020 analysis event	Researchers
Access to devices	116 (access) 87 (digital access thoughts)	Ertmer, 1999 Ertmer et al., 2012 Kopcha, 2012 Ohler, 2011 Ribble, 2015
Beliefs toward technology integration, digital citizenship	184 (beliefs) 188 (concerns) 66 (concerns about dig cit & tech use) 108 (perspectives) 231 (insights) 14 (frustrations) 32 (participant insights about dig cit) 291 (instructional practice)	An & Reigeluth, 2011 Bai & Ertmer, 2008 Ertmer, 1999 Kopcha, 2012 Tondeur et al., 2017
Gaps in student technology proficiency	9 (gaps in proficiency)	Blackwell et al., 2014 Couldry et al., 2014 Dezuanni, 2015 Payne, 2016 Reynolds, 2016
A need for support, professional development, and resources	56 (support) 31 (resource sharing) 82 (training) 82 (PD support & thoughts)	An & Reigeluth, 2011 Choi et al., 2018 Ertmer, 1999 Kopcha, 2012
Teacher awareness of and proficiency with digital citizenship; lack of confidence	166 (awareness) 8 (lack of awareness) 23 (confidence) 44 (confidence level)	Ashmeade, 2016 Boechler et al., 2014 Gretter & Yadav, 2018 McGillivray et al., 2016 Ribble, 2015
Time, *one more thing*	47 (priorities) 29 (time) 56 (reality checks & considerations)	Ertmer, 1999 Kopcha, 2012

The participants in the context shared examples of barriers to DC instruction related to both teachers and students, which were based on their beliefs. Barriers to integrating DC *skills* (*n* = 446) are generally defined in this study as a "lack of time, resources, and training to use classroom technology for instructional purposes" (Kopcha, 2012, p. 1110). Examples of categories associated with barriers were *access* (*n* = 116), *awareness* (*n* = 166), *concerns* (*n* = 188), *insights* (*n* = 231), and *priorities* (*n* = 47). Teachers' "own deeply held beliefs" about technology integration can be a significant barrier to their approach to digital citizenship-related skills with their students (Ertmer, 1999, p. 58). Based on the data in table 5.1, it was evident that participants mentioned certain barriers more frequently in their responses. However, each category's frequency does not necessarily indicate importance or significance (Bloomberg & Volpe, 2016; Creswell & Poth, 2018). Qualitative data from participant responses and the descriptive statistics from Table 5.1 supported with high-quality resources combine to examine and answer the first research question. This section will focus on (a) digital access, (b) digital citizenship awareness, and (c) teacher priorities and perceived importance of digital citizenship.

Digital access. Equitable *access* (*n* = 116) to digital resources is a first-order barrier outside of the teacher's control and prevents or limits the use of technology (Ertmer, 1999; Ertmer et al., 2012). For example, Inez suggested that there was "not enough technology in the building for all students to use" (Survey). Teachers need to offer students online learning environments where students can collaboratively work on DC skills with guidance and feedback (Holland, 2017; Hollandsworth et al., 2011; Ribble, 2015; Vygotsky, 1978). Tess suggested that students need to be given "real-life

experiences" to help them develop DC skills. For students learning DC skills, teachers need to provide access to digital devices (Ohler, 2011). This section examines (a) teacher access to devices and (b) impacts of access on students.

Teacher access to devices. The school had 315 laptops and 84 iPads at the time of this research for staff and student use. Teachers perceived a lack of reliable access to digital devices in their classrooms, despite the number of digital devices available when data collection occurred (Ertmer, 1999; Kopcha, 2012). Sometimes access is limited due to testing, which impacts time spent teaching with digital technologies (Payne, 2016). The categories *access* (*n* = 116) and *concerns* (*n* = 188) were categorized together 41 times in the second cycle of coding. The inconsistent access to digital technologies perceived in the context was one contributing factor that inhibited DC instruction (Ertmer, 1999; Kopcha, 2012). Iris-DT self-reported a high *level of comfort with technology* (*n* = 5) and *DC awareness* (*n* = 4). She used technology frequently with her students and reported a high *frequency of technology use* (*n* = 4). She suggested in her DTED response that "if you don't have the access, you can't practice/use the skills you are learning in class" (*access*, *n* = 116; *skills*, *n* = 446; *concerns*, *n* = 188). Teams also found it challenging when (a) limited devices for sharing and (b) reserving devices.

Limited devices for sharing. Teams in the context consisted of two classrooms, and most teams shared a laptop cart. Sharing between team members can be challenging because one teacher might utilize devices more than another (Ertmer, 1999; Holland, 2017; Kopcha, 2012). Tess shared her belief that "access to devices daily makes a big impact" on teachers' ability to teach DC skills (*importance*, *n* = 47; *access*, *n* = 116). The categories *importance* (*n* = 47) and *access* (*n* = 116) were categorized together five times

in the BOCES database. She reported a high *level of comfort with technology* (*n* = 4), *DC awareness* (*n* = 4), and *frequency of technology use* (*n* = 5). Tess stated how having one cart to share between two classrooms was an issue at times: "Having one laptop cart per team is one way it affects my use of technology with my students" (*access*, *n* = 116; *concerns*, *n* = 188). The cart was not always available when she needed it. Many other participants expressed the same issue.

Lily self-reported her *level of comfort with technology* at the middle of the range (*n* = 3), *DC awareness* (*n* = 3), and *frequency of technology use* (*n* = 2). Lily's sixth-grade colleagues had a higher average *level of comfort with technology* (*M* = 4.10, *SD* = 0.63), DC awareness (*M* = 3.60, *SD* = 0.52), and frequency of technology use (*M* = 4.10, *SD* = 0.99). Like Tess, Lily perceived a lack of *access* (*n* = 116) and reported that the cart was not always available as needed. She stated that "my use of technology is affected because I do not have a full class of laptops just for me" (Lily, Survey).

Ivy, who shared devices with Lily, offered an insight into her accessing devices (*access*, *n* = 116):

> [My] person that I teach with will say I don't share the computers well [laughter]. Um, I plan things out. I utilize, whether it be the – I typically use the iPads or the laptops, and I put that into my instruction as a piece. (Ivy, Interview)

Ivy suggested that her use of technology was planned and not spur of the moment. Not explicitly planning for the use of technology or failing to reserve it in advance can be barriers to integrating digital technologies and teaching DC skills (Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013).

Reserving devices. Teachers in the context reported that reserving carts and devices was not convenient. Maci-DT indicated that "it [reserving carts of devices] gets so cumbersome" (DTED). Periodically, "shared carts [have not been] available when needed," as Lola reported in her survey. Teachers need access to digital technologies that facilitate instruction and support the learning process (Ertmer, 1999; Ertmer et al., 2012; Kopcha, 2012; Ohler, 2011; Ribble, 2015), and an inefficient method of reserving devices was a source of frustration (Ertmer, 1999; Kopcha, 2012). Maci-DT shared that "sometimes we know it's there, it's just that the process is so complicated" (DTED).

Shay asserted that "more teachers would use technology if it [were] more accessible to them" (*access*, *n* = 116; *insights*, *n* = 231). In her survey, Shay indicated that having a dedicated laptop cart accessible in her classroom has made a difference in her use of digital technologies. She indicated that "in years prior, my use of technology was dependent on the availability of the laptop cart and what approved websites/programs we had. This [not having a laptop cart] was a negative and a huge drawback to many teachers" (*access*, *n* = 116) (Shay, Survey).

When I presented my findings about the issues related to the perceived lack of access to the assistant superintendent, he shared that an assessment of digital access done at the district level showed some devices that were used on a limited basis or not at all. He believed that the technology coordinator could improve access to digital devices by redistributing them in more beneficial ways. According to the notes in the research journal, his goal was to work with the technology coordinator to find a better method for sharing devices to share them more equitably to overcome barriers to access.

The assistant superintendent was interested in hearing the findings of this study that corresponded to the conclusions of their audit of devices in the district, specifically at the intermediate school. My data analysis results about access issues connect with the findings of a separate data collection and analysis process at the district level. Based on the frequency of teacher references to the need for equitable *access* to digital tools in their responses, they recognized the importance of digital access and its effects on integrating digital technologies and DC skills (Gleason & von Gillern, 2018; Holland, 2017; Reynolds, 2016). The district-level data collection goal was to address the perceived access issues and make sharing devices more efficient across buildings in the district (Ghosn-Chelala, 2019).

Impacts of access on students. If students are going to learn DC skills to foster the growth of their digital identities, they need digital access to practice skills with guidance (Choi, 2015; Holland, 2017; Hollandsworth et al., 2011; Kopcha, 2012). Ohler (2011) states that "access to the Internet [is] a pre-requisite to teach digital citizenship" (p. 16). Student access to digital devices impacts their ability to practice DC skills with guidance. Jill indicated in her survey that "frequent opportunities to practice these skills paired with frequent feedback" is an essential part of increasing student awareness and requires access. Teachers perceived issues with accessing devices that limited student opportunities for guided practice (Holland, 2017).

Participants also shared *concerns* (n = 188) about students' digital footprint (*permanence of digital footprint*, n = 25), which they defined as the "long-term impact" (June, Survey) of "whatever they do online" (Lily, Survey) "will follow them" (Joy, Survey). Students lack an understanding of their digital footprint and often do not think

about the consequences of their online interactions and things they share in digital spaces (Lindsey, 2015; Payne, 2016). Data for their definition were extracted from *students* (*n* = 28), *behaviors* (*n* = 68), *conversations* (*n* = 88), *developmental needs* (*n* = 99), *skills* (*n* = 446), and *awareness* (*n* = 166). More and more students access social media apps outside of the context, despite not meeting minimum age requirements (Blackwell et al., 2014; Lenhart & Page, 2015; Paulus et al., 2019). Participants have noticed an increase in issues that require intervention in the past several years. Paul shared in his interview that he had seen "way more issues um, than we ever used to" (*access*, *n* = 116; *changes*, *n* = 56). Increased use of digital technologies with little supervision demonstrates the need for students to develop an awareness of DC and how their behaviors affect others in their online interactions (Hollandsworth et al., 2011; Jones & Mitchell, 2016).

Due to a lack of supervision and guidance in learning responsible online behaviors, students are developing poor habits online that result in issues outside of school that "trickle into the classroom," according to June's survey response. Payne (2016) suggested observing students in online spaces while using digital technologies to identify habits and guide them toward better decision-making when they make mistakes as they use apps to learn, rather than teaching skills in isolation. Many others shared similar concerns about lacking supervision that students in the context experience as they navigate digital environments (Ashmeade, 2016; Blackwell et al., 2014). Lack of supervision at home was seen as a potential barrier to students learning proper DC skills (Kim et al., 2013). The categories *behaviors* (*n* = 68) and *concerns* (*n* = 188) occurred 21 times together during the categorization of data (*n* = 21). Lea-DT shared a perspective that others suggested in their responses:

> [There's] so much about technology that's out of our control, whether it's access or what the kids are choosing to do when they're given the technology, [C Tice: Right!] what the parents allow for their kids (*control*, *n* = 18; *access*, *n* = 116; *behavior*, *n* = 68). (Lea-DT, DTED)

Minimum age requirements on social media websites were a cause for concern among participants. Shay indicated that:

> Many students are glued to their phones, using apps that they aren't even old enough to use (I used to have a graphic that showed the age in the Terms & Conditions of different social media apps, and students would be shocked to see they weren't even old enough to use an app like snap chat) (*access*, *n* = 116; *concerns*, *n* = 188). (Shay, Survey)

The developmental needs required when using social media and other Internet-connected apps that allow sharing and interactions can be challenging for students at the fifth- and sixth-grade levels.

Students in the context access apps beyond their cognitive and psychosocial development level, which can be a barrier to developing positive habits and behaviors when interacting with others online using appropriate DC skills (Blackwell et al., 2014; Erikson, 1997; Piaget, 1964). It will take meaningful communication and collaboration with parents to overcome the perceived barriers related to student access and help students establish DC skills before they establish their own rules (Hollandsworth et al., 2011; Payne, 2016; Wang & Xing, 2018; Vygotsky). Maci-DT suggested that teachers would be "fighting an uphill battle if we don't pull parents in" (DTED). The negative online behaviors and drama add to *classroom management* (*n* = 8) issues. Barriers to

accessing digital technologies prevent students from practicing DC skills with feedback consistently (Curran & Ribble, 2017). Student 3 shared that one way to learn DC was to "practice with your classmates online" (Student Focus Group). Iris-DT expressed what many other participants shared when she stated, "If you don't have the access, you can't practice/use the skills you are learning in class" (DTED). Lack of practice and supervision could delay the DC skills development that could improve student behavior, so students make more responsible, healthy choices online (Hollandsworth et al., 2017; Ribble, 2015). Examining the findings in this context illustrates students' need to practice DC skills to minimize poor decision-making and interactions online (Ribble, 2008; Lindsey, 2015; Payne, 2016).

Digital citizenship awareness. Awareness of DC skills is an important step toward implementing a DC curriculum plan that helps overcome barriers to teaching and learning the skills (Ashmeade, 2016; Blackwell et al., 2014; Gazi, 2016; Greenhow et al., 2009). Some participants indicated that their lack of awareness was a barrier to teaching the skills, which impacted their students' ability to learn and practice DC skills in the context. DC awareness is important at all levels (Gazi, 2016). Paul indicated in his interview that "throughout the K-12 though, it does really need to be built into the curriculum in that comprehensive way." If that is the goal, increasing all educators' awareness of DC is necessary to help them feel confident to teach DC. This section focuses on (a) teacher awareness and (b) gaps in student awareness of digital skills.

Teacher awareness. Teachers in the context have different levels of awareness of DC that they saw as a barrier to teaching DC skills (Attard, 2012; Ertmer, 1999). Joy indicated, "I am not sure how to incorporate [digital citizenship]." Lack of awareness of

DC limits teachers' ability to guide student development of DC skills that promote safe and appropriate online interactions (Blackwell et al., 2014; Hollandsworth et al., 2011). Using new digital technologies with students can be a challenge when lacking awareness about DC instructional strategies and the possible issues when using different technologies (Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017; Suppo, 2014). Teachers who lack awareness of DC could benefit from training, support, and resources related to DC instructional strategies and skills (An & Reigeluth, 2011; Choi et al., 2018; Ertmer, 1999; Kopcha, 2012). Addressing the lack of awareness could give teachers confidence and improve their intention to teach the skills to their students (Ajzen, 1991; Choi et al., 2018).

Participants reported a lack of awareness of DC skills and instruction (*awareness*, $n = 166$; *concerns*, $n = 188$; *instructional practice*, $n = 291$) which was evident in the research base, as well (Choi et al., 2018; Gazi, 2016). Lola reflected on her own "limitations with my own understanding of some technology" in her survey response. "Many teachers do not feel comfortable doing digital citizenship curriculum because they do not understand how" (Shay, Survey). Maci-DT shared that "in the past, I felt like unaware and lacked confidence in how to attack it" (DTED). Ivy shared her perspective that teachers are at "different levels of the spectrum" and acknowledged that she is not fully aware of the DC elements.

By contrast, Maci-DT shared that as her awareness increases, her hesitation about using certain collaborative technologies increases because of security concerns. She shared:

> I'm increasing my knowledge, I guess, in that – or I'm being more secure myself, but I also feel like I'm – some of it is fear – and I don't want to pass that along to kids, but I also think there's a healthy amount of fear to have (*awareness*, *n* = 166; *concerns*, *n* = 188; *instructional practice*, *n* = 291 ; *insights*, *n* = 231). (Maci-DT, DTED)

Increased awareness led to hesitation to use certain technologies, which could impact DC instruction in her case. Maci-DT, who self-reported a high *level of comfort with technology* (*n* = 4) and *frequency of use* (*n* = 5), reported a lower level of *DC awareness* (*n* = 3) prior to participating in the design team. She shared her concern about the unknown consequences of using digital technologies with students when teaching. She suggested in the DTED that "we don't know what's harmful or how something works until it's been used*"* (*access*, *n* = 116; *concerns*, *n* = 188).

Maci-DT's intent to teach DC skills has been affected by her "attitude toward the behavior" of using digital technologies without knowing all of the possible consequences (Ajzen, 1991, p. 206). She has compensated by not using certain collaborative features of digital technologies she has used with her students, so she has a level of "perceived behavioral control" over her students' safety (Ajzen, 1991, p. 188). Her willingness to participate with colleagues in the DC planning process and eventual implementation of the DC plan could help overcome her hesitation, seek support, and change her attitude toward using collaborative technologies in her classroom (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018; Lindsey, 2015). Her participation on the design team already changed her DC awareness and how she talks about using DC skills in her

classroom. Maci-DT indicated that "*having a common vocabulary for what to use, I think, has been helpful*," according to her DTED response.

The second theme that emerged from the qualitative data analysis connects to increasing teacher awareness (Gazi, 2016; Hollandsworth et al., 2017; Suppo, 2014). Teachers need training, support, and resources to increase their awareness of DC skills and embed them into their instruction (Ashmeade, 2016). The design team was immersed in DC skills which they claimed raised their awareness of teaching the skills in their own classrooms because of the collaboration on the DC plan (Saini & Abraham, 2019; Vygotsky, 1978). Quin-DT stated in the DTED, "I think that being a part of the study has really allowed me, um, to understand just how big of a topic digital citizenship is." Offering differentiated training was a solution suggested by Quin-DT during the DTED to meet the teachers' needs at different levels of awareness and help them grow from there (Ashmeade, 2016; Payne, 2016).

Gaps in student awareness of digital skills. Students experience gaps in their proficiency using digital technologies in and out of school that can impact their behaviors online (Payne, 2016). The categories *awareness* (n = 166) and *insights* (n = 231) were recorded together 28 times in the BOCES database, and connected to other categories, such as *instructional practice* (n = 291), *capacity* (n = 46), and *skills* (n = 446). Participants indicated that students in the context have a wide range of ability with digital technologies and DC skills due to a lack of focus on DC skills. Shay indicated in her survey that "all the 5th grade students come up at varying levels of technology use." Some students lack foundational technology skills as basic as logging onto a computer and clicking links that take users to different locations on the Internet (Hollandsworth et

al., 2011). Jill indicated in her survey that a "lack of fluency with logging in to certain sites or apps takes up instructional time and vice versa."

When students lack awareness of DC, it can lead to "problematic, even dangerous student conduct" (Hollandsworth et al., 2011, p. 46). The principal, Paul, noted the importance of DC instruction in a similar way to Hollandsworth et al. (2011). He suggested:

> [Given] the fact that they're not just growing up with technology in their hands from the time they're born almost, um, but it's the way of life, it's the way of communication and so without teaching them the skills to be able to navigate safely and appropriately, is very – it's not just doing them a disservice if we don't, it's dangerous to them if we don't (*importance*, *n* = 47; *skills*, *n* = 446; *developmental needs*, *n* = 99; *concerns*, *n* = 188). (Paul, Interview)

Students in the context are working through Erikson's *industry versus inferiority* and *identity versus role confusion* stages of psychosocial development. They are developing the ability to collaborate with others to achieve common goals (Erikson, 1997) and developing their identities to fit into societal roles and relationships (Kim & Choi, 2018). If they are not learning how to collaborate and interact with others in online spaces, it could impact their development (Blackwell et al., 2014). Some participants shared their concerns about students using apps with minimum age requirements they do not yet meet. Isla-DT indicated that "kids who were on Instagram used to be just like high school level, now it's middle school level, now we've got kids at our level who are on there and Snapchat" (DTED). When children engage in digital behaviors that are ordinarily part of older children and teens online behaviors before they have navigated through "cognitive

and emotional development [of] middle childhood could lead to negative encounters or poor decision-making" (Blackwell et al., 2014, p. 14).

Students need to learn DC to understand how to navigate the Internet and interact with others responsibly (Curran & Ribble, 2017; Greenhow & Robelia, 2009; Ribble, 2015). One barrier to that in the context was students' lack of basic skills. Jill shared her belief that the students "[lack] fluency with logging in to certain sites or apps takes up instructional time and vice versa" (Survey). Participants indicated gaps in students' basic digital literacy skills that impact instructional time and create classroom management issues. For example, Ivy suggested in her interview that "some of the digital citizenship-related issues are even just getting the computer logged on" and Inez shared in her survey that the "use of technology adds another element to classroom management."

Paul suggested in his interview that students exhibit behaviors in digital spaces that require more intervention than in previous years. Participants were particularly concerned about students' digital footprint, the permanence of what they share online, and the consequences of sharing things in online environments. Lily indicated her concern when she shared, "I explain to them that whatever they do online, we can still see it" (Survey). Paul shared that he has taught digital footprint many times:

> [You] see kids that look completely surprised and baffled that 'I thought that text disappeared on Snapchat.' No, with a screenshot it, will always be there (*skills*, *n* = 446; *awareness*, *n* = 166; *developmental needs*, *n* = 99). (Paul, Interview)

Digital footprint issues are increasing and require guidance to move toward more empathetic and responsible interactions (Common Sense Education, n.d.a, n.d.b; Gazi, 2016; Holland, 2017). As Jill shared in her survey, a solution to increase student

awareness of digital footprint and responsible online behaviors is to offer students opportunities to practice DC skills frequently with feedback in a safe environment (Ghosn-Chelala, 2019).

Increased access to practice basic digital literacy skills development would allow students to raise awareness with digital tools (Boechler et al., 2014). *Access* (*n* = 116) was a perceived "first-order barrier" outside of the teachers' control (Ertmer, 1999, p. 48). Lack of access to digital devices was one barrier that teachers suggested limited teaching the skills to raise student awareness. Inez suggested in her survey that it would be "ideal if every classroom had its own [cart of devices]." However, she also indicated that there was "not enough technology in the building for all students to use" (Inez, Survey).

Sometimes students may lack basic skills but can have advanced digital skills depending on the task at hand. Ivy shared an interesting perspective when she shared:

> [It's] a contrast, like kids who are usually so ready to try things and they amaze us, but then they're afraid to click on a link (*skills*, *n* = 446; *awareness*, *n* = 166; *concerns*, *n* = 188; *instructional practice*, *n* = 291). (Ivy, Interview)

Students' range of abilities in the context has made it challenging to bring all students up to the same level of technology awareness and teach DC skills for some teachers. Shay shared in her survey that "students are glued to their phones." Ohler (2011) indicated that students have two digital lives and the tools and apps, and the level of access to digital technologies they use at home and school differ. With all of their time spent on phones sharing, creating, and interacting, teachers in the context skill find that students have a

range of abilities with digital technologies, which could be due to the difference in tools used at school versus at home.

Teacher priorities and perceived importance of digital citizenship. Participants in the context understand the importance of teaching and learning DC skills (Choi, 2016; Gleason & von Gillern, 2018; Payne, 2016). Paul mentioned during his interview that not teaching the skills can negatively impact children. He stated:

> It's important. But now, given the fact that they're (students) not just growing up with technology in their hands from the time they're born almost, um, but it's the way of life, it's the way of communication and so without teaching them the skills to be able to navigate safely and appropriately, is very – it's not just doing them a disservice if we don't, it's dangerous to them if we don't, I mean literally to their own safety, so it's just critical (*access*, *n* = 116; *insights*, *n* = 231). (Paul, Interview)

Other participants expressed their belief that DC skills are important for students to learn. For example, Shay mentioned in her survey response that "at some point, I think we need to be forced to address digital citizenship throughout the year." It is important to create digital spaces for teaching and learning that allow students to use digital media to master learning objectives collaboratively (Churcher et al., 2014; Vygotsky, 1978). Fifth- and sixth-grade students are at the level of psychosocial development where they are learning to collaborate with others to achieve common goals (Erikson, 1997). Students need to practice collaborating online with opportunities for feedback (Jill, Survey).

Teachers cited two issues that teachers cited as barriers to DC instruction: a lack of time and other priorities that take precedence given federal, state, and district mandates

(Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; Fowler, 2007; Jones & Mitchell, 2016; Kopcha, 2012). Paul's consideration of the barriers of time and adding more to his teachers' busy schedules was evident in his responses and demonstrated his awareness of the importance of DC skills at the same time (Ertmer, 1999; Clifford, 2007; Ribble, 2015). Paul was aware of the many commitments and responsibilities of his teachers and indicated in his interview, "I think everyone believes in the importance of it… the biggest barrier is it's one more thing." Noah shared his insights:

> Time is always the most difficult thing to overcome. Teachers [cannot] make room for it unless it is given equal importance by the state. Otherwise, teachers will always prioritize what they are being scored on (*instructional practice*, *n* = 291; *insights*, *n* = 231; *priorities*, *n* = 47). (Noah, Survey)

Shay shared a similar response to Noah's when she stated in her survey that *"*anytime there is a topic that is not mandatory in our curriculum, it is often skipped." Many teachers shared Noah's belief that a lack of time and mandates were critical factors in choosing whether to teach DC skills. Lily shared, "We have so much that is required now" (Survey). Research supports participant beliefs that time has been a factor that impacts changing instructional practices, such as adding DC skills to teaching (Coleman, 2004; Ertmer, 1999; Fowler, 2007; Kopcha, 2012; Prenger et al., 2017).

Ivy's reaction to being asked about contributing to the DC plan revealed that adding more to her plate was not feasible. I clarified that her participation involved sitting for the interview, but her initial reaction is worth noting:

> It gives me heart palpitations [laughter], only because um, right now I'm contributing to [other curriculum work in the district], and that is so

> overwhelming… I guess I look at it as we need some sort of curriculum resources – something – but I can't be the one to – other people have to join and be willing to do their – I'm going to use the words fair share – because we all know sometimes the same people do things and *whatever*, it is what it is, but I also know that people who would contribute – like you learn so much when you contribute so I think it's an important thing. This [person] just cannot do it [laughter] (*involvement*, *n* = 132; *insights*, *n* = 231). (Ivy, Interview)

Ivy's reaction was an important example of how time and the number of responsibilities teachers are assigned make it challenging to add one more thing to their plates.

Despite the concerns about barriers, such as *time* (*n* = 29) and adding *one more thing* (*n* = 8), Ivy stated that if teachers use digital technologies with students, "that puts some of the responsibility back on us" to teach DC skills (*importance*, *n* = 47; *insights*, *n* = 231). However, she also indicated that teachers should not be solely responsible for teaching the skills and should involve a conversation among educators in the context to determine who should be responsible for facilitating DC instruction (Hollandsworth et al., 2011).

Participants understood the importance of the skills. Given their belief in the importance of the skills, prioritizing DC and increasing awareness of instructional strategies to embed skills into instruction could support increased awareness of the skills (Ashmeade, 2016; Choi, 2015; Choi et al., 2018; Couldry et al., 2014; Gazi, 2016; Hollandsworth et al., 2011). The design team used *embedding skills* as a suggestion for saving and included it in the DC curriculum plan from the winter 2020 co-creation event.

Ivy offered her perceptions about overcoming time and awareness as barriers to integration of digital skills and DC in her interview:

> [You] have to make the time. It's a balance, it's a struggle, it's a give and get all the time, so make the time (*priorities*, *n* = 47; *instructional practice*, *n* = 291). (Ivy, Interview)

Teachers balance many different priorities during a school year. Participants indicated their belief that DC skills were necessary for students to learn. However, *time* (*n* = 29) and adding *one more thing* (*n* = 8) to their responsibilities were barriers that emerged from the data. Ivy's response shows how important she believes DC skills are for students. She simply suggested to "make the time" to teach it.

Research Question 2: What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a digital citizenship curriculum in the instructional context?

Digital citizenship is a set of skills that supports participation in civic life in digital spaces (Mossberger, Tolbert, & McNeal, 2008; Ribble, 2015) using "appropriate, responsible behavior with regard to technology use" (Ribble, 2008, p. 15). The rationale for this research question was to examine possible components and how to address the needs of educators in the context individually and collectively.

The response to this research question derives from qualitative data supported by descriptive statistics that were primarily situated in the second theme. The findings show that teachers need knowledge, support, and resources to raise awareness of DC skills and approach teaching skills consistently and intentionally (An & Reigeluth, 2011; Ashmeade, 2016; Choi et al., 2018; Ertmer, 1999; Gleason & von Gillern, 2018; Kopcha,

2012). This section will discuss the findings related to (a) moving forward and (b) approaches to digital citizenship instruction.

Moving forward. If the participants opt to move forward and implement the DC plan, a critical component of implementation would be making training, support, and resources available to teachers in the context (Ashmeade, 2016; Coldwell, 2017; Ertmer, 1999; Gazi, 2016; Houston, 2015; Kafyulilo et al., 2016; Kim & Choi, 2018). *Training* (*n* = 82), *support* (*n* = 56), and *resources* (*n* = 62) were categories that recurred across data sources. The various methods of facilitating DC instruction should be differentiated to participants' levels of awareness of DC skills and comfort with integrating technology. Increasing the teachers' technology comfort level and DC awareness would be important in increasing educators' confidence to teach DC skills (Coldwell, 2017; Fowler, 2007). This section examines (a) comfort levels with DC and technology, (b) training, and (c) support and resources.

Comfort levels with digital citizenship and technology. The majority of participants in the context have 11 or more years of teaching experience (61%, *n* = 19). The average *level of comfort with technology* for the 11+ years group (*M* = 3.84, *SD* = 0.83) indicates that they do not feel as confident with technology overall as those with five to 10 years of experience (*M* = 4.14, *SD* = 0.38). Only one teacher had four or fewer years of experience, and she rated her *level of comfort with technology* as the highest rating (*n* = 5). The standard deviation for those with over 11 years of experience reveals participants chose a range of responses for their comfort level with technology, indicating within this group that some feel more comfortable than others using digital technologies (Saini & Abraham, 2019).

Participants with a range of five to 10 years of experience indicated more had a higher average level of DC awareness (M = 4.29, SD = 0.49) than those with more teaching experience in the context. However, those with five to 10 years of experience averaged lower levels of technology use than those with more years of experience (M = 3.67, SD = 0.52). One teacher with four or fewer years of experience responded with a high *level of comfort with technology* (n = 5.00), *frequency of technology use* (n = 5.00), and *DC awareness* (n = 4.00). The teachers who had 11+ years of experience had a lower *level of comfort with technology* (M = 3.84, SD = 0.83) but a higher *frequency of technology use* (M = 3.74, SD = 1.15) than their counterparts in the context with five to 10 years of experience (M = 3.67, SD = 0.52).

Although members of the design team self-reported high scores for their *level of comfort with technology* (M = 4.33, SD = 0.82) and *DC awareness* (M = 4.17, SD = 0.75) in their surveys, during the DTED, they shared that their understanding of DC deepened due to participating (Ashmeade, 2016). As Quin-DT indicated:

> So, in general adding digital citizenship skills, not so much to the lessons, but how I utilize the technology within those lessons, and just being more intentional with, um… being more intentional with teaching digital citizenship alongside of whatever skill or lesson we're doing using digital technology and platforms. Where before, I would be so focused on, ok, well we're doing a jigsaw, so you know, you need to do this slide, you need to do that slide… Well now it's ok, how do we respectfully communicate with each other on the slides?... So, just being more intentional with those conversations and the way that those are taught

(*instructional practice*, *n* = 291; *changes*, *n* = 56; *involvement*, *n* = 132). (Quin-DT, DTED)

The design team members' experiences of immersion into DC concepts during the winter 2020 co-creation event helped increase their awareness with DC, despite initially self-reporting high levels of comfort with the concept (Ajzen, 1991; An & Reigeluth, 2011; Ashmeade, 2016; Choi, 2015; Couldry et al., 2014; Gleason & von Gillern, 2018). Raising the comfort level so that all educators in the context feel confident with technology and DC skills would help increase their ability to teach the skills in the classroom.

Training. In his interview, Paul suggested in his interview that teachers need more time to dive deeper into digital citizenship, "otherwise we're just scratching the surface." On-going training and support should connect to identified needs in the data analysis. For example, rules and regulations that relate to DC can be confusing, and Ivy does not "always understand the rules," so clarification would help her reinforce them as she teaches digital literacies (Choi et al., 2018; Monterosa, 2017; Payne, 2016; Suppo, 2014). Ivy shared that sometimes the rules feel limiting and do not empower students in the same way they are empowered outside of school to use technology. At the same time, she understood the need for the rules and regulations. A deeper understanding of the rules would help her implement them and teach students how to effectively work within the constraints set in digital spaces and face-to-face. She stated:

> I think sometimes those rules and regulations tie our hands… because we want them to take those risks – those responsible risks – but oh no, you can't do because it's not allowed or you're not 13, which – there's rules for a reason, I'm

not, you know - so that's a frustrating piece (*rules*, *n* = 78; *concerns*, *n* = 188; *priorities*, *n* = 47). (Ivy, Interview)

Rules and regulations, such as Internet filtering, can limit student empowerment and keep them from taking responsible risks as they practice DC skills and interact online with teacher guidance (Hope, 2007).

Isla-DT and Paul mentioned that keeping up with the evolution of technology was challenging. Training should also involve updated information on new apps and how they might impact instruction. Paul shared an example of his thinking:

> [When] Snapchat came out, everybody went to Snapchat because no log is kept of that, so I think students like that idea (*access*, *n* = 116; *changes*, *n* = 56; *skills*, *n* = 446; *behaviors*, *n* = 68). (Paul, Interview)

Offering training on the features of Snapchat and discussing how to use DC skills required for the app in the classroom could help students practice skills in a safe environment and make mistakes. Even if they cannot use Snapchat, they could learn to use other tools to emulate the skills students need to learn, which could alleviate some teachers' hesitation when using newer technologies with students. As Maci-DT stated:

> You know, you use something with great intention but can turn into so many other issues that sometimes I'm leery in that sense (*access*, *n* = 116; *concerns*, *n* = 188; *insights*, *n = 231; instructional practice*, *n* = 291). (Maci-DT, DTED)

In this context, particularly as teachers increase their awareness and capacity with DC instruction, using the curriculum plan would allow them to improve their capacity slowly over the three-year implementation of the plan (Choi et al., 2018; Coldwell, 2017; Ertmer, 1999; Fowler, 2007; Kim et al., 2013).

Support and resources. Teachers requested support, such as modeling and co-teaching in their classrooms, as well as better utilization of instructional support coaches (Gazi, 2016; Kopcha, 2012). June specifically requested in her survey response "more help from our tech people because teachers in the context were not sure how to teach it or what to use." In her survey, Inez felt that instructional support coaches "pushing into classrooms" was helpful. As part of that support, Lily requested "ideas on how to integrate [DC] into subjects" (Survey). Joy revealed that she was "not sure how to incorporate it" into her instruction (Survey). In my research journal, I noted that Joy shared her need for relevant training and support that directly connect to her specific needs. Participating in the survey made Lily "wonder about all of the things that are already made" for DC instruction.

More support could raise the level of comfort with technology and DC awareness, so educators in the context feel confident to embed the skills into their instruction. Increasing their average *level of comfort with technology* ($M = 3.96$, $SD = 0.76$) with support and resources could provide the incremental steps to make implementing the plan more manageable (Kim et al., 2013). The website with the DC curriculum plan and resources was made available to teachers and shared at the staff meeting in March 2020 to help them locate resources to help them teach DC skills (Gazi, 2016). Requests for support related to DC increased in the building during the data collection and analysis time frame. Bringing attention to DC inspired their curiosity about it, and some chose to explore the concept in depth by co-teaching lessons or asking me to model lessons that they could observe (Gretter, 2018). The staff meetings about the study and resources shared at those meetings helped raise awareness of DC concepts. Teachers began asking

for more support with DC-related lessons, such as the lessons done with Shay and Noel's classes that I recorded in the research journal.

Parent involvement was a suggestion that participants shared as a possible method of reinforcing DC skills at home that students learn at school (Ashmeade, 2016; Blackwell et al., 2014; Hollandsworth et al., 2011). *Parents* (*n* = 21) and *parent involvement* (*n* = 32) were categories that were used many times to indicate the participants' desire to bring parents into a supporting role in reinforcing DC skills with their children at home. In her interview, Ivy shared her belief that "there's a parental piece that comes in here" because students use tools, such as Tik Tok and Snapchat, and need guidance. During the DTED, Maci-DT suggested developing a meaningful DC message to parents:

> I think the 'educating with parents' piece is going to be really important because…. I think that we're going to be fighting an uphill battle if we don't pull parents in, and somehow find a way to do it so they will buy-in. So that it's not just like, 'here's this thing on Open House night that you can go visit' – like that's not enough. We need to figure [it] out. (*collaboration*, *n* = 62; *parents*, *n* = 21)

Part of the committee work built into the design team's plan was to invite parents to learn more about DC and reinforce skills at home. In year three of the plan, the DC committee would begin a community outreach program to, as the plan includes, "involve parents in reinforcing digital citizenship skills with their children at home." Framing the support in a social constructivist framework where collaboration and assistance are part of the comprehensive DC plan could help establish a cycle of teaching, learning, and

reinforcing DC skills that will help students develop the skills at a rate that works for them (Kalina & Powell, 2009; Trif, 2015; Vygotsky, 1978).

Approaches to digital citizenship instruction. Participants shared many ideas for approaching DC in the context. Table 4.11 from chapter four illustrates suggested approaches suggested by participants. *Approach* (*n* = 223), *approaches to dig cit* (*n* = 175), and *comprehensive approach* (*n* = 5) were terms used to categorize qualitative data related to different approaches to DC instruction found in the data. While participation would be voluntary, Paul supported developing a DC curriculum plan and encouraging teacher participation in the implementation. Paul suggested a *comprehensive approach* to DC instruction and reinforcement of skills as an essential component of DC instruction (Gazi, 2016; Monterosa, 2017). He indicated that embedding DC "into our curriculum… with purpose, intention, and [tackling] this strategically [to] make sure we're hitting all the nine elements at the right time" would be the best overall approach (Paul, Interview).

Paul suggested that the library "really should be the foundational location to expose all students" (Interview). Zoe-DT spoke with her partner teacher and this researcher "about things I can do in the library" (DTED). Participants shared the possibility of the library as a central location (*centralized instruction*, *n* = 25) consistent DC instruction. The majority of participants shared the idea of having a dedicated teacher or expert teach the skills. Paul suggested that reinforcing skills "within the content areas in the general education classrooms" could provide students a consistent message about DC (Monterosa, 2017). He echoed the perspectives of many other participants who shared their belief that DC should be embedded in instruction (*embed in curriculum*, *n* = 70) and taught in a central location (*centralized location*, *n* = 25) (Curran & Ribble,

2017). Embedding the skills into the curriculum would be an effective strategy to save time and facilitate learning the skills (Ertmer, 1999; McGillivray et al., 2016; Monterosa, 2017; Simsek & Simsek, 2013).

Before the inquiry, the school did not have a cohesive plan to teach DC (Greenhow et al., 2009). For this study, I used the Ribble (2015) DC elements as the DC conceptual framework to explore the DC elements. I made an alignment table (Table 2.2) to align DC frameworks from other researchers, connecting terms used by participants, such as *digital footprint*, to the Ribble (2015) elements. This section discusses (a) element evidence (b) element perceptions, and (c) digital footprint concerns.

Element evidence. I defined the DC elements (Ribble 2015) for participants in the data collection materials and asked them to think about the importance of teaching each skill to students in the context. Then they were asked to rate the elements based on their perceived importance in the context. Descriptive statistics from participants' element ratings and the corresponding qualitative data from open-ended participant responses provide context for the essential skills participants determined students need in the context. Their responses to the open-ended questions offered many insights into issues that correspond with children's developmental needs at the fifth- and sixth-grade levels. Table 5.2 illustrates the qualitative and quantitative data analyzed for each element, helps identify DC priorities in the context, and shows the corresponding categories for each of the elements with their related descriptive statistics.

Table 5.2. *Ribble (2015) Element Alignment with Corresponding Inductive Categories and Descriptive Statistics*

Ribble (2015) elements arranged by all participants' rating (n = 38)	Average ranking from all participants (n = 38) – Likert scale 1 (low importance)-3 (high importance)	Inductive categories from the fall 2020 descriptive analysis that correspond to the Ribble (2015) elements	
Digital etiquette	(M = 3.00, SD = 0.00)	Digital drama	(n = 26)
		Permanence of digital footprint	(n = 25)
		Etiquette	(n = 23)
		Cyberbullying	(n = 18)
		Respect	(n = 16)
		Manners	(n = 11)
		Considering others	(n = 10)
Digital security	(M = 2.97, SD = 0.17)	Safety & security	(n = 52)
		Safe environment	(n = 26)
		Safety	(n = 23)
		Privacy issues	(n = 5)
Digital access	(M = 2.88, SD = 0.41)	Responsible use	(n = 112)
		Digital access thoughts	(n = 87)
		Acceptable behavior online	(n = 75)
Digital rights and responsibilities	(M = 2.74, SD = 0.51)	Responsible use	(n = 112)
		Student behaviors	(n = 52)
		Choices	(n = 32)
		Empowering students	(n = 21)
		Digital rights & responsibilities	(n = 20)
		Digital rights	(n = 2)
Digital law	(M = 2.68, SD = 0.54)	Rules	(n = 78)
		Rules and consequences	(n = 49)
Digital literacy	(M = 2.68, SD = 0.48)	Collaboration	(n = 62)
		Digital literacy skills	(n = 32)
		Life skills	(n = 20)
		Media-info lit	(n = 15)
Digital health and wellness	(M = 2.65, SD = 0.54)	Promoting healthy interactions	(n = 61)
		Healthy consumers of tech	(n = 24)
		Digital identity	(n = 8)
Digital communication	(M = 2.38, SD = 0.61)	Proper communication	(n = 21)
Digital commerce	(M = 1.74, SD = 0.75)	* No specific categories	

Note: Skills category connects to all elements

Determining the most important elements for the students at the fifth- and sixth-grade levels required synthesizing the findings, Theme 2, about *skills related to online behaviors*, *skills related to etiquette*, *skills related to safety and security*, and *skills related to digital literacies*. Categories used to synthesize the data included *developmental needs* (*n* = 99), *rules* (*n* = 78), *skills* (*n* = 446), *instructional practice* (*n* = 291), *concerns* (*n* = 188), *parents* (*n* = 21), *collaboration* (*n* = 62), and *awareness* (*n* = 166) to address the needs in the environment. Students access different technology tools and media to learn (Holland, 2017; Simsek & Simsek, 2013). At school, student use of technology is filtered and supervised (Hope, 2007). Outside of school, children experience different levels of supervision and digital access. Zoe-DT spoke about parent supervision during the DTED and suggested that "students also need good parent supervision, and that takes work… on the parents' end."

Element perceptions. Participants spoke often of their concerns related to digital *etiquette* (*M* = 3.00, *SD* = 0.00), *security* (*M* = 2.97, *SD* = 0.17), *access* (*M* = 2.88, *SD* = 0.41), and *rights and responsibilities* (*M* = 2.74, *SD* = 0.51). Students who participated in the student focus group provided the highest rankings to etiquette (*M* = 3.00, *SD* = 0.00), security (*M* = 3.00, *SD* = 0.00), access (*M* = 3.00, *SD* = 0.00), and rights and responsibilities (*M* = 3.00, *SD* = 0.00). It is worth noting that their highest ranked elements among student participants were ranked highest overall by all participants.

The element perceived as least important in the context based on its rating was *commerce* (*M* = 1.74, *SD* = 0.75) that Ribble (2015) defined as "electronic buying and selling of goods" (p. 16). Participants shared that commerce was not necessary to teach at their level but could be taught to older students as they receive credit cards and learn

more about financial responsibilities. Comments about commerce and other elements indicated that all elements should be taught to meet students' developmental needs at each grade level. They also indicated that DC instruction should begin at younger grade levels (Blackwell et al., 2014; Hollandsworth et al., 2011). Shay mentioned in her survey that teachers "in the lower elementary levels" should teach DC to their students. Paul suggested:

> As they get older, obviously, information literacy is gonna be even more important to be able to decipher between what are valid and reliable sources, compared to what's fake news, which is becoming a bigger thing on the Internet now – all the way through cyberbullying in the late elementary years, getting more important through the intermediate, middle and high school years… finally, as they start getting their own credit cards in high school, even, you know, looking at the idea of the commerce, so that becomes more important where that's not probably important at all to a kindergartener or elementary-type student. So, I think they're all really important, but our focus needs to be at different levels at different times. (Paul, Interview)

While the frequency of the categories does not correlate to significance (Bloomberg & Volpe, 2016; Creswell & Poth, 2018), comparing the descriptive statistics and the qualitative data offered many insights into their beliefs about the elements. They often spoke about the top-ranked elements, wanting their students to realize "the long-term impact" (June, Survey) of their actions online (Common Sense Education, n.d.a, n.d.b; Payne, 2016). In this context, participants mainly focused on student needs related to digital etiquette, security, access, and rights and responsibilities (Ribble, 2015).

Appropriate behavior and digital safety in digital spaces are typically the focus of DC initiatives in schools that connect to cyberbullying and social interactivity (Hollandsworth et al., 2017; Jones & Mitchell, 2016; Payne, 2016).

At the fifth- and sixth-grade levels "use of technology adds another element to classroom management" (Inez, Survey). The district's acceptable use policy warns that "filtering software will not eliminate the requirement to act responsibly." At this level, the teacher often determines the apps and websites students access in the context. When students access technologies in the context, teachers often prescribe the websites they use. For example, Ivy stated that "our weather report, I give them a whole bunch of websites, but they have to dig into the websites" (Interview). They offer website lists to minimize open searches that can lead to classroom management issues.

Digital footprint concerns. Teachers in the context were concerned that students do not understand the *permanence of their digital footprint* (*n* = 25). Joy explained that students "only think of the here and now and not the future" (Survey). They lack the developmental ability to understand how the things they share and say online could affect them down the road (Holland, 2017). Jill indicated that students "make poor choices, at times, through impulsivity, lack of experience, or lack of awareness" (Survey). Synthesizing information about digital footprint issues comprised several categories: *developmental needs* (*n* = 99) *skills* (*n* = 446), *etiquette* (n = 23), and *permanence of digital footprint* (*n* = 25).

Students do not comprehend the consequences of online behaviors that can result when they share information online, and teachers are concerned about their lack of awareness regarding their digital footprint (Holland, 2017; Hollandsworth, 2017; Payne,

2016; Ribble, 2015). Jada shared that she tells students, “Your digital actions have consequences” (Survey). However, due to developmental needs, they can do and say impulsive things without thinking first. Paul suggested that “their impulsivity is not nearly developed” (Interview). Learning how their online behaviors could affect them in the present and the future, and why it is vital to use proper etiquette in their online interactions, are essential skills for students in the context to learn (Curran & Ribble, 2017; Greenhow & Robelia, 2009; Jones & Mitchell, 2016).

Addressing developmental needs and connecting digital experiences in and outside of school could help students make better choices in their online behaviors and interactions (Hobbs & Jensen, 2009; Hope, 2007; Ohler, 2011; Ribble, 2015). Using Vygotsky’s zone of proximal development to support practicing skills within a social constructivist framework would offer students opportunities to practice at their level of readiness with assistance while practicing appropriate online interactions to meet their developmental needs (Trif, 2015; Vygotsky, 1978). Giving students “frequent opportunities to practice” DC skills (Jill, Survey) and make mistakes in a safe environment could foster the development of the positive habits teachers in the context want for their students (Blackwell, Lauricella, Conway, & Wartella, 2014; Lindsey, 2015; Monterosa, 2017; Payne, 2016; Ribble, 2015). Isla-DT warned that “once [students] get immersed in it, if they haven’t established those good habits, then I don’t think it’s going to come as easily” (DTED).

Research Question 3: What are teachers' perceptions of being involved in the co-creation of a digital citizenship plan for implementation at the fifth- and sixth-grade levels?

Overall, the descriptive statistics and qualitative data demonstrated teachers were satisfied with their participation. The answer to this question was extracted from data in theme one and theme three. Research question three connected to categories of *awareness* (*n* = 166), *reflecting on practice* (*n* = 30), *involvement* (*n* = 132), *concerns* (*n* = 188), *instructional practice* (*n* = 291), *priorities* (*n* = 47), *insights* (*n* = 231), *importance* (*n* = 47), *training* (*n* = 82), *implementation* (*n* = 29), and *responsibility to teach* (*n* = 26). When introducing the idea for co-creating a DC curriculum plan based on their perspectives with the help of a design team of teachers from the building, they were interested in the project and expressed a willingness to help. I wanted to find ways to encourage their voluntary participation and eventual implementation of the plan by examining their attitudes and beliefs as part of the co-creation of a plan based on their perspectives (Ajzen, 1991; Churcher et al., 2014; Frels & Onwuegbuzie, 2013; Reynolds, 2016; Vygotsky, 1978). In the research journal, I reported that the participants "seem willing to help in any way they can." This section examines (a) encouraging participation and implementation, (b) reflecting on participation, and (c) co-creation of the plan with the design team.

Encouraging participation and implementation. One theory that guided developing the plan for participation and eventual implementation was the theory of planned behavior. "[The theory of planned behavior] is commonly used to predict behaviors and design interventions to impact decision-making" (Gretter & Yadav, 2018,

p. 106). I wanted participants to participate and to adopt the plan once the principal decides to implement it. The theory of planned behavior helped me develop effective methods for encouraging voluntary participation in the study connected with educator beliefs and attitudes in the context (Ajzen, 1991; Dunn et al., 2018; Lindsey, 2015). Their enthusiastic willingness to participate after listening to my presentation about developing the plan based on their input could influence their eventual adoption of the plan. Adding reciprocity to the process with raffles and a gift bag to choose prizes as they completed their part made participating more enjoyable (Creswell, 2014). Making participation voluntary gave participants control over their participation level and encouraged their enthusiastic participation in all of the data collection, analysis, and planning activities (Ajzen, 1991; Dunn et al., 2018; Gretter & Yadav, 2018). Only four educators in the context (n = 4) could not complete their surveys out of the staff member population (n = 31). Using participant perspectives to inform the co-creative planning process was done to encourage positive beliefs and attitudes about the plan to influence their behavioral decision to adopt the plan once it is implemented and could be considered a form of reciprocity (Ajzen, 1991; Creswell, 2014; Gretter & Yadav, 2018).

I used social constructivism as a framework in combining responses from all participants into one co-created DC curriculum plan and working with a design team to co-create the plan (Bakah et al., 2012; Churcher et al., 2014; Reynolds, 2016; Vygotsky, 1978). Combining both theoretical frameworks, I was able to encourage voluntary participation and collaboration in the study activities with most staff members (n = 27) in the context. The reciprocity procedures of weekly raffles, a prize bag, and providing Panera bagels in the staff lounge encouraged an atmosphere of fun and enjoyment that

supported participation in the data collection and analysis procedures, despite their other responsibilities, such as completing report cards. I noted in the research journal, “Some teachers were concerned that I was doing too much with all the reciprocity raffles I have planned.” Teachers worried that I was doing too much and said they would have participated regardless. The reciprocity piece was important to me and fun for them (Bazeley, 2013; Creswell, 2014).

The level of participation in the study indicated that participants perceived it was worthwhile. Part of the benefit they derived was personal. For example, Jill suggested, “It has made me think more critically about the choices I make regarding technology” (Survey). Others saw universal benefits of their participation. During the DTED, Isla-DT stated, “I think this really kind of led to a platform where we had more in-depth conversations.” Anecdotally, their conversations led to increased requests for instructional support to co-teach DC lessons during the time frame of the study due to the increased discussions about DC. Part of the reason for their participation could have been the result of my positionality in the context. I was an “insider in collaboration with other insiders” in the context (Herr & Anderson, 2005, p. 31). The majority of educators in the building have known me for many years, and we have worked together closely.

The level of technology integration is up to the teachers’ discretion in the district. Most teachers in the building tend to use digital technologies with students often. Overall, teachers in the context have positive attitudes about digital technologies. Their beliefs and attitudes made doing the research enjoyable because of their willingness to volunteer to participate (Ajzen, 1991; Dunn et al., 2018; Ertmer et al., 2012; Paver et al., 2014). Working together facilitated developing a co-created three-year implementation plan that

Quin-DT described as "complex and quickly added without prompting that he didn't think it was hard to follow, but complex in the sense that 'it has depth'" (Research Journal).

Reflecting on participation. Members of the design team and other participants shared their reflections about their involvement in the study (Attard, 2012; Tondeur et al., 2016). Immersing teachers in a collaborative environment where their voices were heard, and their collective perspectives contributed to the design team's DC plan invited them to consider DC as part of their own practices (Ajzen, 1991; Frels & Onwuegbuzie, 2013; Powell & Kalina, 2009; Vygotsky, 1978). This section discusses participants' (a) personal and universal reflections and (b) interest in implementation.

Personal and universal reflections. Participants offered a range of thoughtful reflections on their participation (Ashmeade, 2016). When asked during the DTED if their participation would impact the way they teach DC, participants reflected on the question with personal and more universal insights. Lea-DT offered:

> Yes, seeing the 'bigger picture' has allowed me to see the strengths and weaknesses of what we currently have in place (*awareness*, *n* = 166; *involvement*, *n* = 132; *insights*, *n* = 231). (Lea-DT, DTED)

Her response was categorized under *involvement* (*n* = 132), *awareness* (*n* = 166), and *instructional practice* (*n* = 291). Lea-DT's involvement led her to think more deeply about DC instruction in the context and consider the institutional strengths and weaknesses of their current practices (Kafyulilo et al., 2016). Shay shared a similar response in her survey that others offered:

> Participating in this survey has caused me to reflect more on how I integrate digital citizenship in the classroom. I would like to find more ways to incorporate it every year. (Shay, Survey)

Others reflected on how it would impact their classroom DC practice (Attard, 2012; Gazi, 2016). Joy's reflection was personal and demonstrated the impact her participation in the survey had on her. She shared that "it makes me admit to my weaknesses and think of ways to overcome them" (*insights*, *n* = 231; *awareness*, *n* = 166). The honest reflections were valuable aspects of the response to this question. The reflections will help teachers know where to focus if they move into the implementation phase of the DC plan (Attard, 2012).

Interest in implementation. On the full survey with open-ended questions, I asked if *participating in the planning process makes you more interested in implementing the final plan for digital citizenship instruction*. The question aligned with aspects of the theory of planned behavior because its purpose was to determine their attitudes and beliefs about their involvement and potential intent to adopt the plan (Ajzen, 1991). The questions were multiple choice with an open-ended option to write their own response. Eight of the 11 participants in the full survey (*n* = 8) selected *Yes* as their response. Two of the full survey participants (*n* = 2) stated that they were not sure if participating would influence their decision to implement the DC plan (June: *Maybe – not sure*). For the same question, Noah shared an important insight that reflected the prioritization of his teaching responsibilities:

> Honestly, it's making me think more about how I would be able to fit this into the schedule I already have without taking away from other areas. (Noah, Survey)

Noah's thoughtful response speaks to concerns reflected in other responses about the barrier of time and the number of responsibilities that take precedence due to the many demands on teachers (Ertmer, 1999; Ertmer et al., 2012; Kafyulilo et al., 2016; Kopcha, 2012). Paul's thoughts on participating reflect the kind of implementation he was hoping for in this process:

> Anything… to make experiences for students in the future more deep, relevant, helping them to be safe, I mean that is fine by me. (*implementation*, *n* = 29; *instructional practice*, *n* = 291; *changes*, *n* = 56; *approach*, *n* = 233)

Co-creation of the plan with the design team. Social constructivism was the theoretical framework chosen to inform the work of co-creating the plan with the design team (Cviko et al., 2014; Houston, 2015; Reynolds, 2016; Vygotsky, 1978). Bringing together a team of teachers to co-create the plan invited conversation and interaction to create an environment conducive to learning about DC as they collaborated on the plan (Churcher et al., 2014; Powell & Kalina, 2009; Vygotsky, 1978). The collaborative nature of the design team helped them construct knowledge based on participant perspectives (Frels & Onwuegbuzie, 2013) and learn about DC in the process (Ashmeade, 2016; Powell & Kalina, 2009; Vygotsky, 1978). In this section is a synthesis of (a) co-creation insights and (b) digital citizenship planning process and increasing awareness

Co-creation insights. The teachers on the design team did not receive in-service for participating in our work together. The theory of planned behavior caused me to design my reciprocity to be done each week, instead of at the end of the data collection and analysis to demonstrate my appreciation for their time throughout our work together

and inspire continued support (Ajzen, 1991; Creswell, 2014). Instead, I did drawings, gave them a gift card each week, and brought snacks to our meetings each week as a form of reciprocity (Creswell, 2014). Their sincere dedication to the project was evident. In the research journal, I stated:

> I know that the design team teachers are taking this process to heart, and they know how important this process is to me… [I received a design team email message asking] for a photo of the a priori codes because she was going to finish up bracketing data today. These teachers are unbelievable. (*process*, n = 265; *insights*, n = 231). (Research Journal)

I would send an email each week, and they would show up at our meeting place in a design team member's classroom on time and without reminders. If they were unavailable due to other responsibilities, they would let me know and would make up the lost time whenever possible.

I noted their level of focus on our work in the research journal. The design team's coding was systematic and thoughtful. The design team members asked questions and provided excellent data to analyze and use in the co-created plan. They completed the entire plan in seven meetings, and some work was done by teachers who wanted to get ahead of the coding to move into the planning piece. Their punctual meeting attendance without additional reminders and thoughtful work demonstrated positive perceptions about their involvement in the co-creative planning process (Ajzen, 1991; Dunn et al., 2015; Gretter & Yadav, 2018).

Digital citizenship planning process and increasing awareness. I combined the SAM (Allen & Sites, 2012) with the Ribble (2015) model for "developing a plan for

digital citizenship" (p. 64). Combining both models provided a framework for the planning template that facilitated converting participant perspectives (Frels & Onwuegbuzie, 2013) into a curriculum plan with resources. The combination of SAM and Ribble (2015) enabled a smooth planning process for the team. The preparation of the data each week was a challenge to do independently to maximize our planning time. More time to work collaboratively could have afforded the ability to divide the data analysis responsibilities more than was possible in our time together (Ertmer, 1999; Fowler, 2007). Despite the challenges of organizing the data, the group collaborated effectively and efficiently to complete the co-created plan in fewer than 10 hours (Churcher et al., 2014; Hirtle, 2019; Vygotsky, 1978). Members of the design team felt that the design of the planning process allowed them to increase their awareness of DC effectively as they planned.

Other studies have shown that design teams help members develop awareness and confidence with the concepts they collaborate on as a team (Choi et al., 2018). In this inquiry, the design team members also indicated that they had developed a deeper awareness and comfort level with DC than before they participated in the co-creation process. Isla-DT suggested that "for me, even just recognizing all the distinct parts that make up digital citizenship [elements], because it is such a huge topic… It's more than I was originally thinking" (DTED). According to design team members, the resources and planning process helped them work continuously. Without the support and resources, they indicated that it could have been more challenging to complete the plan without ideas and links to select for support piece from the helpful planning process. Bakah et al. (2012) determined that participating in design teams increased awareness and innovation,

leading to improving practice in their collaborative work together. Maci-DT shared her appreciation for the planning process:

> Yeah, [Lea-DT] and I have talked about how we appreciated that it [planning] was more like a reflecting and revision piece than like a creation piece because sometimes when you're in that creation stage, it's like, you know, you're grasping at straws. Where do I go from here? And it's not that you don't know what to do. It's just that the task of it is very daunting and overwhelming. So, I think I appreciated that format of how you did things if that makes sense (*involvement*, *n* = 132; *process*, *n* = 265). (Maci-DT, DTED)

The planning process was more about reflection, and less about creation, which led the design team to raise their awareness and co-create the plan at the same time.

If the plan is implemented, participants suggested training that is differentiated to the learners' needs to continue from where they left off with the team. (Quin-DT was looking forward to the future implementation of the plan and suggested that there "needs to be… differentiation with professional learning" (DTED). Lea-DT stated that she would be *less inclined* to attend training "because I feel like we are… we were so involved in it and that we know so much more about it" (*involvement*, n = 132; *training*, n = 82; *insights*, n = 231). However, in her written responses to the DTED, she indicated that she would attend training, "but it depends on what it is" (*training*, *n* = 82; *implementation*, *n* = 29) (Lea-DT, DTED).

Implications

The research base on DC instruction at the elementary level is limited. Students at the fifth- and sixth-grade level are already developing their digital identity and need

guidance to use responsible behaviors online. This study resulted in implications for practitioners, researchers, and me. In this section, four types of implications are examined: (a) personal implications, (b) recommendations for the intermediate school, (c) implications for future research.

Personal Implications

I have gained valuable insights from this inquiry that I will use in my practice, including my methods, perceptions from the data and findings, and my experiences within the inquiry process that made lasting impressions. After reviewing my methods, I believe that given the time constraints and having teachers who volunteered to participate without compensation other than the gift cards and other incentives I provided, the resulting co-created plan is well done and based on the perspectives of the teachers in the context (Creswell & Poth, 2018; Frels & Onwuegbuzie, 2013; Marshall & Rossman, 2016; Mertens, 2010).

The perspectives shared in the surveys were thoughtful, and I appreciated the time it took to respond so extensively in most cases, despite having report cards and other responsibilities at the time. The interviews provided deeper insights about some shared ideas in surveys and sometimes offered different perspectives from survey responses. The focus group student participants were bashful and polite, but their thoughtful and brief responses were aligned with their teachers' thoughts about DC, which I feel is important to note. Reviewing the district acceptable use policy and the school's student handbook with the design team allowed them to review expectations connected to DC, particularly in the district acceptable use policy. Using the documents helped triangulate the data from the other data sources (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016).

I was impressed with the participants' responses in the study and their willingness to spend time thoughtfully responding to the questions in the surveys and interviews despite their busy schedules. They revealed their beliefs and attitudes related to DC (An & Reigeluth, 2011; Bai & Ertmer, 2008; Ertmer, 1999; Kopcha, 2012; Tondeur et al., 2017). Some of the teachers I felt were more emergent in their comfort level with technology based on conversations, and qualitative responses gave some very insightful answers. They demonstrated a depth of knowledge far beyond my expectations. Joy repeatedly expressed her lack of confidence in integrating the skills in the data and to me. She indicated her lack of confidence when she stated that she did not know "how to incorporate the technology in my class" (Joy, Survey). I wrote in my research journal about an impromptu conversation that Joy and I had reinforcing needs she expressed in her survey. I was fascinated with all of the participants' perspectives and their willingness to dive deep and offer substantive ideas about DC.

Despite participants sharing their comfort levels with DC and my own biases about their levels of technology comfort based on our interactions, they came up with such thoughtful and relevant responses that reveal a depth of knowledge about DC that was exciting to see. It is important when supporting teachers to check my biases about their levels of understanding as I work with them and how that affects my interactions with them (Bloomberg & Volpe, 2016). While I believe I am mindful of how I interact with teachers because I hold them in very high regard and respect their professionalism, it is worth reflecting on how much insight they provided at every level of technology and DC awareness.

Having conversations around this topic at staff meetings led to increased awareness and more requests for support (Ashmeade, 2016; Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017; Ribble, 2015; Suppo, 2014). Teachers developed an awareness of the basics of DC from three brief presentations in October 2019, January 2020, and March 2020 (Ashmeade, 2016; Choi, 2015; Couldry et al., 2014; Gazi, 2016; Hollandsworth et al., 2011). The reaction to the opportunities to share at staff meetings reminded me that beginning with a message to all staff members gives them all a chance to hear about a topic or concept to start the conversation, leading to more practical discussions of applying it in individual contexts.

I was touched by the teachers' dedication to completing this project and their genuine interest in the process. Everything they did was voluntary. Only four teachers were unable to participate, given the time constraints for completion of the surveys. They were enthusiastic and motivated to help me because of the help I had given them for many years and the relationships we have built over that time. It was another form of reciprocity that I had not considered but one that some shared with me in their concern that I was doing too much to repay the generosity of their time and participation (Creswell & Poth, 2018; Marshall & Rossman, 2016).

I presented the finished plan and shared the resources from the winter 2020 co-creation event at a staff meeting on 11 March 2020 to show teachers the work the design team had done. Schools were closed due to Covid-19 three days later. Covid-19 delayed the implementation, but I emailed the resources to teachers as they began their remote teaching due to the pandemic. It is impossible to know who used the materials or how often. I am no longer employed by the district and now work in higher education, but the

materials are still accessible on the Google Site I created. I am still passionate about the concept. Once the concept has been infused into the curriculum more consistently, I believe that we need to rebrand digital citizenship because the skills are critical to everyday life. Calling them *essential literacies* could connect digital citizenship skills to other types of literacy that students should learn.

Recommendations for the Intermediate School

The resulting description of the data in this study led to some recommendations associated with needs identified by participants in the context and solutions examined in the data. This section lists recommendations related to (a) overcoming barriers, (b) design team feedback as recommendations, (c) continuing the conversations about DC and involving instructional support, (d) ideas for future training and working with more buildings.

Overcoming barriers. The solutions to the barriers that the design team developed from the winter 2020 data analysis will help teachers overcome concerns and barriers related to adding DC to their instructional responsibilities. Table 5.3 below shows examples of two barriers and corresponding solutions developed during the winter 2020 data analysis

Table 5.3. *Example Barriers and Corresponding Solutions - Winter 2020 Data Analysis Process*

Barrier	Solution
Limited access to devices	• District study to redistribute devices • Survey teachers to find ideas for improving access and making better use of the technology
Teacher awareness	• Digital citizenship plan with resources linked to the plan • Roll out the plan over three years

Barrier	Solution
	• Training and support ideas based on participant responses (see Figure 5.1 below)

Participant perspectives were part of every decision made in the development of the plan. Figure 5.1 is a photo of a process used in the winter 2020 data analysis that showed training and support ideas listed while reading through the categories, codes, and bracketed text. Barriers that lacked a solution were left up to the DC committee to address by surveying teachers to gather their perspectives (An & Reigeluth, 2011; Frels & Onwuegbuzie, 2013; Marshall & Rossman, 2016; Mertens, 2010). Using teacher perspectives proved to be a positive way to promote buy-in and encourage participation in the study (Creswell, 2014; Frels & Onwuegbuzie, 2013; Marshall & Rossman, 2016; Mertens, 2010). I recommend continuing to use educator perspectives as the plan changes over time.

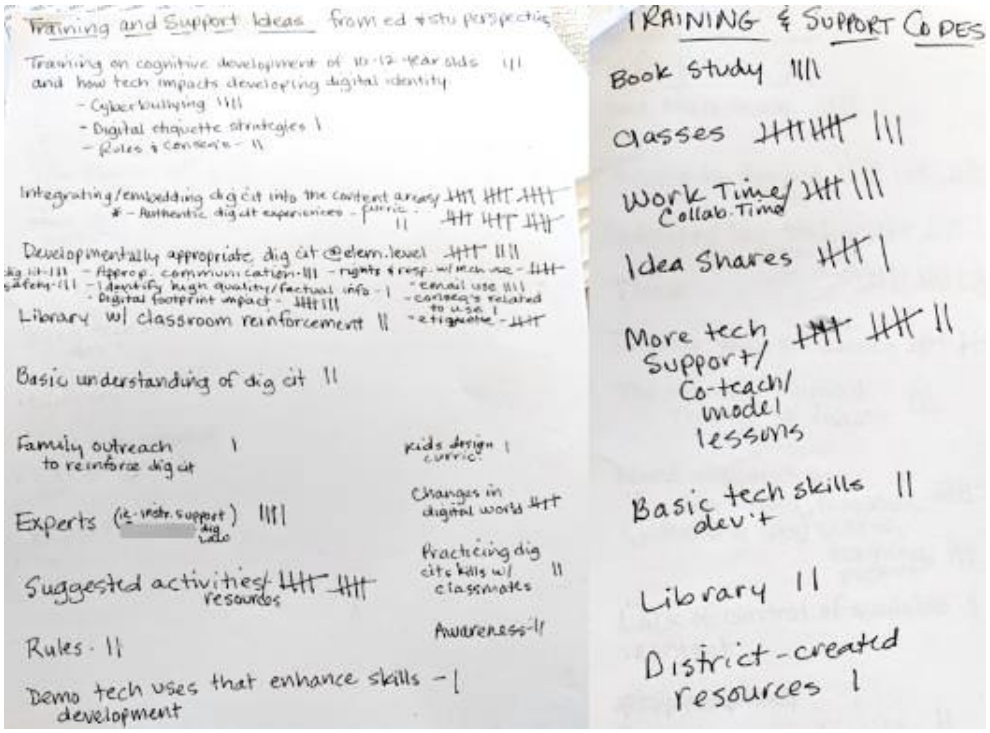


Figure 5.1. Winter 2020 data analysis process to determine training and support solutions.

Design team feedback as recommendations. Most of the design team participants expressed an increase in their capacity and confidence to teach DC (Ashmeade, 2016). The design team discussed their appreciation for being involved in the entire planning process to learn a little at a time while they co-created the plan. Quin-DT suggested that the design team had *the advantage of being part of the process along the way.* The three-year plan will be implemented in incremental steps, building awareness and confidence while moving deeper into the concept before making significant updates to the plan. The goal of implementing the plan over three years was to keep teachers from feeling overwhelmed (Kim et al., 2013). They already have enough responsibility and adding DC skills is *still one extra thing,* as Paul shared in his interview. Time is limited (Ertmer, 1999; Kopcha, 2012; Tondeur et al., 2017). If teachers are encouraged to make small changes and include DC by embedding it to reinforce the skills, that could help keep the momentum going. Embedding skills into existing instruction could help overcome the issues they perceive, such as a lack of time and confidence as they implement the plan (Ertmer, 1999; Ertmer et al., 2012; Kopcha, 2012). Teachers seemed interested in adding the skills to their instruction, so keeping it simple and voluntary and increasing support could help implementation go smoothly.

Students and teachers were in alignment with essential DC skills in their responses. As they move forward with instruction, students in the context could assume more responsibility for researching and creating DC resources for use with teachers, peers, and parents, as Lola suggested in her survey response. Encouraging student leadership could help avoid student dependence on the teacher and encourage students to practice thinking critically about their behaviors online with support and feedback

(Payne, 2016). Giving students leadership roles on the DC committee would make the DC initiative more student-centered, provide a safe environment to practice skills and take responsible risks with feedback that teachers like Ivy and Jill shared in their responses (Churcher et al., 2014).

The plan that resulted from the design team's work was based on participants' perspectives in the surveys, interviews, the focus group, and documents. It addresses learners' needs in the context and is complex enough to bring teachers on board at any DC awareness level. As noted in the research journal, Quin-DT indicated at our final design team planning meeting that he felt the plan was *complex* and quickly added without prompting that he didn't think it was hard to follow, but complex in the sense that *it has depth*. It satisfies concerns about needing resources and materials to teach digital citizenship on the website and how to get started with several choices for materials linked to each element in the plan (Hollandsworth et al., 2011). Teachers with more confidence and experience with digital citizenship can use the plan or dive deeper into the website for additional ideas and resources to use with their students (Jones & Mitchell, 2016). The plan is an excellent beginning to get everyone on the same page with DC. Having a DC committee and PLC to promote changes to the plan and increase awareness of digital citizenship over time will help teachers continue to enhance their DC skills and improve their confidence to teach DC.

Continuing the conversations about digital citizenship and involving instructional support. Full implementation is optional for teachers, but with the support of the principal, and through regular conversations about DC in meetings, support, and PD, teachers can learn quick strategies to embed skills within their existing pedagogy and

overcome perceived barriers to DC instruction (Ajzen, 1991; Ashmeade, 2016; Ertmer, 1999; Monterosa, 2017). Encouraging conversations about digital citizenship led to more requests for help in classrooms throughout the study's data collection and analysis process. In the research journal, I noticed more requests for DC-related support than I previously experienced in the context, and more teachers stopped me in the hallways to discuss DC during the study. Teachers asked if I would co-teach and model DC skills and overview DC lessons, which changed from previous years. Continuing to encourage those discussions at staff meetings where teachers could share strategies and ideas for teaching DC in the context would further support the growth of the skills, so teachers can confidently and consistently facilitate DC instruction with students (Ashmeade, 2016; Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017; Ribble, 2015; Suppo, 2014).

As part of the comprehensive approach that Paul suggested, it will be essential for instructional support teachers to provide classroom support relevant to the teachers' needs to demonstrate how DC connects with skills and concepts teachers teach at the fifth sixth-grade levels. Another essential part of the DC plan will be finding meaningful ways to communicate with parents to reinforce skills at home that Maci-DT and others felt should be part of the process (Blackwell et al., 2014).

Ideas for future training and working with more buildings. This inquiry involved many data sources and a six-member design team, making it challenging to complete the initial analysis in the time frame for the winter 2020 data procedures. However, Quin-DT stated that the process was valuable enough for other teachers to benefit from the activities and learning that the design team experienced during the winter 2020 co-creation event. Finding ways to emulate the collaborative nature of the

learning process would be beneficial to teachers in the building and the district. The collaborative nature of the design team was a popular feature of the process. In future training, establishing a professional learning community (PLC) (Prenger et al., 2017) to encourage teacher collaboration to continue growth in the area of DC could help keep the momentum going through implementation (Bakah et al., 2012; Huizinga et al., 2014).

If we were to go through this process with another building, I would increase the number of design team members to eight or 10 to hasten the data analysis and prevent members from feeling overwhelmed by having more support during the planning process. Additional design team members would have minimized feeling overwhelmed by the process as Isla-DT felt. It would also have helped overcome members planning alone with my support when their partner was absent due to other required commitments. The design team accomplished the goal of developing the curriculum plan within the time frame but wound up voluntarily doing some of the work outside of our planning time. It would have helped to have more time together and offer it as professional development with in-service credit (Ertmer, 1999; Fowler, 2007).

Implications for Future Research

As the next step in this inquiry path, I would fully implement the plan using the three-year plan, found in Appendix C, until full implementation is achieved to determine the plan's efficacy and how to amend the process from beginning to end. In year two, I would begin work with the DC committee from the plan to update the plan using the SAM (Sites & Green, 2014) and Ribble (2015) framework to make updates. I would simplify the process by using the full survey to gather the data and have the DC committee bracket and code the data and analyze it to determine how to update it.

Continuing to use the perspectives of the stakeholders would be essential (Frels & Onwuegbuzie, 2013). Design team members saw the planning process as valuable, and teachers appreciated having a voice in the process. If other schools were interested in implementing this planning process, they could adapt the data collection process for time, student needs, and other variables that might change depending on the context.

This inquiry consisted of qualitative data supported by descriptive statistics. In future research, it would help determine how the plan created during the process affects student awareness of digital citizenship skills. Future studies could utilize mixed methods, using an explanatory sequential mixed methods design (Creswell, 2014; McMillan, 2016). Begin with a pre-test to determine teacher awareness of digital citizenship instructional practices. Then conduct weekly user groups for some time where teachers can collaborate to learn each element, explore materials in the plan and on the website related to each element, and plan a strategy or lesson embedding DC any of the skills they learned. After the user group's professional development and implementation of their lessons, we would administer a post-test. For the qualitative portion of the study, observations and interviews with purposively selected teachers to dive deeper into their experiences related to lesson planning and DC instruction's efficacy resulting from professional development (McMillan, 2016). I hope that educators will put the findings of this study into practice to increase awareness of DC and benefit student development of DC skills.

Limitations

While this action-based inquiry made connections to findings in previous studies related to digital citizenship, it is important to examine the limitations that emerged from

the study because limitations are present in any study and worth reflection (Creswell & Poth, 2018; Marshall & Rossman, 2016). Digital citizenship is an emerging concept and lacks the depth of coverage in the literature at the elementary level particularly (Monterosa, 2017). The conceptual framework used for the process of developing and analyzing the DC curriculum plan helped this researcher understand the data explored in this inquiry (Bloomberg & Volpe, 2016). The theories chosen to support the research process helped me identify meaningful phenomena during the data analysis (Bloomberg & Volpe, 2016; Marshall & Rossman, 2016). However, other aspects of phenomena analyzed in this study could have been unintentionally hidden or dismissed in the analysis process as I filtered through the data (Bloomberg & Volpe, 2016). I chose a qualitative approach because I wanted to learn about the perspectives and beliefs of participants in the context related to DC instruction and challenge them to bring about instructional change (Bai & Ertmer, 2008; Ertmer, 1999; Ertmer & Ottenbreit-Leftwich, 2013; Kopcha, 2012; Marshall & Rossman, 2016; Tondeur et al., 2017).

Time constraints of the study led to limitations in scope and did not allow for implementing the co-created plan before the end of the data collection and analysis time frame (Creswell & Poth, 2018). The principal supported the plan. Participation was voluntary, and the use of the plan is optional. However, the district administration did not approve in-service credit or payment for participating in the curriculum plan development, which led to fewer meetings with a shorter duration than originally planned to accommodate the team members' needs (Marshall & Rossman, 2016). As a result, if design team participants had other meetings that took precedence, which impacted attendance at design team meetings. Design team members who missed meetings would

give me advanced notice when they needed to miss meetings, and some were able to follow-up with me between meeting times to catch up on the process whenever possible.

The sample size of staff member (n = 31) and student (n = 7) participants was small, and four staff members were unable to complete the survey before the deadline, making it difficult to generalize the results (Creswell & Poth, 2018). The study's descriptive nature that focused on the analysis of qualitative data supported by descriptive statistics makes the results challenging to generalize (Marshall & Rossman, 2016). Future studies could make a mixed-methods research study with more substantive quantitative elements to determine with statistical certainty whether the qualitative findings are valid and reliable (Creswell & Poth, 2018).

Conclusion

Participants in the context understand that most of their students are connected to the Internet and have extensive access to digital technologies. They also realize that students need digital skills to interact, create, and design in online spaces where they need skills to interact appropriately and responsibly (U.S. Department of Education, 2014). Children at the intermediate school are already beginning to develop their digital identities. They are increasingly experiencing issues related to their digital footprint because they do not consider the consequences of sharing (Holland, 2017). The majority of educators in the study suggested that embedding digital citizenship and teaching the skills in parallel to the concepts they are teaching when using digital technologies would support DC skills growth (McGillivray et al., 2016; Monterosa, 2017; Simsek & Simsek, 2013).

Based on the results of this study, participants determined that they need training, support, resources, and time to plan DC instruction effectively (Kopcha, 2012). Some believe that skills should be taught with relevant topics embedded consistently in their instructional practice (Couldry et al., 2014; Hollandsworth et al., 2011; Kim et al., 2013; Lindsey, 2015; Monterosa, 2017; Payne, 2016). Despite barriers to DC instruction, teachers indicated that they believe there is a responsibility to teach DC because they realize students need support to practice online interactions in a safe environment with feedback. DC skills are considered life skills students need. Participants in the context shared their belief that a comprehensive approach to DC involving collaboration among educators, parents, and students in meaningful instruction and reinforcement of skills could support the growth of developmentally appropriate, responsible, and safe DC behaviors for their students (Blackwell et al., 2014; Hollandsworth et al., 2011).

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APPENDIX A

DOCUMENT REVIEW DOCUMENTS

District Acceptable Use Policy

To protect the privacy of the participants in this study, the text of the district's acceptable use policy has been removed from this document.

School Student and Parent Handbook

To protect the privacy of the participants in this study, the text of the school's student handbook has been removed from this document.

APPENDIX B

PRESENTATIONS, WEB RESOURCES, AND MATERIALS

Digital Citizenship Professional Learning Resources Google Slides Presentation

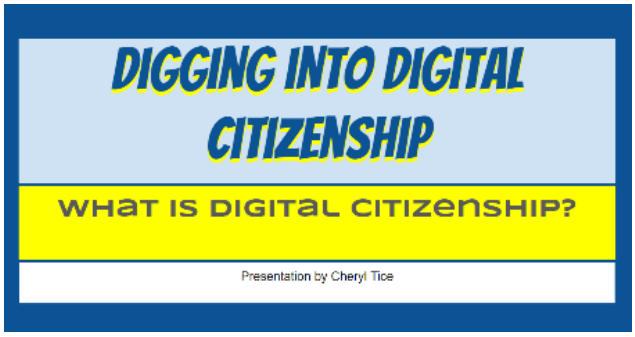


Figure B.1. Digging into Digital Citizenship presentation: https://tinyurl.com/digintodigcit

Professional Learning Google Website

Figure B.2. Digging into digital citizenship professional learning website: https://tinyurl.com/y2yczjvz

Newsletter at Smore.com

Figure B.3. Dig into #DigCit Newsletter archive: https://tinyurl.com/yyshqp5v

Introduction to the Study Google Slides Presentation

Figure B.4. Digital Citizenship: Planning a New Approach presentation: http://bit.ly/3lLbuXT

Design Team Resources Microsoft PowerPoint Presentation

Figure B.5. Design Team Resources:
https://tinyurl.com/designteamrsc

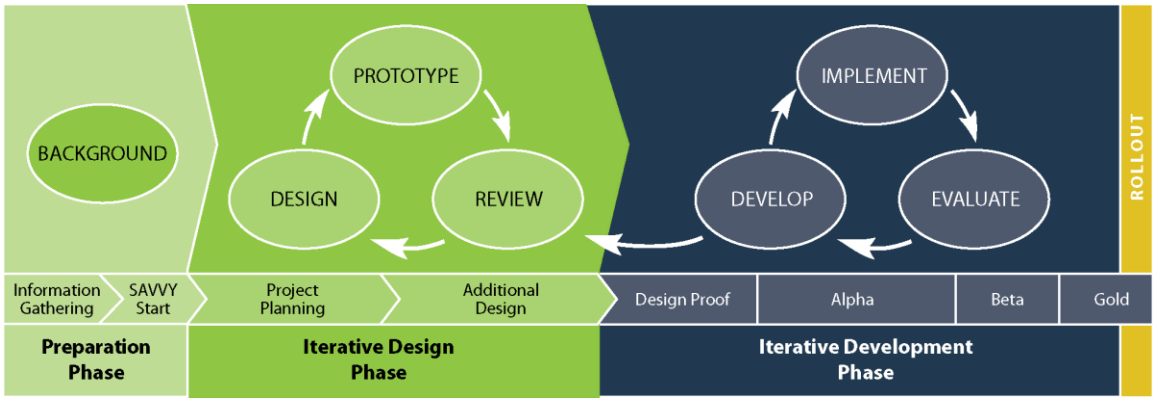
APPENDIX C

DESIGN TEAM DOCUMENTATION

Design Team Overview and Agendas

Welcome to the Design Team!

SAM (successive approximation model) provides a framework for our planning (Allen & Sites, 2012). It will help keep us focused on the goal of developing a proposed digital citizenship plan for the school. The digital citizenship planning guide from Ribble (2015) will help us answer the questions that will guide us during each phase of the planning. ***Our work will focus on the Preparation Phase and the Design Phase of the model in the diagram below.***



The SAM Process. Used with permission from *Iterative e-learning development with SAM: SAM process*. Used with permission from Allen Interactions Agile eLearning Development, https://www.alleninteractions.com/sam-process. Copyright 2012 by Allen Interactions Inc.

Resources

Web resource

I have developed resources and materials and posted them on a website for ease of access: https://sites.google.com/view/hhdigcit

Data sources

We will examine data sources each time we meet to help us answer the research questions in this order:

- documents (2)
- survey data (10)
- interview transcripts (2)
- a student focus group transcript (1)

Research questions

1. What do fifth- and sixth-grade teachers perceive as barriers to integrating digital citizenship skills in their instruction?

2. What do fifth- and sixth-grade teachers perceive are the essential components of a digital citizenship curriculum in the instructional context?

3. What are teachers' perceptions of being involved in the co-creation of a plan for digital citizenship implementation at the fifth- and sixth-grade levels?

Meeting 1 Agenda

Objectives

- Understand that this process is iterative and requires revision throughout
- Work collaboratively – all voices matter!
- Evaluate and code the data we have at this point related to digital citizenship components, barriers, and perceptions:
    - District acceptable use policy
    - School student handbook
- Begin to prepare a rough design of the plan for digital citizenship with goals, objectives for teachers and students for a three-year rollout of the concept using a **collaborative document**

Preparation Phase

- Use the website with resources to guide our work: https://sites.google.com/view/hhdigcit

- Project success: completed **collaborative document**

- Examining data (in your shared folder): **document review of acceptable use policy and student handbook**

- Discuss the questions yourself on the **Analyze the Data** sheet.

- Use the Comment Tool in Microsoft Word to highlight information in the document review documents that is directly or indirectly related to digital citizenship

- First time through the documents: "Code" each highlight with a comment that relates to a digital citizenship element, skill, barriers, solutions (see **Analyze the Data** sheet for ideas)

- **Brainstorm together** using the **Analyze the Data** sheet to guide the discussion

Design Phases

- Use the **collaborative document** to begin to design the plan by entering information from the brainstorm into the document where it best fits.

Meeting 2 Agenda

Objectives

- Understand that this process is iterative and requires revision throughout
- Work collaboratively – all voices matter!
- Evaluate the data we have at this point related to digital citizenship components, barriers, and perceptions:
  - Finish any unfinished analysis from Meeting 1
  - Survey transcripts
- Prepare a rough design of the plan for digital citizenship with goals, objectives for teachers and students for a three-year rollout of the concept using a **collaborative planning document**

Preparation Phase

- Use the website with resources to guide our work: https://sites.google.com/view/hhdigcit

- Project success: completed **collaborative planning document**

- Examining data (in your shared folder): **Survey transcripts** (and unfinished data from meeting 1)

- Use the Comment Tool in Microsoft Word to highlight information in the document that is directly or indirectly related to digital citizenship

- First time through the documents: "Code" each highlight with a comment that relates to a digital citizenship element, skill, barriers, solutions (see **Analyze the Data** sheet for ideas)

    - Read through the documents and "code" each highlight with a comment that relates to a digital citizenship element, skill, barriers, solutions (see **Analyze the Data** sheet for ideas)

- **Brainstorm together** using the **Analyze the Data** sheet to guide the discussion and view report from database showing counts of each code they used from their data analysis from previous sessions to support brainstorming

Design Phase

- Use the **collaborative planning document** to continue the first draft of the plan to design the plan by entering information from the brainstorm into the document where it best fits.

Meeting 3 Agenda

Objectives

- Understand that this process is iterative and requires revision throughout
- Work collaboratively – all voices matter!
- Evaluate the data we have at this point related to digital citizenship components, barriers, and perceptions:
    - Finish any unfinished analysis from Meeting 2
    - Interview transcripts
- Prepare a rough design of the plan for digital citizenship with goals, objectives for teachers and students for a three-year rollout of the concept using a **collaborative planning document**

Preparation Phase

- Use the website with resources to guide our work: https://sites.google.com/view/hhdigcit

- Project success: completed **collaborative planning document**

- Examining data (in your shared folder): **Student focus group transcript** (and other unfinished surveys)

- Use the Comment Tool in Microsoft Word to highlight information in the document that is directly or indirectly related to digital citizenship

- Use the Comment Tool in Microsoft Word to highlight information in the document that is directly or indirectly related to digital citizenship

    - Read through the documents and "code" each highlight with a comment that relates to a digital citizenship element, skill, barriers, solutions (see **Analyze the Data** sheet for ideas)

- **Brainstorm together** using the **Analyze the Data** sheet to guide the discussion and view report from database showing counts of each code they used from their data analysis from previous sessions to support brainstorming

Design Phase

- Use the **collaborative planning document** to continue the first draft of the plan to design the plan by entering information from the brainstorm into the document where it best fits.

Meeting 4 Agenda

Objectives

- Understand that this process is iterative and requires revision throughout
- Work collaboratively – all voices matter!
- Evaluate the data we have at this point related to digital citizenship components, barriers, and perceptions:
    - Finish any unfinished analysis from Meeting 3
    - Student focus group transcript
- Prepare a rough design of the plan for digital citizenship with goals, objectives for teachers and students for a three-year rollout of the concept using a **collaborative planning document**

Preparation Phase

- Use the website with resources to guide our work: https://sites.google.com/view/hhdigcit

- Project success: completed **collaborative planning document**

    - Examining data (in your shared folder): **Finish any unfinished data analysis**

    - Use the Comment Tool in Microsoft Word to highlight information in the document that is directly or indirectly related to digital citizenship

        - Read through the documents and "code" each highlight with a comment that relates to a digital citizenship element, skill, barriers, solutions (see **Analyze the Data** sheet for ideas)

    - **Brainstorm together** using the **Analyze the Data** sheet to guide the discussion and view report from database showing counts of each code they used from their data analysis from previous sessions to support brainstorming

Design Phase

- Use the **collaborative planning document** to complete the first draft of the plan to design the plan by entering information from the brainstorm into the document where it best fits.

Meeting 5 Agenda

Objectives

- Understand that this process is iterative and requires revision throughout
- Work collaboratively – all voices matter!
- Evaluate the data we have at this point related to digital citizenship components, barriers, and perceptions: Finish any unfinished analysis from Meeting 4
- Prepare a rough design of the plan for digital citizenship with goals, objectives for teachers and students for a three-year rollout of the concept using a **collaborative planning document**

Preparation Phase

- Use the website with resources to guide our work: https://sites.google.com/view/hhdigcit

- Project success: completed **collaborative planning document**

- Examining data (in your shared folder): **Finish any unfinished data analysis**

- Use the Comment Tool in Microsoft Word to highlight information in the document that is directly or indirectly related to digital citizenship

    - Read through the documents and "code" each highlight with a comment that relates to a digital citizenship element, skill, barriers, solutions (see **Analyze the Data** sheet for ideas)

- **Brainstorm together** using the **Analyze the Data** sheet to guide the discussion and view report from database showing counts of each code they used from their data analysis from previous sessions to support brainstorming

Design Phase

- Use the **collaborative planning document** to revise the first draft of the plan to design the plan by entering information from the brainstorm into the document where it best fits.

Meeting 6 Agenda

Objectives

- Understand that this process is iterative and requires revision throughout
- Work collaboratively – all voices matter!
- Prepare a presentation of the digital citizenship plan with goals, objectives for teachers and students for a three-year rollout of the concept using a **collaborative planning document**

Preparation Phase

- Use the website with resources to guide our work: https://sites.google.com/view/hhdigcit

- Project success: completed **collaborative planning document**

Design Phase

- Use the **collaborative planning document** to revise the first draft of the plan to design the plan by entering information from the brainstorm into the document where it best fits.

Data Analysis Guide Sheets

Analyze the Data

We will use the questions in the below to help us focus our work as we analyze the data.

Focus Highlighting, Coding, and Group Conversations

Questions to guide group
What elements are essential parts of digital citizenship instruction?
What barriers do we notice to technology integration and related digital citizenship instruction in the data? What ideas can help overcome those barriers?
Which activities, behaviors, and issues related to digital citizenship elements or skills do we notice in the data? [Use our **graphic organizers** to help]
What are the different perspectives revealed in the data? How can they help us to plan for different instructional needs?
What is missing from the data that would be good to know?
Are there themes that emerge as you highlight and comment on each data source?

Design Team A Priori Codes Handout

Codes and Definitions

When coding the data documents with the Comment tool in Microsoft Word, use the codes below in the table or make up your own.

Codes	**Code definitions**
Barriers	First-order barriers: lack of time to plan; lack access to technology tools; inadequate support (Ertmer, 1999) Second-order barriers: teaching beliefs, technology beliefs, instructional practices, attitudes toward change (Ertmer, 1999)
Educator perspective	Data that shows the perspective of the teacher or administrator

Codes	Code definitions
Student perspective	Data from the perspective of the students
Training and support	Professional learning; instructional support required for the
Digital access	Equitable access, when to and when not to access technology; access for special needs students (Ribble, 2015); positive engagement in digital environments (Kim & Choi, 2018)
Digital commerce	Informed online consumers; purchase online with permission; identity theft (Ribble, 2015); using copyrighted materials appropriately (Kim & Choi, 2018)
Digital communication	Building relationships; think before posting online; selecting the best tool for different kinds of communication online (Common Sense Education, n.d.; Ribble, 2015)
Digital etiquette	Awareness of others online; appropriate use of technology for the context; understand what to share and whether to share (Ribble, 2015); avoiding cyberbullying and drama (Common Sense Education, n.d.)
Digital law	Accountability when using technology (Ribble, 2015); Copyright and giving creative credit (Common Sense Education, n.d.)
Digital literacy	Understanding the way technology works; using technology to learn (Ribble, 2015); critical thinking, digital fluency (Kim & Choi, 2018); media-information literacy (Choi, 2015, 2016)
Digital rights and responsibilities	Awareness and understanding of technology rules; include decision-making related to technology (Ribble, 2015); digital footprint and reputation (Common Sense Education, n.d.); ethical use of technology (Choi, 2015, 2016; Kim & Choi, 2018)
Digital security	Personal, school, and community security (Ribble, 2015); personal protection from possible risk (Kim & Choi, 2018) – not sharing personally identifiable information online (passwords, address, birthday, etc.)
Digital health and wellness	Media balance and well-being; healthy use of digital tools (Common Sense Education, n.d.; Kim & Choi, 2018); healthy interactions (Ribble, 2015)

Planning Template

Collaborative Document: Prototype Plan

This document will help us keep track of the way the rollout will occur over the next three years based on the conclusions we draw from the data.

Rank the elements of digital citizenship in order of perceived importance based on data:

1.	2.	3.
4.	5.	6.
7.	8.	9.

Year 1: Vision for digital citizenship and instructional technology in the school

Goals

Committee on digital citizenship considerations (Ribble, 2015)

Consideration	**Who could do this?**	**What will be done and how will it be done?**
Develop a vision statement for digital citizenship instruction		
Training and resources to support staff		

Three elements of focus during the first year (top 3 from the data ranking)

1.	2.	3.
Teacher Resources Lessons/Strategies – Media – Materials – Technology Tools –	**Teacher Resources** Lessons/Strategies – Media – Materials – Technology Tools –	**Teacher Resources** Lessons/Strategies – Media – Materials – Technology Tools –
Students should be able to:	**Students should be able to**:	**Students should be able to**:

Top three barriers to digital citizenship integration with possible solutions (data)

Barrier	**Suggested strategies or support**
1.	
2.	
3.	

Suggestions for professional learning to support teachers during the first year:

Committee needed

Digital citizenship committee to focus on instructional technology and related digital citizenship skills, training, and resources needed (Ribble, 2015)

Possible goals

Year 2: Proactive focus on digital citizenship

Goals

Committee on digital citizenship considerations (Ribble, 2015)

Consideration	**Ideas**
Review and refine vision	
Training and resources to support staff	
District and school policies related to digital citizenship	

Additional elements of focus during the second year (based on data ranking)

4.	5.	6.
Teacher Resources Lessons/Strategies –	Teacher Resources Lessons/Strategies –	Teacher Resources Lessons/Strategies –

Media – Materials – Technology Tools –	Media – Materials – Technology Tools –	Media – Materials – Technology Tools –
Students should be able to:	**Students should be able to**:	**Students should be able to**:

Any additional barriers to digital citizenship integration with possible solutions (data)

Barrier	**Suggested strategies or support**
1.	
2.	
3.	

Suggestions for professional learning to support teachers during the second year:

Committees needed

Digital citizenship committee to focus on instructional technology and related digital citizenship skills, training, and resources needed (Ribble, 2015)

Possible goals

Year 3: Spreading digital citizenship vision to all classrooms and community

Goals

Committee on digital citizenship considerations (Ribble, 2015)

Consideration	**Ideas**
Review and refine vision	

Training and resources to support staff	
Community outreach	
Future of digital citizenship	

Additional elements of focus during the second year (based on data ranking)

7.	8.	9.
Teacher Resources Lessons/Strategies – Media – Materials – Technology Tools –	**Teacher Resources** Lessons/Strategies – Media – Materials – Technology Tools –	**Teacher Resources** Lessons/Strategies – Media – Materials – Technology Tools –
Students should be able to:	**Students should be able to**:	**Students should be able to**:

Any additional barriers to digital citizenship integration with possible solutions (data)

Barrier	**Suggested strategies or support**
1.	
2.	
3.	

Suggestions for professional learning to support teachers during the third year:

Committees needed

Digital citizenship committee to focus on instructional technology and related digital citizenship skills, training, and resources needed (Bearden, 2016; Ribble, 2015)

Possible goals

Community outreach committee to focus on sharing digital citizenship information with the community (Ribble, 2015)

Possible goals

Completed Plan

View the completed plan: https://bit.ly/completeplan

Table C.1. *Study Phases and Timeline for Data Collection Procedures*

	Participants	Researcher	Timeline
Phase 0	Develop a basic awareness of digital citizenship elements and examples of related skills with the help of • Newsletters • Staff meeting presentation • Resources and introductory training	Before data collection begins, provide staff with resources and training to support developing basic digital citizenship elements and related skills: • Newsletters • Staff meeting presentation • Resources and introductory training	Fall and Winter 2019
Phase 1	• Participate in staff meeting • Complete and return consent and assent forms • Participants take both parts of the initial survey (week 2) • Principal and teacher participate in interviews • Design team participants prepare for first meeting in Phase 2 (week 2)	• Present at staff meeting about the study • Disseminate consent and assent forms (1-week due date) • Email purposefully selected participants to participate in the initial survey • Schedule and conduct interviews with principal and teacher • Establish the design team and set up our first meeting for week 2 • Transcribe data and prepare for design team meetings	Winter 2020 Weeks 1 - 2

	Participants	Researcher	Timeline
Phase 2	• Design team meetings 1-3 • Student focus group (week 4)	• Facilitate design team meetings - weeks 2-5: conduct the document analysis and review survey results (week 3); interview data (week 4); and student focus group data (week 5) • Schedule and facilitate focus group discussion (for week 3) • Transcribe data to prepare for design team meetings • Begin iterative planning process	Winter 2020 Weeks 2 - 5
Phase 3	• Design team meetings 4-6 • Member-check the plan • All instructional staff take the exit survey	• Finish the plan using the feedback from the data collected and do exit discussion with design team • Email exit survey to instructional staff	Winter 2020 Weeks 5-8

APPENDIX D

DIGITAL CITIZENSHIP SURVEY QUESTIONS AND COMMUNICATION

Survey (Short Form) – Email Message and Questions

This survey was emailed to all instructional staff with a unique code to check back with participants for clarification, but participant identities will be kept confidential.

Link to Instrument: https://forms.gle/2AdsKrpSFZopTHVh6

Message to Participants
Hello!

Thank you for participating in this survey. Your responses will help to create a digital citizenship plan that includes your thoughts and perspectives about the topic. You will take the same survey at the end of the study to see if your responses change or stay the same.

Your responses are completely confidential. A unique code has been created for you in case I have questions to clarify your responses. Only I will know which responses belong to you and I will keep your identity confidential. Your answers will help us develop a digital citizenship plan.

The survey should take about 10 minutes. Your participation is voluntary, and you may stop at any time.

Unique Survey Code: _____
Survey Link: _____

Once you complete the survey, you will be entered into raffles for gift cards.

Thank you for your help!
Cheryl
[Email signature]

Survey (Short Form) – Part 1 Instrument
Section 1: Digital Citizenship Survey Directions

Please respond to the questions that follow based on your experiences with digital citizenship in your own role at the intermediate school.

Your responses are completely confidential. A unique code has been created for you in case I have questions to clarify your responses.

This survey has been adapted from planning exercises from Digital Citizenship in Schools (Ribble, 2015, pp. 64-80).

This survey has been adapted from planning exercises from Digital Citizenship in Schools (Ribble, 2015, pp. 64-80).

Demographic Questions

These questions could offer insights into your responses to help better adapt the overall plan to meet the needs of all instructional staff.

Your survey user code: _____

Grade level you teach: (5^{th} grade, 6^{th} grade, Other)

Question 1: Grade level? (5 or 6)

Question 2: Level of comfort with technology? (5 - extremely comfortable through 1 - low comfort level)

Question 3: Level of awareness with digital citizenship? (5 – very aware through 1 – not at all aware)

Question 4: Frequency of technology use with students? (5 - all the time through 1 - rarely)

Question 5: Level of classroom experience? (4 or fewer years; 5-10 years; 11+ years)

Section 2: Rating the Elements

Help determine the essential digital citizenship elements and skills to focus on in your instructional context.

[Questions in this section adapted from Ribble (2015, p. 71)]

Question 1: Rate each digital citizenship activity below from 3 (important), 2 (somewhat important), or 1 (not important). [RQ 2]

Activities, behaviors, concerns related to digital citizenship elements	**3**	**2**	**1**
Etiquette: Using manners when interacting with others online; respectful behavior online			
Rights & Responsibilities: Using apps to communicate responsibly with others (examples: classmates, teachers, experts)			
Access: Access to technology to complete projects; knowing when to access technology responsibly			
Health: Self-monitoring healthy use of technology			
Law: Obeying copyright / avoiding plagiarism in assignments			
Communication: Using email, texts, Twitter, and other apps to communicate with others			
Security: Maintaining privacy; learning what to share and not share to maintain security online			
Literacy: Locating and using Internet sources that are accurate and high-quality			
Commerce: Learning about economic decisions people make online			

Questions adapted from "Digital Citizenship Audit Form" (Ribble, 2015, p. 71)

Question 2: If you have additional thoughts to clarify your choices for the answers above, please share them here.

Question 3: How do you define digital citizenship? [RQ 2]

Survey (Long Form) Email Message and Questions

This survey was emailed to participants with a unique code to check back with participants for clarification, but participant identities will be kept confidential.

Link to Instrument: https://forms.gle/38moJ2osxjaMdwsx9

Message to Participants

Hello!

Thank you for participating in this survey. Your responses will help to create a digital citizenship plan that includes your thoughts and perspectives about the topic.

Your responses are completely confidential. A unique code has been created for you in case I have questions to clarify your responses. Only I will know which responses belong to you and I will keep your identity confidential. Your answers will help us develop a digital citizenship plan.

The survey should take about 20 minutes. Your participation is voluntary, and you may stop at any time.

Unique Survey Code: _____
Survey Link: _____

Thank you for your help!
Cheryl
[Email signature]

Survey (Long Form) Instrument

Survey (Long Form) – Part 1 Instrument
Section 1: Digital Citizenship Survey Directions

Your survey user code: _____

Please respond to the questions that follow based on your experiences with digital citizenship in your own role at the intermediate school.

Your responses are completely confidential. A unique code has been created for you in case I have questions to clarify your responses.

This survey has been adapted from planning exercises from Digital Citizenship in Schools (Ribble, 2015, pp. 64-80).

This survey has been adapted from planning exercises from Digital Citizenship in Schools (Ribble, 2015, pp. 64-80).

Demographic Questions

These questions could offer insights into your responses to help better adapt the overall plan to meet the needs of all instructional staff.

Your survey user code: _____

Grade level you teach: (5^{th} grade, 6^{th} grade, Other)

Question 1: Grade level? (5 or 6)

Question 2: Level of comfort with technology? (5 - extremely comfortable through 1 - low comfort level)

Question 3: Level of awareness with digital citizenship? (5 – very aware through 1 – not at all aware)

Question 4: Frequency of technology use with students? (5 - all the time through 1 - rarely)

Question 5: Level of classroom experience? (4 or fewer years; 5-10 years; 11+ years)

Section 2: Rating the Elements

Help determine the essential digital citizenship elements and skills to focus on in your instructional context.

[Questions in this section adapted from Ribble (2015, p. 71)]

Question 1: Rate each digital citizenship activity below from 3 (important), 2 (somewhat important), or 1 (not important). [RQ 2]

Activities, behaviors, concerns related to digital citizenship elements	**3**	**2**	**1**
Etiquette: Using manners when interacting with others online; respectful behavior online			
Rights & Responsibilities: Using apps to communicate responsibly with others (examples: classmates, teachers, experts)			
Access: Access to technology to complete projects; knowing when to access technology responsibly			
Health: Self-monitoring healthy use of technology			
Law: Obeying copyright / avoiding plagiarism in assignments			

Communication: Using email, texts, Twitter, and other apps to communicate with others			
Security: Maintaining privacy; learning what to share and not share to maintain security online			
Literacy: Locating and using Internet sources that are accurate and high-quality			
Commerce: Learning about economic decisions people make online			

Questions adapted from "Digital Citizenship Audit Form" (Ribble, 2015, p. 71)

Question 2: If you have additional thoughts to clarify your choices for the answers above, please share them here.

Question 3: How do you define digital citizenship? [RQ 2]

Section 3: Digital Citizenship in the Classroom

In this section, please respond to the questions in a few sentences to explain your answers. Your answers will help determine how we plan for digital citizenship and address the needs of educators and students in the school.

[Questions in this section adapted from Ribble (2015, p. 65)]

Question 1: How can we improve student awareness of digital citizenship? How would students demonstrate that awareness (Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017)? [RQ 2]

Question 2: How do teachers combine digital citizenship with student technology use (Gleason & von Gillern, 2018; Holland, 2017; Mossberger et al., 2008)? [RQ 2]

Question 3: What affects your use of technology with your students in both positive and negative ways (Ertmer, 1999; Mirra et al., 2018)? [RQ 1]

Question 4: How do you tie digital citizenship skills to your students' use of technology? [RQ 2]

Question 5: How do student behaviors that are related to digital citizenship impact your classroom (Choi, 2015; Choi et al., 2018; Payne, 2016)? [RQ 1]

Question 6: In your experience, how well do you think students understand digital citizenship skills (Gazi, 2016; Holland, 2017; Hollandsworth et al., 2017)? [RQ 2]

Question 7: Which elements of digital citizenship are most important for students to learn, from your perspective (Holland, 2017)? Why? [RQ 2]

Section 4: Planning from Teacher Perspective

The questions below help us concentrate on what is needed to help all teachers feel confident about teaching digital citizenship.

[Questions adapted from Ribble, 2015, pp. 65-66)]

Question 1: How does the need for rules and regulations for student technology use compare with the district mission of Explore - Empower - Excel? [RQ 1, 2]

Question 2: How can we empower students to practice authentic digital citizenship skills and work within the rules related to technology use in schools (Dotterer et al., 2016; Holland, 2017)? [RQ 1, 2]

Question 3: Where does digital citizenship fit into the curriculum (Couldry et al., 2014; Gretter, 2018; Monterosa, 2017)? How can we make room for it? [RQ 1]

Question 4: What prevents teachers from integrating digital citizenship into their instruction, in your opinion (An & Reigeluth, 2011; Ertmer, 1999; Mirra et al., 2018)? What suggestions do you have for overcoming barriers? [RQ 1]

Question 5: What types of professional learning should be offered to support teachers' effective implementation of digital citizenship skills? [RQ 1]

Question 6: Will you sign up for professional learning related to digital citizenship offered in the district in the future (Ajzen, 1991; Gretter, 2018; Kopcha, 2012)?
(__Yes, __No, __ Other _____) [RQ 3]

Question 7: Is participating in this survey and contributing to the planning process valuable so far (Hobbs & Tuzel, 2017; Huizinga et al., 2014)? Please explain. [RQ 3]

Question 8: Does participating in the planning process make you more interested in implementing the final plan for digital citizenship instruction (Gretter, 2018; Huizinga et al., 2014)?
(__Yes, ___No, ___Other_____) [RQ 3]

Design Team Exit Discussion

The questions for the Design Team help triangulate data related to questions one and three.

Design Team Questions: Your Experiences as a Participant

Please share your thoughts about your participation in this study and whether you believe it will be helpful to you and to teachers at the intermediate school.
[Questions 4, 5, 6 adapted from Ribble (2015, pp. 65-66)]

Questions about Your Experience

Question 1: Did you talk to others in the building about digital citizenship as a result of your participation in the study? Had you done that before? [RQ 3]

Question 2: Have you added digital citizenship skills to your lessons as a result of your participation in the study? [RQ 1, 2, 3]

Question 3: Will being involved in the study impact the way you teach digital citizenship in the classroom? Explain your thoughts. [RQ 1, 2, 3]

Question 4: What are your perceptions of the barriers to teaching digital citizenship and strategies chosen to overcome them (Ertmer, 1999; Kopcha, 2012)? [RQ 1, 3]

Question 5: Will you sign up for professional learning related to digital citizenship offered in the district in the future (Ajzen, 1991; Gretter, 2018; Kopcha, 2012)? [RQ 3]

Question 6: What are your feelings about contributing to the digital citizenship plan (Hobbs & Tuzel, 2017; Huizinga et al., 2014)? Was the process valuable (Huizinga, Handelzalts, Nieveen, & Voogt, 2014)? [RQ 3]

Design Team: Rating Digital Citizenship Elements

Rate each digital citizenship activity below from 3 (important), 2 (somewhat important), or 1 (not important). [RQ 2]

Examples of digital citizenship	**3**	**2**	**1**
Etiquette: Using manners when interacting with others online			

Rights & Responsibilities: Using apps to communicate responsibly with others (examples: classmates, teachers, experts)			
Access: Access to technology to complete projects; knowing when to access technology responsibly			
Health: Choosing healthy use of technologies for yourself			
Law: Obeying copyright / avoiding plagiarism in assignments			
Communication: Using email, texts, Twitter, and other apps to communicate with others			
Security: Maintaining privacy - learning what to share and not share to maintain security online			
Literacy: Locating and using high-quality Internet sources			
Commerce: Learning about economic decisions people make online; asking permission before making online purchases			

Elements and examples adapted from Choi, 2015, 2016; Common Sense Education, n.d.; Kim & Choi, 2018; Ribble, 2015)

We gather your final rankings for the elements of digital citizenship to determine whether your thinking has changed since the beginning of the research.

APPENDIX E

INTERVIEW QUESTIONS AND STUDENT FOCUS GROUP

The interview questions reflect what is in the survey and address the three research questions. Discussing them face-to-face will allow the principal and teacher an opportunity to expand on their answers in a way that might not occur if they responded in an email or on the computer (Bloomberg & Volpe, 2016). The interviews were semi-structured and will focus on the attitudes and perspectives of the participants to better understand how their roles are related to digital citizenship instruction in the building (Creswell, 2012). The questions below will guide the time with participants in the interviews. The principal and teacher will receive a handout with a list of the elements and examples to help them answer questions about them efficiently. The questions are listed below.

Interview Protocol Documentation

The interview protocol will help keep the semi-structured interviews focused on the research questions.

Research Questions	Interview Questions, Sub-questions, and Probes
RQ 1: What do fifth- and sixth-grade teachers individually and collectively perceive as barriers to integrating digital citizenship skills in their instruction?	• How does the need for rules and regulations related to student technology use compare with the district mission of Explore - Empower - Excel? [RQ 1, 2] • How can we empower students to practice authentic digital citizenship skills and work within the rules and regulations related to technology use in schools? [RQ 1] • What digital citizenship issues do you encounter most often with students? [RQ 1, 2] • How do you address them? [RQ 1]

	• Give some examples of ways you address them. [RQ 1] • Should instructional staff be responsible for teaching digital citizenship? Why? [RQ 1] • What prevents teachers from integrating digital citizenship into their instruction, in your opinion? [RQ 1] • Do you have suggestions for overcoming barriers? [RQ 1, 2] • What are some ways you have noticed that student behaviors related to technology use impact others at the intermediate school? [RQ 1, 2] • What are some ways we can prevent digital citizenship-related issues before they occur? [RQ 1]
Research Questions	**Interview Questions, Sub-questions, and Probes**
RQ 2: What do fifth- and sixth-grade teachers individually and collectively perceive are the essential components of a digital citizenship curriculum in the instructional context?	• How do you define digital citizenship? [RQ 2] • Is digital citizenship important for children to learn? [RQ 2] • What digital citizenship issues do you encounter most often with students? [RQ 1, 2] • What aspects of digital citizenship are most important for students to learn? [RQ 2] • Where does digital citizenship fit into the curriculum? How can we make room for it? [RQ 2,3] • Which elements of digital citizenship seem most important for students to learn, from your perspective? Why? [RQ 2] • What are some ways you have noticed that student behaviors related to technology use impact others at the intermediate school? [RQ 1, 2]
RQ 3: What are teachers' perceptions of being involved in the co-creation of a plan for digital citizenship implementation at the fifth- and sixth-grade levels?	• What types of professional learning do you think we should offer to support teacher implementation of digital citizenship skills? [RQ 3] • How do you feel about contributing to a digital citizenship plan that could potentially be used at the intermediate school? [RQ 3]

Probes	1. Do you have more you would like to add? 2. Can you elaborate on that? 3. Do you have examples you could share? 4. What questions do you have? What would you add? 5. What questions are missing so far that would help us determine a process for a new approach to digital citizenship?

Introduction

[*Before beginning the recording, I will explain to the respondent that I am recording our conversation and need to get their consent to do so. If the respondent consents to the audio recording, begin taping now*.]

Thank you for participating in this interview. Before I begin, I will review the purpose of this study. The purpose of this action research will be to co-create a digital citizenship plan with fifth- and sixth-grade teachers at the Intermediate School. Children need to learn how to use digital tools appropriately, and digital citizenship instruction helps to focus on the skills necessary to participate in Internet-connected environments effectively (Hobbs & Jensen, 2009). Your responses will offer ideas for co-creating a digital citizenship plan.

I have planned this interview to last no longer than 45 minutes. To capture all of your responses and thoughts that come to my mind as you answer, I will be taking notes and audio-recording your responses during our conversation. You should know that (1) all information will be kept confidential, (2) your participation is voluntary, and you may stop at any time, and (3) I will share the transcription with you when it is ready, so you can review it for accuracy. Our design team will analyze the transcription from this interview, and it will be stored in a local database at BOCES after it is transcribed. Is it all right to audio-record our conversation? [Wait for respondent to say yes or no before continuing.]

During this time, I have questions that I would like to cover. If time begins to run short, it may be necessary to interrupt you to push ahead and complete this line of questioning. Before we begin, do you have any questions for me? [*Clarify as needed*.] Great! Let's get started.

Demographic Questions

First, I will ask some demographic questions that will help describe respondents in this study.

Grade level/role	
Level of comfort with technology 1 (low) to 5 (high)	
Level of awareness with digital citizenship 1 (low) to 5 (high)	

Frequency of technology use with students 1 (low) to 5 (high)	
Level of classroom experience (<4 years; 5-10 years; 11+ years)	

Transition to Interview Questions

Now I am going to ask you questions related to the purpose of this study – approaching digital citizenship at the fifth- and sixth-grade level. You can use the table to refresh your memory about the elements of digital citizenship and what they involve. Are you ready? [*Give time for a response*.] OK, let's move on.

Interview Questions

Questions:	**Notes**:

• How do you define digital citizenship? [RQ 2]
  ○ Is digital citizenship important for children to learn? [RQ 2]
  ○ What aspects of digital citizenship are most important for students to learn? [RQ 2]
  ○ Where does digital citizenship fit into the curriculum? How can we make room for it? [RQ 2, 3]
• How does the need for rules and regulations related to student technology use compare with the district mission of Explore - Empower - Excel? [RQ 1, 2]
  ○ How can we empower students to practice authentic digital citizenship skills and work within the rules and regulations related to technology use in schools? [RQ 3]
• What digital citizenship issues do you encounter most often with students? [RQ 1]
  ○ How do you address them? [RQ 1]
  ○ Give some examples of ways you address them. [RQ 1]
• Should instructional staff be responsible for teaching digital citizenship? Why? [RQ 1]
  ○ What prevents teachers from integrating digital citizenship into their instruction, in your opinion? [RQ 1]
  ○ Do you have suggestions for overcoming barriers? [RQ 1, 2]
  ○ Which elements of digital citizenship seem most important for students to learn, from your perspective? Why? [RQ 2]
• What are some ways you have noticed that student behaviors related to technology use impact others at the intermediate school? [RQ 1, 2]
  ○ What are some ways we can prevent digital citizenship-related issues before they occur? [RQ 1]
• What types of professional learning do you think we should offer to support teacher implementation of digital citizenship skills? [RQ 3]
• How do you feel about contributing to a digital citizenship plan that could potentially be used at the intermediate school? [RQ 3]	

Conclusion
I am going to summarize what you said during the interview to make sure I understand your responses. Basically, you said… [*I will share a brief summary of the highlights of what was discussed to demonstrate what I heard while avoiding personal comments, observations, and drawing conclusions based on the responses so that the respondent can clarify misperceptions*.] Thank you for participating in this interview. [*Turn off the recording device and check to make sure the recording is there*.]

Note: The questions that will be used in the semi-structured interviews in the bulleted list are adapted from Ribble (2015).

Interview: Digital Citizenship Ratings Handout

Rate each digital citizenship activity below from 3 (important), 2 (somewhat important), or 1 (not important). [RQ 2]

Examples of digital citizenship	**3**	**2**	**1**
Etiquette: Using manners when interacting with others online			
Rights & Responsibilities: Using apps to communicate responsibly with others (examples: classmates, teachers, experts)			
Access: Access to technology to complete projects; knowing when to access technology responsibly			
Health: Choosing healthy use of technologies for yourself			
Law: Obeying copyright / avoiding plagiarism in assignments			
Communication: Using email, texts, Twitter, and other apps to communicate with others			
Security: Maintaining privacy - learning what to share and not share to maintain security online			
Literacy: Locating and using high-quality Internet sources			
Commerce: Learning about economic decisions people make online; asking permission before making online purchases			

Elements and examples adapted from Choi, 2015, 2016; Common Sense Education, n.d.; Kim & Choi, 2018; Ribble, 2015)

Student Focus Group Protocol

The student focus group will answer the questions below that all relate to the second research question about the essential components of digital citizenship.

Introduction	
[*Before beginning the recording, I will explain to the student focus group that I am recording our conversation and need to get their consent to do so. If the respondents assent to the audio recording, begin taping now*.] Thank you for participating in this group discussion. Before we begin, I want to explain why we are here. I am working with teachers to make a digital citizenship plan for our school. It is important for students to learn skills to help them be good digital citizens to help you use the Internet effectively (Hobbs & Jensen, 2009). Your ideas will give teachers who participate in my research information to help make a digital citizenship plan. I have planned this discussion to last no longer than 30 minutes. I will record our conversation. You should know that (1) your name will be kept anonymous, (2) your participation is voluntary, and you can stop at any time, (3) I will share a short summary at the end to make sure I understand your ideas. The recording will be stored in a safe spot at BOCES. Is it all right to audio- record our discussion? [Wait for respondents to say yes or no before continuing.] During this time, I have several questions for you. If time begins to run short, it may be necessary to interrupt you to keep the discussion going and complete the questions. Before we begin, do you have any questions for me? [*Clarify as needed*.] Great! Let's get started.	
Transition to Interview Questions	
Now I am going to ask questions related to the study – digital citizenship. You can use the table sheet to refresh your memory about the elements of digital citizenship and what they involve. Are you ready? [*Give time for a response*.] OK, let's keep going.	
Interview Questions	
Questions: • What is digital citizenship (Jones & Mitchell, 2016)? What makes a good digital citizen? What do good digital citizens do? • If you were a teacher deciding how to teach digital citizenship to students, what are some things you might do to help your students understand what is important about sharing information electronically (Gazi, 2016)? • Use the sheet to rate the elements according to how important you think they are. [The students will spend	**Notes**:

time rating the elements on the sheet to share their perceptions.]	

Conclusion

I am going to summarize what you said during the interview to make sure I understand your responses. Basically, you said…

[*I will give a brief summary of the highlights of what was discussed to demonstrate what I heard while avoiding personal comments, observations, and drawing conclusions based on the responses, so the respondent can clarify misperceptions*.]

Thank you for participating in this interview. [*Turn off the recording device and check to make sure the recording is there*.]

Student Focus Group: Digital Citizenship Element Rankings Handout

Rate each digital citizenship activity below from 3 (important), 2 (somewhat important), or 1 (not important). [RQ 2]

Activities, behaviors, concerns related to digital citizenship elements	**3**	**2**	**1**
Etiquette: Using manners when interacting with others online; respectful behavior online			
Rights & Responsibilities: Using apps to communicate responsibly with others (examples: classmates, teachers, experts)			
Access: Access to technology to complete projects; knowing when to access technology responsibly			
Health: Self-monitoring healthy use of technology			
Law: Obeying copyright / avoiding plagiarism in assignments			
Communication: Using email, texts, Twitter, and other apps to communicate with others			
Security: Not sharing private information (full name, phone number, address) with strangers; learning what to share and not share to maintain security online			
Literacy: Locating and using Internet sources that are accurate and high-quality			
Commerce: Learning about economic decisions people make online			

Elements and examples adapted from Choi, 2015, 2016; Common Sense Education, n.d.; Kim & Choi, 2018; Ribble, 2015)

APPENDIX F

STAFF INFORMED CONSENT FORMS AND EMAIL MESSAGES FOR

INSTRUMENTS

Survey Invitation

Hello, _____,

I'm excited to begin the data collection process for my dissertation and need your help! I have chosen you to take the survey because I believe your thoughts will make a major contribution to the planning that will be involved in the process of developing a digital citizenship plan to teach those skills in classrooms.

It is important to me to have input from staff and student voices represented in developing the digital citizenship plan to provide resources, professional learning, and support that matches your needs. Your contribution will help to identify barriers to digital citizenship instruction and ways to overcome them, elements that you think are most important for students to learn, and you will share your thoughts about participating in the planning process.

If you consent to participate, please sign the consent form attached and return it via interoffice mail (the Pony) by the end of the week.

When I receive your signed consent form, I will send you an email with a code and the link to the survey. Please be sure to enter the code at the top of the survey to keep your responses confidential and to help me keep track of who responds, in case I need to follow up and clarify your responses. You will receive a copy of your answers to check them and make any changes you want before the design team uses them to design the digital citizenship plan.

The survey should take about 20 minutes. Once you have completed it, I will enter you into a raffle for a gift card as a thank you and I will bring a gift basket for you to select a prize, so you are sure to get something fun for participating!
Gift cards will range from $15 to $50 for restaurants, iTunes, and Barnes and Noble.

Design Team Invitation

Hello, _____,

I'm excited to begin the data collection process for my dissertation and need your help! I have chosen you to take part in the design team that helps design a digital citizenship plan because I believe your expertise will make a major contribution to developing the plan to teach those skills in classrooms.

It is important to me to have input from staff and student voices represented in developing the digital citizenship plan to provide resources, professional learning, and support that matches your needs. Your contribution will help to identify barriers to digital citizenship instruction and ways to overcome them, elements that you think are most important for students to learn, and you will share your thoughts about participating in the planning process.

If you consent to participate, please sign the consent form attached and return it via interoffice mail (the Pony) by the end of the week.

We will meet 6 times over the course of the next six weeks for an hour after school to review data from interviews, surveys, a student focus group, and our own discussions to collaboratively develop a digital citizenship plan.

You will be entered into a raffle for a gift card each week as a thank you and I will bring a gift basket for you to select a prize, so you are sure to get something fun for participating! Gift cards will range from $15 to $50 for restaurants, iTunes, and Barnes and Noble.

Thank you!

Interview Invitation

Hello, _____,

I'm excited to begin the data collection process for my dissertation and need your help! I have chosen you to take part in an interview that will help the design team develop a digital citizenship plan because I believe your unique perspective will make a major contribution to the plan.

It is important to me to have input from staff and student voices represented in developing the digital citizenship plan to provide resources, professional learning, and

support that matches your needs. Your contribution will help to identify barriers to digital citizenship instruction and ways to overcome them, elements that you think are most important for students to learn, and you will share your thoughts about participating in the planning process.

If you consent to participate, please sign the consent form attached and return it via interoffice mail (the Pony) by the end of the week.

The interview will last approximately 40 minutes and will be audio-recorded and then transcribed into Microsoft Word. You will have a chance to review the transcription before it is used by the design team to support the planning process.

You will be entered into a raffle for a gift card and I will bring a gift basket for you to select a prize, so you are sure to receive something for participating! Gift cards will range from $15 to $50 for restaurants, iTunes, and Barnes and Noble.

Thank you!

Consent Form for Adults

University of South Carolina
Consent to Participate in Research
Digging into Digital Citizenship: Co-creating an Implementation Plan with Fifth- and Sixth-Grade Intermediate School Teachers

Key Information About This Research Study:
You are invited to volunteer for research conducted by Cheryl Tice. I am a doctoral student in the Department of Curriculum and Instruction, at the University of South Carolina and an Instructional Support Coach at the [Upstate New York] School District. The University of South Carolina, Department of Curriculum and Instruction is sponsoring this research. The purpose of this study is to co-create an implementation plan for an approach to digital citizenship skills with fifth- and sixth-grade teachers. You are being asked to participate in this study because you are a staff member in the school with an understanding of the instructional context. This study is being done at Upstate Intermediate School and will involve approximately 40 volunteers.

The following is a short summary of this study to help you decide whether to be a part of this study. More detailed information is listed later in this form.

The purpose of this research is to create an implementation plan for teaching digital citizenship skills to fifth- and sixth-grade students.

- Instructional staff who participate in surveys, interviews, or the design team that will meet six times during the study to review the information collected from documents, interviews, surveys, and the focus group.
- Though you will have the opportunity to review them beforehand, your contributions will be shared with others (without your name attached) for us to use as we develop a digital citizenship plan to potentially implement in your school.
- The benefits of participation involve having a voice in the process of developing a plan for digital citizenship skills instruction to use in your own classroom. The participants in the study will be entered into raffles for prizes and other incentives that will be awarded throughout for your help in the study.

Procedures:
If you agree to participate in this study, you will participate in one of the following:
☐ Complete Survey – Short-form in a Google Form (Approximately 10 minutes or less to complete)
☐ Complete Survey – Long-Form in a Google Form (Approximately 20-30 minutes to complete)
☐ Interview (Approximately 45 minutes, audio recorded for accurate transcription)
☐ Design Team (Meet over 6 weeks for up to 8 hours, Exit Discussion recorded for accurate transcription)

Duration:
Participation in the study involves differing levels of participation depending on the data collection for which you are chosen. Those randomly chosen to take the survey – short-form will spend up to 15 to 30 minutes completing it. Design team members chosen based on their interest in the topic will participate in up to 6 meetings over the eight-week study and each meeting will last up to one hour.

Risks/Discomforts:
If you participate in interviews:
Based on the information in your responses, you might say something indicating your role in the school. You will be given an opportunity to check the wording after your responses are transcribed to strike out any information you are uncomfortable having shared before it is used in the rest of the study procedures.

Benefits:
You may benefit from participating in this study by because your contributions will be part of the decision-making process when designing the plan for implementing digital citizenship in the school. There will also be raffles and incentives to encourage participation.

Costs:
There will be no costs to you for participating in this study.

Payment to Participants:
You will not be paid for participating in this study. You will be entered into raffles and will receive incentives for participating in the form of gift cards and teaching-related items, such as dry-erase markers, notepads, books, and other novelty items.

Return of Relevant Research Results:
At the end of the study, there will be a presentation of the plan to the instructional staff of the intermediate school.

Participation:
Participation in this study is voluntary. **You are free not to participate, or to stop participating at any time, for any reason without negative consequences**. Your participation, non-participation, and/or withdrawal will not affect your relationship with the researcher (Cheryl Tice), or the intermediate school.

Confidentiality of Records:
Staff members who participate will have their contributions transcribed from audio recordings, Google Forms, and handwritten notes into Microsoft Word and Microsoft Excel and uploaded to a local database that is housed at BOCES. Names of those participating will not reside in the database. Participants will be assigned a code to help the researcher know where data originated. The codes will be kept in a separate spreadsheet outside the database and will not be connected in any way. All information will be kept confidential for adult participants in that secure location that will be password protected.

Results of this research study may be published or presented at meetings or seminars; however, the report(s) or presentation(s) will not include your name or other identifying information about you.

Voluntary Participation:
Participation in this research study is voluntary. **You are free not to participate**, or **to stop participating at any time**, **for any reason without negative consequences**. In the event that you do withdraw from this study, the information you have already provided will be kept in a confidential manner. If you wish to withdraw from the study, please call or email the principal investigator listed on this form.

I have been given a chance to ask questions about this research study. These questions have been answered to my satisfaction. If I have any more questions about my participation in this study, I am to contact Cheryl Tice at [contact information].

Questions about your rights as a research subject are to be directed to, Lisa Johnson, Assistant Director, Office of Research Compliance, University of South Carolina, 1600 Hampton Street, Suite 414D, Columbia, SC 29208, phone: (803) 777-6670 or email: LisaJ@mailbox.sc.edu.

I agree to participate in this study. I have been given a copy of this form for my own records.
If you wish to participate, you should sign below.

Signature of Subject / Participant	Date
Signature of Qualified Person Obtaining Consent	Date

APPENDIX G

STUDENT FOCUS GROUP DOCUMENTATION

Student Participant Message Home

Dear Parents,

I am Cheryl Tice, an Instructional Support Coach for the [Upstate New York] School District. I have been working in the district for over 10 years and am currently enrolled in the online Curriculum and Instruction doctoral program at the University of South Carolina.

I will be working with instructional staff to develop a plan for teaching digital citizenship as the topic of my dissertation. I would like to add student responses to the process to consider their ideas about digital citizenship.

I plan to meet with 6 to 10 students as a focus group to learn their thoughts about digital citizenship. The questions are on the last page of this consent form. Our discussion would last no more than 30 minutes and would take place at the beginning of the school day at 8:00 a.m. in the library. Students will receive a brain teaser toy and a pencil for participating.

Please read the permission form below and the discussion questions I plan to ask your child. Discuss this information with your child. If you consent, please sign, date, and return the form with your child to school. Their teachers will collect the forms and give them to me.

I sincerely appreciate your consideration! Having students participate in the process will help develop a digital citizenship plan that considers all voices and supports teaching these important skills!

Thank you,
Cheryl Tice
Instructional Support Coach
[Contact information]

Parent Consent Form

University of South Carolina
Consent to Participate in Research
Digging into Digital Citizenship: Co-creating an Implementation Plan with Fifth- and Sixth-Grade Intermediate School Teachers

Key Information About This Research:
Your child is invited to volunteer for a research project conducted by Cheryl Tice. I am a doctoral student in the Department of Curriculum and Instruction, at the University of South Carolina and an Instructional Support Coach at the [Upstate New York] School District. The University of South Carolina, Department of Curriculum and Instruction is sponsoring this research.

The purpose is to develop a plan for teaching digital citizenship skills at the fifth- and sixth-grade levels. Your child is being asked to participate because they have discussed basic digital citizenship skills in their class and their input will provide a valuable point of view that will help us make a plan for teaching digital citizenship with student input. This study is being done at Upstate Intermediate School and will involve approximately 30 adult volunteers and 6 - 10 student volunteers.

The following is a short summary of this study to help you decide whether you will allow your child to take part. More detailed information is listed later in this form.

The purpose of this research is to create a plan for teaching digital citizenship skills to fifth- and sixth-grade students.

- Students will participate in a group discussion and will answer the questions attached to this form.

- Students will remain anonymous, and their answers will be recorded without attaching their names to their answers.

- Students will receive a gift bag with a brainteaser game, pencil, emoji eraser, and chocolate for participating.

- **Procedures**:
  If you agree to allow your child to participate in this study, your child will participate in a 30-minute group discussion on digital citizenship. The questions that I will ask are found on the last page of this document.

  Duration:
  Participation in the group discussion will be approximately 30 minutes long.

  Risks/Discomforts:
  Others in the group will hear what your child says, similar to a class discussion. Names

will not be linked to student answers. The discussion will focus on their general thoughts about digital citizenship and will not ask about private information.

Benefits:
Your child will receive a gift bag with a brainteaser game, pencil, emoji eraser, and chocolate for participating.

Costs:
There will be no costs for participating in this study.

Payment to Participants:
The gift bag with a brain teaser game, pencil, emoji eraser and candy will be payment for their time.

Return of Relevant Results:
At the end of the study, there will be a presentation of the plan to the instructional staff of the intermediate school and student input will help make the plan.

Confidentiality of Records:
Students remain anonymous, and their names will not be linked to their responses.

Results of this research study may be published or presented at meetings or seminars; however, the report(s) or presentation(s) will not include your child's name or other identifying information about you.

Voluntary Participation:
Participation in this research study is voluntary. **Your child is free not to participate**, or **to stop participating at any time**, **for any reason without consequences**. In the event that your child withdraws from this study, the information he or she has already provided will be kept in a secure location and not used. If your child wishes to withdraw from the study or if you have questions about this, please email [my email address].

I have been given a chance to ask questions about this research study. These questions have been answered to my satisfaction. If I have any more questions about my participation in this study, I am to contact Cheryl Tice at 607-XXX-XXXX x XXXX or email ctice @ districtemail.com.

Questions about your rights as a research subject are to be directed to, Lisa Johnson, Assistant Director, Office of Research Compliance, University of South Carolina, 1600 Hampton Street, Suite 414D, Columbia, SC 29208, phone: (803) 777-6670 or email: LisaJ@mailbox.sc.edu.

I agree to participate in this study. I have been given a copy of this form for my own records.

If you wish to participate, you should sign below.

Signature of Participant _____ Date _____

Parent Signature _____ Date _____

Student Discussion Questions

Rate each digital citizenship activity below from 3 (important), 2 (somewhat important), or 1 (not important).

Examples of digital citizenship elements and skills	3	2	1
Etiquette: Using manners when interacting with others online			
Rights & Responsibilities: Using apps to communicate responsibly with others (examples: classmates, teachers, experts)			
Access: Access to technology to complete projects; knowing when to access technology responsibly			
Health: Self-monitoring healthy use of technology			
Law: Obeying copyright / avoiding plagiarism in assignments			
Communication: Using email, texts, Twitter, and other apps to communicate with others			
Security: Not sharing private information (full name, phone number, address) with strangers; learning what to share and not share to maintain security online			
Literacy: Locating and using high-quality Internet sources			
Commerce: Learning about economic decisions people make online; asking permission before making online purchases			

Elements and examples adapted from Choi, 2015, 2016; Common Sense Education, n.d.; Kim & Choi, 2018; Ribble, 2015)

- What is digital citizenship?
- What makes a good digital citizen? What do good digital citizens do?
- Do you think it is important to learn about digital citizenship? Why?
- If you were a teacher deciding how to teach digital citizenship to students, what are some things you might do to help your students understand digital citizenship skills?

Student Assent Form

University of South Carolina
Assent to be a Research Subject
Digging into Digital Citizenship: Co-creating an Implementation Plan with Fifth- and Sixth-Grade Intermediate School Teachers

If participants include those under 18 years of age: 1) The subject's parent or legal guardian will be present when the informed consent form is provided. 2) The subject will be able to participate only if the parent or legal guardian provides permission and the adolescent (age 13-17) provides his/her assent. 3) In statements below, the word "you" refers to your child or adolescent who is being asked to participate in the study.

I am a researcher from the University of South Carolina. I am working on a study about digital citizenship and I would like your help. I am interested in learning more about digital citizenship. Your parent/guardian has already said it is okay for you to be in the study, but it is up to you if you want to be in the study.

If you want to be in the study, you will be asked to do the following:

- Answer some written questions about digital citizenship with a small group of students on (date) from 8:00 am until 8:30am in the library at your school.

Any information you share with me will be private. No one except me will know what your answers to the questions were. I will record audio at the meeting so I can type a document of what we talked about in our group.

You do not have to help with this study. Being in the study is not related to your class work and will not help or hurt your grades. You can also drop out of the study at any time, for any reason, and you will not be in any trouble and no one will be mad at you. Please ask any questions you would like to about the study.

My participation has been explained to me, and all my questions have been answered. I am willing to participate.

Print Name of Minor	Age of Minor
Signature of Minor	Date