ABSTRACT

Exploring the Relationship Between Social-Emotional Competencies and Student Outcomes in Online Learning Environments

Sarah K. Teeple
Gwynedd Mercy University, 2021

The present mixed-methods study sought to clarify the complex relationships that may influence student achievement in non-traditional learning environments. In the United States, the number of students who are participating in some form of virtual or remote learning is increasing for a variety of reasons. However, the body of research regarding student outcomes in online learning environments is limited and contains some contradictory findings. The researcher therefore sought to identify the relationships between student proficiency in social-emotional competencies using the Habits of Mind theoretical framework, social presence as defined by the Community of Inquiry framework, and student outcomes on a writing performance task. The results indicate that there is a positive correlation between student social-emotional proficiency and student grades on a summative performance task, although no significant correlation was found between social presence and student performance, despite a moderate effect size. In addition, survey data and narrative responses from individual interviews with teachers and students were used to further extend the discussion on thematic aspects of teaching and learning that were perceived to influence successful student outcomes and a robust sense of social interaction and community.

Keywords: online learning, social-emotional skills, Habits of Mind, social presence

Sarah K. Teeple - Gwynedd Mercy University, 2021
EXPLORING THE RELATIONSHIP BETWEEN SOCIAL-EMOTIONAL COMPETENCIES AND STUDENT OUTCOMES IN FULLY ONLINE LEARNING ENVIRONMENTS

by

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Exploring the Relationship Between Social-Emotional Competencies and Student Outcomes in Online Learning Environments

We, the Dissertation Committee, certify that we have read this dissertation and that, in our judgment, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Education in Educational Leadership.

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DEDICATION

I dedicate this dissertation to my husband, Jason, and to my family for their support in this journey. Even when I doubted myself, they were there to lift me up with encouragement and words of wisdom. I will be forever grateful to them for their blessings in taking this opportunity to further my education and career.
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Chapter One

Overview

As online learning environments, whether in part or in full, become more mainstream in primary and secondary schools, leaders in education must consider the unique challenges inherent in the process of meeting the diverse needs of students through a digital platform. Much of the current discourse on digital learning has focused singularly on equity in access to hardware, software, and broadband services, and rightfully so. Indeed, this is a critical component of online instruction that must be addressed through educational policy. However, equity in online instruction cannot be focused only on one-to-one device and broadband access (Bendici, 2020). As the desire and need for alternative educational infrastructure increases, policies designed to ensure equitable access must evolve to include intentional program design in service of equitable cognitive access and the ability to attain a high-quality education through modes of instruction that may differ from traditional face-to-face models.

Globally, the greatest number of digital learning opportunities appear to exist for students living in North America, Asia, Australia, New Zealand, and Western Europe (Barbour et al., 2015), with China and the United States at the forefront (Business Wire, 2019). Many of these options follow a blended learning model, in which some of the instruction is delivered face-to-face and some is delivered online (Barbour et al., 2015). In the United States, there is inconsistency in the centralized support of online learning through state departments of education, thus further perpetuating inequities in access to online learning opportunities domestically (Vadell, 2013).

The importance of having viable alternatives for instructional delivery becomes more apparent during times of crisis. Conducting face-to-face instruction can become impossible during periods of natural disasters. Hurricane Katrina in 2005 resulted in the physical destruction or damage of so many schools in New Orleans, Louisiana that thousands of students were displaced during the disaster (Valent, 2017). In the wake of the crisis, public
schools faced challenges in rebuilding and reorganizing in order to resume delivery of instruction. Similar displacements and institutional challenges occurred in 2017, when Hurricane Harvey made landfall in Texas (Perry, 2020). Less than three years later, the global pandemic of COVID-19 is creating mass disruptions in the delivery of both public and private education.

With little notice, schools can attempt to circumvent the disruption in education by employing alternative methods of instruction in students’ homes, including through paper and pencil work (akin to correspondence courses), public broadcasts, and delivery of instruction using various online learning management systems. There are significant obstacles that became apparent through these endeavors, including how to meet federal mandates for equity in instruction and battling the digital divide in low-socioeconomic rural and urban areas. Sadly, students of color and students from low-income families may suffer disproportionately during times of school closures (Perry, 2020).

The need to find ways to provide alternative means of instruction has become part of the national conversation on education, so much so that new policies are being implemented that mandate the professional development of teachers in providing online education even once the pandemic has ceased. Pennsylvania’s Governor revealed in his recovery plan post-COVID-19 (Kensinger, 2020) that all educators will be required to receive professional development in the delivery of virtual learning, and that experience in online teaching may count towards student teaching requirements moving forward. These shifting expectations regarding what teacher training must entail in months following a global pandemic provide further impetus for research into what makes online education a viable alternative.

Educational policy is largely a reflection of the perception of schools as institutions. When we consider the mission of public education, much of this vision is inherent in federal mandates to provide a free and appropriate public education to all individuals, regardless of demographics or ability. However, for decades, educators have also underscored an
additional component to public education that is sometimes taken for granted as a pleasant by-product of the community and social structure of traditional face-to-face classrooms, and that is the notion that students learn as much socially as they do academically. This concept is not new; John Dewey in 1897 stated his belief that “the social life of the child is the basis of concentration, or correlation, in all his training or growth. The social life gives the unconscious unity and the background of all of his attainments” (Dewey, 1897, p. 79).

Educators seem to understand that this social aspect to public education is a critical and important component of the implicit curriculum of a school, as evidenced in large part by recent additions of social and emotional instruction in primary and secondary schools. Therefore, when making the necessary and inevitable shift to online learning environments, it must be in service of both academic and social/emotional goals for student achievement. However, variability in student motivations, dispositions, and abilities can create obstacles to equal access of distance learning models (Journell, 2013). Success in online courses is correlated with higher student levels of intrinsic motivation because the very nature of online or distance learning means students must be, to some extent at least, self-directed learners. Students must also possess the cognitive abilities to access learning tasks presented in alternative formats, so learning opportunities and curriculum must be designed in such a way that students have the ability to access and understand the material regardless of ability or predominant learning styles. This intersection of equity based on ability and motivation leads to two important areas of further study: Universal Design for Learning in online learning environments (OLEs), and social presence, or the perception of social inclusion and connectedness that John Dewey emphasized as a key component and predictor of academic success more than a century ago.

Universal Design in Learning

Universal Design for Learning (UDL) has its origins in the architectural model of universal design for physical spaces and environments (Rose & Strangman, 2007). The concept of Universal Design (UD) in education has challenged educators to design systems
of learning such that they can be accessible to diverse learners. UDL is based upon the presumption that students have diverse needs that can be proactively accommodated by shifting the perspective on what learning should look like. In other words, instead of merely adjusting the academic parameters or environment on a case-by-case basis, UDL is predicated upon a proactive and intentional model of education design by which one theorizes that the accommodations and structures that are good for one can indeed be good for all.

Federal mandates for equal access to education have been around for decades, and as inclusion within the Least Restrictive Environment (LRE) has become more widespread, UDL is becoming more commonplace and important even in traditional classrooms. There are several principles upon which UDL is based, according to Rose and Strangman (2007): varied and flexible opportunities for student engagement, recognition/internalization of course material, and expression of understanding. As UDL is gaining traction with the traditional classroom, it is important to evaluate what UDL might look like as the infrastructure and delivery of education evolves over time. Additional standards attempt to explicitly outline what competencies and skills an online educator must possess, and such standards should also be considered as part of a virtual-learning specific UDL framework. For example, the National Education Association (NEA), The International Association for K-12 Online Learning (iNACOL), the International Society for Technology Education (ISTE), and the Online Learning Consortium (OLC) have all released competency frameworks or guides for online education.

Social Presence

One way to address the fundamental social needs in public education as well as help support student motivation and achievement is to focus on building an online community of learners (Journell, 2013). In his book about online strategies for K-12 teachers, Journell (2013) explains that three principles have emerged as foundational to OLEs. Firstly, students and teachers must internalize the belief that interaction is an important component
of learning. Secondly, there should be ample opportunities for interaction, both in real-time (synchronously) and asynchronously. Lastly, there must be intentional efforts and interventions to decrease perceptions of isolation and concurrently increase perceptions of social presence.

Social presence as a construct is of utmost importance because it can be a contributing factor to a student’s academic success (Journell, 2013). Additionally, perceptions of social presence can be predictors of attrition and academic achievement. In her research on the role of the instructor in online courses, Crim (2006) notes that regular communications and teacher feedback similarly support the development of an engaged community of learners. In order to help support an online community of learners, there are several strategies and course design elements that have been espoused in the literature (Butler & Evans, 2014; Fiock, 2020; Journell, 2013; Thompson et al., 2017). These elements span in duration from beginning of course to end of course, and encompass both synchronous and asynchronous means of interaction.

In addition to strategies that support the development of an online social presence, educators should consider the vision and mission of the classroom community and the methods of instruction in support of that goal. Even in online instruction, the classroom needs to be student-centered (Bendici, 2020). Students’ needs to feel empowered and connected dictate that delivery of instruction cannot simply be an active process on the part of the teacher and a passive process on the part of the student. It is hypothesized that there is value in the social constructivist learning theory (Crim, 2006; Fiock, 2020), and the 4C’s of instruction: collaboration, communication, creativity, and critical thinking (Bendici, 2020). By designing curriculum from a UDL approach and utilizing varied instructional methods (including project-based learning and cooperative learning), in theory the online classroom environment should be able to replicate the social and cognitive processes that many agree have innate value in face-to-face learning.
Problem Statement

By making the shift to online learning, schools and districts have the opportunity to maximize resources and circumnavigate some of the obstacles in staffing and physical space (Edwards, 2015). There are additional benefits for students when virtual modes of instruction accommodate diverse learning styles and allow for flexibility in the delivery of content. However, planning for this shift in infrastructure is rife with obstacles, and the expense of ensuring digital access to all users alone can take years to see to fruition within the tight confines of school budgets. When the logistics of physical access have been adequately planned for, however, there remains a slew of additional concerns about how to make sure that online learning is being delivered in the best interests of students through evidence-based practices. Indeed, when online learning environments are necessitated instead of merely desired and teachers are mandated to receive training on providing online instruction, it becomes even more important for cyber learning to be designed with the goal of supporting and benefiting all learners.

Across the globe, rates of online learning are increasing. Countries around the world are navigating new territory by integrating virtual instructional models alongside traditional ones. In an international survey of 50 countries that was conducted on the policies and practice of virtual education in K-12 schools, Barbour et. al (2011, p. 17) identified that ambiguities regarding teacher training remain a global issue in the realm of virtual learning; more specifically:

This lack of training is not only in the use of new technologies, but also in the methodology and pedagogy necessary to fully understand how and why technology can positively impact student performance when in the hands of a competent, highly qualified teacher.

When it comes to online learning, the need and potential benefits are undeniable; the question, rather, becomes how this kind of instruction can be done well and in service of education’s most important stakeholders: the students themselves. How can we make the
experience of online learning an engaging and enriching one for students, and one in which all students are able to receive a free and appropriate public education?

Purpose of Study

The current body of research on online learning has largely been conducted in secondary or post-secondary schools. There is a lack of formal research on virtual learning in kindergarten through fifth grades. Previous research is still limited and has revealed some contradictory conclusions regarding the efficacy of instruction in online domains. For example, some prior studies (Coombe, 2017) have pointed to lower levels of achievement in online courses when compared to traditional ones, while others have found either no significant difference in achievement when comparing online vs. face-to-face instruction or higher achievement for students enrolled in online courses (Brodersen & Melluso, 2017; Cho & Tobias, 2016; Richardson et al., 2014). In their analysis of survey data from institutions of higher education, Allen et al. (2016) reveal that the majority of academic leaders surveyed in a single year (71.4%) perceived online courses to be equally effective or superior to traditional face-to-face courses, whereas only 28.6% of survey respondents believed that online instruction was inferior when compared to face-to-face instruction.

Student perceptions of the quality of online learning can vary widely, and may increase or decrease depending on instructor-specific behaviors, such as the quantity and quality of interactions and feedback throughout the course (Crim, 2006). Student satisfaction, then, may be positively correlated with academic achievement in OLEs. However, other studies have found no significant relationship between student interactions via online discussions, student satisfaction, and student achievement (Cho & Tobias, 2016).

Social competencies as a component of social and emotional (SEL) skills are a related construct that may be important in further operationalizing the way that we describe social presence. SEL skills have become part of the curriculum of many K-12 schools due to the increasing perception that such skills have an impact on, and beyond, the academic realm of a student’s formal schooling (Jones et al., 2017). While the relationship between
social presence and academic achievement has been unclear, other studies on social competencies and SEL have shown positive correlations with student achievement (Yu, 2014).

This study seeks to clarify the relationship that may exist between SEL competencies, social presence, and student learning outcomes in K-12 online environments. A more robust body of research on virtual learning will allow educational leaders to make more generalizable conclusions regarding the efficacy of curricular decision-making in OLEs. Studies in elementary grades specifically are needed in order to begin to make recommendations for effective pedagogy and professional development according to educational level. In sum, research on virtual learning will help inform policy and practice in the coming years.

**Research Guiding Questions**

The research questions are threefold, and represent mixed methodologies in service of drawing conclusions that may inform online K-12 course design in the future.

1. To what extent do social and emotional competencies predict online social presence and student performance in fully remote instruction?
2. How do social and emotional competencies manifest in fully online learning environments?
3. How are adaptive student behaviors and attitudes reinforced and modeled through remote instruction?

**Possible Limitations and Delimitations**

While the intent of this study is to help guide online program development for K-12 learners, there are several limitations that must be considered. The methodology employed herein lacks the ability to establish causal relationships between the studied variables. Study participants are not randomly assigned; rather, this study relies on intact groups that are administratively defined and are not within the control of the researcher. Further, there are many variables that may impact student outcomes such as final course grades and student
perceptions of learning, and an experimental design to manipulate and control certain variables with the desire to establish causal effects on student outcomes is not within the realm of possibility, particularly within an elementary environment.

Another limitation is the inability to generalize results beyond the scope of the specific population in which this study takes place. Due to the lack of prevalence of established online courses in elementary public schools, there are fewer opportunities to specifically study online learning environments within the targeted age groups. In order to be able to access participants in an elementary online learning course, the study is limited to certain grade levels and content-area units, which in turn limits the generalizability and scope of any conclusions that may emerge.

Key Terms

1. **Affective learning** - The extent to which students feel that learning has happened can be a function of different realms or categories of student experiences. Affective learning is a category within the larger construct of perceived learning, and refers to a student’s perceptions about the teacher, the topic, and the course itself. (Rockinson-Szapkiw et. al., 2016).

2. **Asynchronous instruction** - This type of instructional delivery within an online learning environment is one in which a student participates in the recognition and expression of course material independent of the time of delivery by the instructor (Journell, 2013).

3. **Blended/hybrid learning** - Blended or hybrid learning represents a framework for delivery of course material by some combination of online or web-based applications and face-to-face instruction (Journell, 2013).

4. **Cognitive presence** - Cognitive presence is one aspect of the Community of Inquiry framework, and refers to student perceptions of having achieved learning outcomes through metacognitive reflection of content knowledge and skills in a given subject area (Fiock, 2020).
5. **Community of Inquiry (COI)** - COI is a theoretical framework with an emphasis on enhancing perceptions of positive learning experiences through social, cognitive, and teaching presences (Fiock, 2020).

6. **Habits of Mind** - A set of 16 predispositions to identify, evaluate, and select efficacious behaviors and attitudes for solving challenging tasks (Costa & Kallack, 2000).

7. **Online learning environment (OLE)** - This is an environment in which students receive full or partial instruction via web-based applications (Journell, 2013).

8. **Perceived learning** - Perceived learning describes a student’s perception that academic outcomes have been achieved as a result of instruction (Rockinson-Szapkiw et. al., 2016).

9. **Social community** - Social community is a cumulative descriptor of students’ feelings or perceptions of interdependence, cohesiveness, interaction, safety, sense of belonging, and trust within the context of an educational setting (Rockinson-Szapkiw et. al., 2016).

10. **Social and emotional skills** - A range of social, interpersonal, emotional, and cognitive processes (Jones et al., 2017).

11. **Social presence** - Social presence is another construct within the COI framework, and refers to student perceptions of feeling a sense of belonging in a learning community, as indicated by group cohesion, open communication, and affective expression (Fiock, 2020).

12. **Synchronous instruction** - Synchronous instruction within an online learning environment occurs when the instruction is delivered by an instructor and received by the student in real-time, or when students and instructors are interacting and participating in course-related objectives at the same time, albeit in different locations. (Journell, 2013).
13. **Teacher interaction** - This refers to any interaction between teachers and students that are course-specific (feedback or procedural, for the purposes of administering instruction) or social (related to the fostering of a social community or social presence); such interactions are not exclusive to online learning environments, but can act as a variable used to predict student outcomes in online learning (Hawkins et. al., 2013).

14. **Teaching presence** - Teaching presence is yet another aspect of the COI framework, and is the combined effect of instructional design, the instructional delivery itself, and the facilitation of discourse or interaction on the social and cognitive aspects of learning (Fiock, 2020).

15. **Universal Design for Learning (UDL)** - Universal Design for Learning is a model of curricular design with a focus on developing systems of learning that are accessible to diverse learners in respect to cognitive, physical, social/emotional, and linguistic abilities. UDL is based on having multiple means of presentation of course material, multiple opportunities for student engagement, and varied means of student expression of understanding. (Rose & Strangman, 2007).
Chapter Two

Introduction

Online learning represents a quickly growing field within education, both internationally (Barbour et al., 2011) and domestically, with the U.S. Department of Education (2010) having estimated a 65% increase in enrollment for technology-based virtual learning by K-12 United States public school students between the years of 2002 and 2005 alone. Online K-12 programs have been around for as long as 20 years, and Gemin et al. (2017) describe the proliferation and trends in online learning over the past several decades.

The implementation of online programming in K-12 schools varies from state to state. Some states have state-led initiatives for online learning or state virtual schools, while others, like the state of Pennsylvania, do not have a state virtual school or centralized learning initiatives through the state department of education (Vadell, 2013). The inception of state virtual schools and stand-alone online schools in the late 1990s have paved the way for multiple models of virtual instructional delivery in a variety of charter, private, and traditional public schools (Gemin et al., 2017). Some students receive all of their instruction online, while others participate in online courses as a supplement to their traditional course delivery. There are three basic models for online instruction: full-time online schools, blended or hybrid schools, and traditional schools with supplemental (or web-facilitated) online offerings (Gemin et al., 2017; Picciano & Seaman, 2007). Some researchers operationalize the aforementioned models with greater specificity, by describing full-time online programs as those in which 80% or more of the instruction is provided online, blended/hybrid models as programs consisting of between 30% and 50% online instruction, and web-facilitated or supplemental programs as those in which the majority of instruction is provided face-to-face and less than 30% of instruction is provided online (Allen et al., 2016; Picciano & Seaman, 2007).
K-12 education is a multi-billion dollar industry in the United States alone (Gemin et al., 2017). An estimated $10.2 billion dollars is spent on hardware, $380 million on learning management systems and platforms, and $8 billion on textbooks, although the amount spent on physical books is declining as spending increases for digital content and tools. Millions of K-12 students are taking supplemental online courses, and hundreds of thousands are attending online schools full-time (Schroeder, 2019). It is unknown how many students are participating in hybrid models of instruction, but one could infer that this number is growing in conjunction with increasing enrollments of fully online and supplemental programs (Gemin et al., 2017). By 2025, it is estimated that the global online education market will balloon to over $350 billion (“$350 Billion Online Education Market”, 2019).

Online or virtual instruction as we know it today has its roots in early modes of computer-assisted instruction (CIA) that predated the world wide web and the revolution of internet-based technology (Gemin et al., 2017). The University of Illinois spearheaded the PLATO project in the 1960s involving computers as a means of instructional delivery. The

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<th>Instructional Models</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully online</td>
<td>80% - 100% of instruction is provided online</td>
</tr>
<tr>
<td>Blended/hybrid</td>
<td>Between 30% and 80% of instruction is provided online, with the remaining instruction delivered face-to-face</td>
</tr>
<tr>
<td>Web-facilitated or supplemental</td>
<td>1% - 29% of instruction is provided online, with the remaining majority of instruction delivered face-to-face</td>
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</table>
PLATO system is considered an important milestone in computer-mediated communication and instruction. The project was taken over by the Control Data Corporation in the 1970s, and continued to evolve for usage in higher education, as well as in military and corporate simulation and training. PLATO Learning and NovaNet were two programs that emerged from the larger PLATO project; PLATO Learning is now Edmentum, and NovaNet was used for a time by Pearson. Earlier iterations of online programs like the CIA systems that emerged from PLATO were largely focused on credit recovery, and indeed, this remains a key component and application of online learning today (Gemin et al., 2017).

Another precursor to common forms of online education as we know them today was the use of distance learning, which was primarily aimed at providing instruction to homebound students through the use of print resources, CD-ROMS, and tele-conferencing (Gemin et al., 2017). Distance learning was later used to provide college preparatory courses or Advanced Placement opportunities for students in areas where such opportunities would not otherwise exist, such as urban and rural schools. As the technology improved and the desire for alternative instructional models increased, distance learning via online models evolved. Even before the COVID-19 pandemic, it was estimated that nearly three million K-12 students were enrolled full-time in online learning, for a myriad of reasons (Schroeder, 2019). Motivations for fully online learning include seeking personalized learning at an individual pace or alternatives to traditional instruction in struggling school districts.

Regardless of the basic instructional model and the amount of instruction received online, a variety of digital resources and tools are utilized to provide instruction. These tools can include content websites, content-area specific software applications, and classroom management software or learning management systems (LMSs). In addition, third party suppliers (or vendors) may provide online or digital learning programs that are typically monitored and coordinated by the student’s school (Gemin et al., 2017). Vendors may coordinate directly with a school or district, or they may go through intermediate suppliers such as regional consortia or service agencies, or state virtual schools. An interesting trend
is that many school districts who use vendors or suppliers are not relying on one provider alone; rather, many districts are using multiple vendors to meet the needs for online instruction (Picciano & Seaman, 2007). In Pennsylvania, the roughly 500 school districts, 67 counties, and 29 intermediate units within the state have varied degrees of access to and implementation of online learning due to the state’s lack of centralized online programs or initiatives (Vadell, 2013). This also means that school districts have to grapple with the budgetary implications of their obligation to either pay for outsourced education at virtual charter schools or other external online programs compared to providing in-district virtual learning programs that are either partially or fully outsourced.

Clements et al. (2015) also summarize some key trends in online learning, although these findings are limited in geographical scope. In response to the Regional Educational Laboratory (REL) Midwest’s Virtual Education Research Alliance expressed need for more information about online schooling, Wisconsin's and Iowa’s state education agencies surveyed public high school administrators, educators, and paraprofessionals. The survey responses illustrated some interesting trends in the use of online education in public high schools in Iowa and Wisconsin.

Credit recovery and core courses represented a large percentage of student enrollment in online courses in both states (71% and 57% of high schools surveyed, respectively, in Iowa and 66% and 73%, respectively, in Wisconsin). Insufficient teacher training was largely cited as a challenge for the Iowa schools, and course quality was a concern in both Iowa and Wisconsin. An additional concern that emerged in Wisconsin’s survey data was adequate funding to support online programming. Concerns about funding, course quality, and teacher training were echoed in the survey results of district administrators from 44 states representing 2% of school districts nationally (Picciano & Seaman, 2007). Researchers recommend that further studies evaluate student outcomes in online courses in order to better inform policy not only at the district level, but at the state legislative level as well (Clements et al., 2015).
**Social Presence**

Learning as a social activity is not a new concept, but Rockinson-Szapkiw et al. (2016) postulate that the growth of distance learning platforms necessitate further study into the complex relationship between perceptions of learning communities and student achievement. One such way to study perceptions of learning communities is to evaluate the notion of social presence and social community. Tu (2002, p. 34) describes online social presence as a “complicated human perception” but underscores the value in understanding social presence in order to improve instruction in online learning environments. Terry and Doolittle (2019, p. 124), meanwhile, note that “social presence has been a topic of inquiry in a number of contexts and settings with a variety of implications.” These settings extend beyond the field of education, and include applications in broader virtual communities, including social media.

Social community is a cumulative descriptor of students’ feelings or perceptions of interdependence, cohesiveness, interaction, safety, sense of belonging, and trust within the context of an educational setting (Rockinson-Szapkiw et al., 2016), whereas social presence is a related but distinct construct that describes student perceptions of feeling a sense of belonging in a learning community, as indicated by group cohesion, open communication, and affective expression (Fiocik, 2020). Operationalizing social presence has been an ongoing process. Social presence theory has been hindered by a lack of specificity and consistency in the definition of social presence, as well as by a lack of valid instruments for assessing the complex variables that impact social presence (Terry & Doolittle, 2019; Tu, 2002). Some earlier tools for assessing social presence included the Social Presence and Privacy Questionnaire (SPPQ) and the Computer-Mediated Communication (CMC) attitude instrument (Terry & Doolittle, 2019; Tu, 2002).

**Community of Inquiry**

However, as the body of research grew and the complexity of social presence and other learning perceptions became more apparent, a new theoretical model expanded to
include unique but overlapping constructs. Community of Inquiry (COI) is a framework that attempts to define the interdependency of three core factors in creating a meaningful experience for learners: social presence, cognitive presence, and teaching presence (Zidiropoulou & Mavroidis, 2019). Cognitive presence refers to student perceptions of having achieved learning outcomes through metacognitive reflection of content knowledge and skills in a given subject area, while teaching presence represents the combined effect of instructional design, the instructional delivery itself, and the facilitation of discourse or interaction on the social and cognitive aspects of learning (Fiock, 2020).

Figure 2.1 Community of Inquiry Framework

The current body of literature on social presence within a social community in online learning has largely embraced the COI model, although some researchers are beginning to investigate the possibility of adding a fourth factor (learning presence) into the existing three-factor framework (Rockinson-Szapkiw et al., 2016). Others contend that COI as a model still fails to capture the essence of social presence:

- Given that its significance and utility as a psychological and pedagogical construct is being evaluated within a variety of different contexts (including Twitter, gaming, and
3D virtual world), and has begun to produce positive outcomes in educational settings, it seems that a logical next step is to conduct research that would produce a more consistent definition that can, in turn, inform appropriate instructional strategies. (Terry & Doolittle, 2019, p. 124)

Nevertheless, many current studies have employed COI in examinations of social presence, perceived learning, and learner satisfaction. Perceived learning describes a student's perception that academic outcomes have been achieved as a result of instruction. The extent to which students feel that learning has happened can be a function of different realms or categories of student experiences. Affective learning is a category within the larger construct of perceived learning, and refers to a student’s perceptions about the teacher, the topic, and the course itself (Rockinson-Szapkiw et al., 2016).

Stenborn’s (2018) systematic analysis and review of over 100 published papers utilizing the Community of Inquiry survey between the years of 2008 and 2017 provide support for the reliability and validity of the survey tool in examining learning experiences. Therefore, although the COI model may still be evolving, it remains a valid and reliable framework for examining the complex structures that define a student’s learning experience.

**Student Achievement in OLEs**

The existing literature on social presence in online instruction has largely been concentrated in postsecondary institutions. Further research in K-12 settings is needed to determine if conclusions about student achievement in online settings are generalizable to students in primary, intermediate, and secondary schools (U.S. Department of Education, 2010). Many studies support the finding that students in online settings do not underperform or outperform students in traditional settings, based on the instructional environment alone. Richardson et al. (2014) cite evidence over years of empirical research that show no significant difference between traditional classroom instruction and online learning. More recently, McDaniel and Fraser (2016) sought to examine instructional technology and the effectiveness of online learning. They studied a sample of Texas middle school students,
and used the The Technology-Rich Outcomes-Focused Learning Environment Inventory (TROFLEI) as a pre- and post-test. Their findings support the previous body of research indicating that there is not a significant difference in student outcomes based on an online or a face-to-face learning environment. Additional studies on perceived outcomes in online courses reveal generally positive perceptions of the efficacy of online learning (Allen et al., 2016). This provides more impetus for a focus on meaningful virtual instructional design in service of bolstering learning outcomes for students, as one can infer that outcomes are not a function of the learning environment in and of itself.

For example, Alqurashi’s (2019) research on online learning in higher education provides further support for the link between student satisfaction and self-efficacy, teacher/student interaction, and student/content interaction. Instructors can seek to improve online self-efficacy by facilitating perceptions of performance accomplishment to build a foundation for success early in the course, as well as by providing vicarious experiences of student success, wherein students have concrete examples and are able to observe the successes of their peers, such as through exemplar work samples. In addition, teacher feedback that is timely, genuine, and constructive can help to enhance online self-efficacy. Meanwhile, the interaction of students with content can be enhanced by providing a variety of materials and opportunities for engaging with the course material.

Overall, these findings indicate that there is merit in focusing on online instructional design because effective learning environments can transcend a physical setting with appropriate planning. Conversely, a lack of training and course design could have a similarly deleterious effect on student learning if schools make a transition to online learning without proper planning and teacher training. Indeed, teacher training has emerged as a challenge in several surveys about online and blended learning (Barbour et al., 2011; Clements et al., 2015; Picciano & Seaman, 2007). Bendici (2020) emphasizes that educators must use technology to personalize learning and create engaging lessons, further underscoring the importance of teacher training.
Researching Social Presence and COI

According to the COI framework, teacher training manifests in teaching presence. Teaching presence has been found to be linked with cognitive presence, which is one construct that can support perceptions of student learning. For example, Zidiropoulou and Mavroidis (2019) set out to examine the relationship between diverse student learning styles and the three aspects of COI by using multiple tools to survey the experiences of post-graduate students who participated in distance learning courses through a Greek university. They found strong, positive correlations between social and cognitive presence, and between cognitive and teaching presence, further supporting the interconnectedness of the COI aspects. In this particular study, teaching presence was more evident, however, than social and cognitive presence. With respect to learning styles, the researchers concluded that students who lacked experience with online or distance learning appeared to prefer predetermined procedures over variety in learning modules.

Cho and Tobias (2016) cite research that failed to find a significant relationship between student interactions via online discussions, student satisfaction, and student achievement. In their experimental research study, the effects of online course discussions on student achievement and social presence were examined in a population of sophomore students for a fully online undergraduate course at a Midwestern university. While no significant differences in achievement were found between the three different groups studied, there were significant differences in the open communication and group cohesion aspects of social presence. The results help to illuminate the critical role that instructor and student interaction may have on student experiences and perceptions of being part of a learning community.

These findings support the notion that strategic design of a course is important in improving student learning experiences. Thompson et al. (2017) explored how online learning platforms can constrain versus facilitate desired behaviors and interactions. Many online courses are delivered in sequential modules via learning management systems.
(LMSs). A typical feature of an LMS is a discussion board for the purpose of asynchronous student discussions, which can influence the cognitive presence aspect of COI. Social presence can be more difficult to facilitate online, although synchronous chat sessions regarding course content may increase social presence and cognitive presence concurrently. Thompson et al. (2017) suggest that, to decrease the cognitive overload of a synchronous chat, students be broken up into smaller chat groups. Another tool to foster social presence is video discussion posts, although it is important to note that the data on the efficacy of such tools is still very much anecdotal. The authors recommend careful consideration of any technology tool in order to find a balance between opportunities that the tool can provide to support learning experiences while also ensuring ease of use and accessibility for students. A systematic selection process for technology tools can help educators feel assured that their use results in an enrichment of online learning.

Similarly, Fiock (2020) explains that instructors must design an online course with the multiple presences of COI in mind. For example, limited class sizes, personal pictures and profiles, welcome messages, and interactive learning activities that allow opportunity for students to share personal connections and affective experiences are elements that can facilitate social presence. Additionally, Journell (2013) suggests that teachers can facilitate social presence by setting the expectation for social interaction as a key component of the class and by providing opportunities for non-curricular social interaction and student-moderated forums. Laying the foundation for an online class as a community may also begin with student and teacher introductions, perhaps through posting videos, pictures, and/or having a face-to-face meeting at the beginning of a course when possible (Journell, 2013). Teachers can support continued interactions by creating regular opportunities for one-to-one student/teacher dialogue, video conferencing, and the establishment of regular virtual office hours (Journell, 2013). These suggestions mirror those made by Butler and Evans (2014) in support of their argument that course orientation activities and a variety of opportunities for
A relationship that is less clear is the one between social presence and learning outcomes. Like Thompson et al. (2017), Lowenthal (2012) sought to examine the role of interactive discussions on student learning experiences. Lowenthal (2012) explored how social presence is evident in an online graduate class by analyzing the word counts and conducting a qualitative content analysis of course discussion board postings. The researcher also used the social presence dimension of the Community of Inquiry Questionnaire to assess student perceptions of group cohesion, communication, and affective expression. The findings appear to support the idea that social presence is a predictor of student satisfaction in online courses, but it is important to note that there is less research to demonstrate the relationship between social presence, student interaction, and student performance. This may, however, be in part a function of the weakness of self-reported survey data in accurately depicting online social presence, as the researcher takes care to point out.

Hawkins et al. (2013) used survey data to rate the quality, frequency, and type of student-teacher interaction in an online, asynchronous high school learning environment. The types of teacher interaction were classified as either procedural, feedback, or social. The researchers sought to examine the relationship between student-teacher interactions, course completion, and performance. It was hypothesized that there would be a positive correlation between the interactions and course completion, as well as between interactions and course performance. However, the study only revealed a significant positive relationship between interaction and completion; no significant relationship was found between interaction and performance, although the researchers note that this could have been due to limited variation in the final grades of respondents.

Slightly contradictory findings about the complex role of student engagement and achievement emerged in a more recent study, albeit with an older and demographically
different population of students. According to Im and Kang (2019), variability in achievement may also be described as a function of the extent to which students feel engaged and compelled to participate. The researchers surveyed 1,832 undergraduate students of an online university in Korea using a questionnaire specifically developed for their study. They found that participation was most strongly correlated with overall learner satisfaction, and that participation was largely impacted by perceptions of student self-efficacy. In addition, student participation did impact student achievement.

Still, the aforementioned research on social presence and student learning experiences are limited to older students and rely predominantly on self-reported survey data. Indeed, even the validity of the COI Survey has not been established with younger student populations. It is therefore difficult to extrapolate themes about social presence and perceived learning because the body of research on elementary and middle school students in OLEs is so limited. Broderson and Melluso (2017) analyzed 162 studies pertaining to online learning with the intent to identify common conclusions regarding the impact of K-12 online and/or blended learning programs on academic outcomes. Out of the initially identified studies, only 17 of them fit the criteria the researchers were looking for in their case study, and even fewer (only seven) were identified to have used a rigorous enough methodology to be included in the summary of findings.

Social and Emotional Competencies

Further complicating the understanding of social presence is the related, if not synonymous, concept of social competencies. Yu (2014) discussed social, emotional, and technical competencies as prerequisites to being successful in online learning and in reducing the attrition rate in online postsecondary courses. While some studies have not been able to establish a correlation between social presence and achievement (Hawkins et al., 2013; Lowenthal, 2012), others have shown positive relationships between social and emotional competencies and achievement (Berenson et al., 2008; Yu, 2014). Social competencies are considered to be the set of skills that help build, maintain, and manage
social situations and interpersonal relationships, and emotional competencies represent the set of skills that allow one to reflect upon, identify, describe, and effectively manage one’s emotions (Yu, 2014). Picciano and Seaman (2007) reinforce the notion that social and emotional competencies are important, and use their national survey data to emphasize the importance of social and emotional development as a key component of student readiness to participate in online learning.

Even in traditional models of instruction, there is a growing body of evidence to suggest that social and emotional skills have intrinsic value in the classroom because of their impact on academic, social, and emotional outcomes for students (Jones et al., 2017). An SEL framework developed by Jones identifies three classifications for SEL skills: social/interpersonal skills, emotional processes, and cognitive processes (Jones et al., 2017). Cognitive regulation consists of goal-directed skills and behaviors. Emotional processes are the set of skills by which students can regulate, identify, understand, and express a range of emotions, while social and interpersonal skills help students navigate social interactions in a positive manner. (Jones et al., 2017). While outcome research based on SEL programs have largely been conducted in face-to-face learning environments, SEL skills, as evidenced in part by measures of emotional intelligence, have been correlated with higher GPA (Berenson et al., 2008; Yu, 2014) and improved levels of student satisfaction (Kauffman, 2015) in online classes.

Habits of Mind

Costa et al. (2020, p. 54) speak to the evolving emphasis on social and emotional skills when they contend that “a contemporary education should develop students’ understanding of conceptually big, transferable ideas and processes so that they will be equipped to apply their learning to the new (and unpredictable) challenges and opportunities they will face.” In service of this shift from an emphasis on the end result of content-area knowledge to the process by which students and teachers engage in a mutual construction of learning through the reinforcement of key social, emotional, behavioral and cognitive
attributes, the Habits of Mind have emerged as a theoretical framework for outlining 16 specific dispositions within the overarching and broader conceptualization of SEL skills (Costa et al., 2020; Kallick & Costa, 2009). Costa and Kallick (2008) denote that possessing a Habit of Mind reflects the proclivity of an individual to habitually access and employ intelligent problem-solving behaviors and attitudes when faced with challenges. Thus, Habits of Mind represent an amalgamation of many skills, attitudes, and behaviors based on prior schema. Habits of Mind are based on the presumption that intelligence and skillful behaviors are malleable and acquired traits, not fixed; therefore, they require mindful and explicit instruction and practice (Atlan et al., 2017, Costa & Kallick, 2008).

The 16 Habits of Mind encompass five predominant dimensions: value, inclination, sensitivity, capability, and commitment (Costa & Kallick, 2009). Value-based habits mean that individuals can differentiate between, and subsequently select, from a repertoire of intelligent behaviors to assist them in navigating difficult tasks. Habits of inclination describe the proclivity with which individuals default to value-based habits. Sensitivity describes the ability of individuals to perceive and be aware of the appropriateness of specific behaviors. Capability habits encompass the basic skills required to employ intelligent behaviors, and commitment defines the continued effort of an individual to reinforce the continued use of mindful behaviors. Costa and Kallick’s (2000) 16 Habits of Mind are summarized in Table 2.2.

Table 2.2

<table>
<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>1. Persisting</td>
<td>Demonstrating perseverance and staying focused on a task.</td>
</tr>
<tr>
<td>2. Managing Impulsivity</td>
<td>Being deliberative, thoughtful, and thinking before acting</td>
</tr>
<tr>
<td>3. Listening with Understanding and Empathy</td>
<td>Making an effort to perceive and understand someone else’s feelings and point of view</td>
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<tr>
<td>4. Thinking Flexibly</td>
<td>Being able to generate and consider alternative options</td>
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</table>
Habits of Mind inform pedagogical practice by making learner behaviors and dispositions a key part of the instructional framework (Kallick & Costa, 2009). Kallick and Costa (2009) emphasize that Habits of Mind should be integrated directly into the curriculum. By so doing, the explicit instruction of these habits help change the culture of learning, shifting the balance towards a more interactive and constructivist approach and away from a mechanical, industrial-era view of education. Four student outcomes are outlined within this more contemporary conceptualization of education: content, thinking skills, cognitive tasks that require skillful thinking, and Habits of Mind. These outcomes can be illustrated as nested levels of understanding about the self as well as processes and concepts that are independent of oneself. Habits of Mind represent the largest level of

<table>
<thead>
<tr>
<th>Habits of Mind</th>
<th>Definition</th>
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<tr>
<td>5. Thinking about Thinking (Metacognition)</td>
<td>Having awareness of one’s own thoughts, feelings, and behaviors, and being able to understand the effect one has on others</td>
</tr>
<tr>
<td>6. Striving for Accuracy</td>
<td>Consistently finding ways to check and improve work so that it meets a high standard</td>
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<tr>
<td>7. Questioning and Posing Problems</td>
<td>Having the disposition to frequently ask questions and identify problems to solve</td>
</tr>
<tr>
<td>8. Applying Past Knowledge to New Situations</td>
<td>Transferring prior knowledge to new contexts</td>
</tr>
<tr>
<td>9. Thinking and Communicating with Clarity and Precision</td>
<td>Striving for accurate and precise communication in speech and in writing</td>
</tr>
<tr>
<td>10. Gathering Data Through All Senses</td>
<td>Using the five senses to observe and perceive the world</td>
</tr>
<tr>
<td>11. Creating, Imaging, Innovating</td>
<td>Generating original and new ideas with fluency</td>
</tr>
<tr>
<td>12. Responding with Wonderment and Awe</td>
<td>Perceiving the world as mysterious and intriguing</td>
</tr>
<tr>
<td>13. Taking Responsible Risks</td>
<td>Trying new things in order to expand the limits of one’s competency</td>
</tr>
<tr>
<td>14. Finding Humor</td>
<td>Appreciating what is unexpected, whimsical, or incongruous; not taking oneself too seriously</td>
</tr>
<tr>
<td>15. Thinking Interdependently</td>
<td>Being able to work as part of a team; demonstrating reciprocity in group work</td>
</tr>
<tr>
<td>16. Remaining Open to Continuous Learning</td>
<td>Rejecting complacency and being willing to embrace what is not known in service of expanding what can be known</td>
</tr>
</tbody>
</table>

Habits of Mind inform pedagogical practice by making learner behaviors and dispositions a key part of the instructional framework (Kallick & Costa, 2009). Kallick and Costa (2009) emphasize that Habits of Mind should be integrated directly into the curriculum. By so doing, the explicit instruction of these habits help change the culture of learning, shifting the balance towards a more interactive and constructivist approach and away from a mechanical, industrial-era view of education. Four student outcomes are outlined within this more contemporary conceptualization of education: content, thinking skills, cognitive tasks that require skillful thinking, and Habits of Mind. These outcomes can be illustrated as nested levels of understanding about the self as well as processes and concepts that are independent of oneself. Habits of Mind represent the largest level of
understanding. It is through continued and intentional reinforcement and instruction of these attributes that students can develop the cognitive tasks (i.e. strategic thinking and planning, the ability to conduct research and resolve discrepancies) that will in turn facilitate the thinking skills (i.e. analyzing, synthesizing, inferring, drawing conclusions) that, lastly, enable students to construct an understanding and acquisition of specific content (Kallick and Costa, 2009).

Figure 2.2 Nested Levels of Student Outcomes

Universal Design in Learning

Habits of Mind represent a contemporary framework of social and emotional competencies in which the process of learning and building skills is the goal, as opposed to achieving a fixed benchmark as a mere product of learning (Costa & Kallick, 2008). This is where Habits of Mind and Universal Design in Learning can converge, and help to support students wherever they may be along the continuum of skillful behavior. When educators are designing instruction from a constructivist standpoint in order to help students develop multiple measures of student outcomes, the principles of UDL (i.e., varied and flexible opportunities for student engagement, recognition/internalization of course material, and
expression of understanding) become central to the theory behind the course design. The evidence in higher education that student-content interaction is a predictor of student satisfaction (Alqurashi, 2019) provides more impetus for implementing UDL in virtual classrooms and providing a variety of materials and opportunities for engaging with the course material.

Additionally, UDL is necessary to ensure that online programming is accessible to students with disabilities (Kirkpatrick, 2015). Indeed, it is interesting to note the intersection of socialization even with regards to organizational change and a shift to UDL. Kirkpatrick (2015) describes the implementation of organizational changes in education as a diffusion of innovations that emphasize social processes over technical ones. In other words, the evolution of online learning environments under a UDL framework is in large part dependent upon a systemic, holistic approach that engages students, staff, and administrators in mutually satisfying and beneficial initiatives, and requires innovative leadership geared towards continuous improvement. “Organizations should diffuse innovations slowly, on trial bases, in order to garner support incrementally while simultaneously allowing organizations to engage early problems and handle them before the entire organization becomes involved” (Kirkpatrick, 2015, p. 287).

In his research, Vadell (2013) sought to operationalize some of the best practices for gradually implementing systemic changes in order to adopt UDL in online instruction. Shifting education online allows for a more personal approach to learning that is dependent on content mastery instead of the time-based/age-dependent sequence of face-to-face learning. Continuous assessment and feedback is an important aspect of a personalized learning experience online. Adopting a specific learning management system is also key to providing a centralized environment within which to anchor the learning activities and student engagement. This requires that students are oriented to the online environment, and provided support in acclimatizing to the new platform. While certainly this personalization of learning in virtual spaces can be challenging and costly, the alternative is even greater costs
and expenditures due to outsourcing. The proportion of students who are engaging in online learning in K-12 is likely to continue increase, and will further necessitate the reimagination of educational infrastructure based on the needs of communities and their students.

One could hypothesize that tools used to assess social and emotional competencies through the Habits of Mind framework could also clarify the overall picture and conceptualization of the multiple presences of Community of Inquiry, and thereby help researchers identify ways to manipulate both constructs through equitable, evidence-based online programming. If Habits of Mind and social and cognitive presences are connected and fluid characteristics that can be improved based on teacher behaviors and course design, and if it has been established that social and emotional competencies do indeed affect student outcomes, then it stands to reason that there are pedagogical approaches that could simultaneously improve students’ readiness for online learning as well as improve actual and perceived outcomes of learning and achievement (see Figure 2.3).

Figure 2.3 Hypothetical Model
Chapter Three

Introduction

The lack of rigorous research regarding online programming for K-12 students influenced the decision to employ a mixed-method, quasi-experimental design in the present study. This study sought to clarify the existence of any positive correlations between student social-emotional dispositions and the dependent variables of social presence and student performance. In addition, open-ended questions and follow-up interviews helped to further extend the narrative about what qualities or characteristics of online pedagogy are most positively perceived by students, and which student habits and attitudes are most facilitative of a positive online learning experience. The purpose of the study was to provide evidence and support for specific types of teacher training and practices for the benefit of online learners.

Role of the Researcher

The researcher is a doctoral student at a private university in Montgomery County, Pennsylvania who was employed as a second grade general education teacher within the district of study. She worked previously as a fourth grade teacher in the district of study, and taught first grade in a dual-language Spanish/ESL program in Denton County, Texas. She has prior experience serving in the educational community as a licensed professional counselor in the state of Texas.

Due to the proximity of the researcher to the participants in the study and the participants’ teachers, there was a risk that the investigator could experience conflicts of interest between her professional role as an educator and in her role as a researcher. These risks were mitigated by having the researcher maintain a log of all communications received or initiated by the researcher regarding the nature, content, or purpose of the study. Recruitment communications were shared with the superintendent’s office and building principals. Further, the investigator was not a teacher in the grade level of students being recruited for this study, nor was the investigator employed in any supervisory role with
possible teacher participants. Additionally, the researcher did not personally know or directly work with any of the teacher participants before the study took place. Care was taken to ensure all participants received verbal and written notification that the purpose of the study was not evaluative of teachers or students, nor was it intended for the purpose of directly modifying the district’s current virtual learning structure or offerings. The researcher applied reflexivity to the recruitment and analysis processes by debriefing with peer researchers, and by identifying and disclosing possible conflicts of interest prior to implementing the recruitment and data collection phases of the study. Possible biases and conflicts of interest were also mitigated by preserving anonymity throughout the data analysis and transcribing the narrative responses without identifying student or teacher names.

Study Design

The lack of rigorous research on the outcomes of K-12 online learning is a theme reiterated by the U.S. Department of Education (2010), and highlights continued difficulties and limitations in drawing conclusions about the efficacy of K-12 online programs. Therefore, a mixed-method study on the extent to which social and emotional competencies correlate with online social and cognitive presences and student outcomes could provide more concrete evidence in support of the use of certain pedagogical strategies and behaviors to improve online learning experiences. The research questions are as follows:

1. To what extent do social and emotional competencies predict online social presence and student performance in fully remote instruction?
2. How do social and emotional competencies manifest in fully online learning environments?
3. How are adaptive student behaviors and attitudes reinforced and modeled through remote instruction?

A cross-sectional study in which a baseline for social and emotional dispositions determined the groupings of the participants was the basis for this design. Likert-scale
assessments using revised versions of established instruments were administered. Based on the results of this assessment, students were sorted into groups. Students who intuitively seemed to demonstrate the requisite social-emotional (SEL) habits comprised Group 1. Students who lacked an initial predisposition towards the studied SEL habits constituted Group 2. The reliability of the data was bolstered by triangulating student self-assessments with teacher and parent assessments. The students then completed surveys to assess for perceptions of online social presence, and the groups were compared. In addition, summative grades were gathered. The researcher hypothesized that student dispositions would be positively related to student perceptions of social presence in online learning environments (OLEs) and that when students show evidence of certain Habits of Mind, they would also show evidence of higher performance and more positive perceptions of their learning engagement in OLEs. Conducting follow-up interviews also helped to clarify the overall picture of student experiences in online learning from multiple perspectives.

**Population and Sample**

This study was conducted in a suburban school district approximately 30 miles north of Philadelphia, Pennsylvania, where the researcher is employed as a classroom teacher. This district was chosen due to its ongoing work with Dr. Kallick to incorporate Habits of Mind into the district curriculum. Participants were recruited from across the seven district elementary schools, serving approximately 1,475 students in the intermediate grades three through five, through email requests and electronic communications. Nearly 20% of students in the district qualified for free and reduced lunch, and the student population was predominantly (approximately 85%) white. About 7% of the student population identified as Hispanic or Latino, 2.9% as multiracial, 2.6% as Asian, and 2.2% as African American. Roughly 20% of the district’s intermediate students were participating in fully remote online learning at the time of the study, and therefore the population consisted of approximately 120 virtual students in fifth grade. The researcher conducted convenience sampling to recruit students from the population of general education students participating in a fully
remote writing class. From the sample set, additional student participants and virtual teachers were selected for individual interviews.

**Data Collection and Instruments**

A Habits of Mind (HoM) survey was administered to a sample of students and their parents and teachers, and mean triangulated scores demonstrated baseline levels of student social and emotional dispositions. The Social Presence Dimension of the Community of Inquiry Questionnaire was administered at a later date to the sample students only, and variances in both student perceptions of social presence and summative writing evaluations were evaluated with respect to initial HoM scores.

Habits of Mind survey data was collected via student self-report. To help ensure reliability of the student ratings, student Habits were assessed by a parent or legal guardian, and the current teacher of record. The multiple ratings were triangulated, creating a mean Habits of Mind score for each student cumulatively across the six social-emotional dimensions being studied. Students with fewer than three separate reports were excluded from the study. The grouping factor for analysis was the extent to which students appeared to be predisposed towards certain Habits of Mind that were deemed most relevant for writing courses by the researcher. Out of the 16 original Habits of Mind, the researcher chose to focus on assessing student dispositions across the following six categories, as shown in Table 3.1: Persisting (Habit #1); Thinking Flexibly (Habit #4); Thinking About Your Thinking/Metacognition (Habit #5); Striving for Accuracy (Habit #6); Thinking and Communicating with Clarity and Precision (Habit #9); Creating, Imagining, and Innovating (Habit #11). The six Habits were chosen to reflect the scope of the research project. The Habits were selected based on the researcher’s perceived relevance to the subject matter being studied and based on Muscott’s (2018) recommendations to bolster construct validity by including overlapping or similar dispositions.
The Habits of Mind rating scale that was modified for the present study is an ordinal scale for describing proficiency in each of the six social and emotional predispositions of interest, with three sub-questions per Habit. Ratings of three or four on each sub-question represent proficient or exemplary student habits, respectively. Students who averaged a score of three or higher on each of the 18 questions (or who had a cumulative score of 54 or higher out of a maximum score of 72 points) represented the intuitive group (Group 1), and students who averaged fewer than three points per question (or fewer than 54 points cumulatively) represented the non-intuitive group (Group 2).

Perceptions of online social presence were self-reported by students at the conclusion of the unit of study using the Social Presence Dimension of the Community of Inquiry Questionnaire, and were scored on a 5-point Likert scale for each of nine questions. The Cognitive Presence and Teaching Presence dimensions of the full Community of Inquiry Questionnaire were omitted because their relevance lay outside of the scope of this study.
research study. The Social Presence dimension of the Community of Inquiry Questionnaire was modified for accessibility to elementary students in terms of readability and comprehension. The number of items in the Social Presence dimension were preserved, but substitutions or omissions in wording were chosen in order to reflect the age and experience of the participants. Cumulative scores for social presence were calculated in the spreadsheet for each student, between a minimum of nine points and a maximum of 45 points.

Student performance was calculated using a unit published writing scoring rubric. Students were assessed by their teacher on a final piece of published writing. A writing piece received a numerical score for each of nine categories, with a minimum value per category of “one” and a maximum value of “four”. Cumulative writing scores per student ranged from nine to 36.

From the sample set, an additional seven student participants were selected for follow-up individual interviews. In each interview, students and their guardians received written and oral descriptions of the six Habits of Mind being studied. Students and guardians were asked four questions regarding how they perceived these Habits to impact student learning and engagement: 1) In what ways do you see these habits helping you in your learning in an online class? 2) In what ways do you see these habits helping you be engaged in online learning? 3) When you’re faced with a challenging task, which of these habits do you find are most helpful? 4) In what ways does your teacher help support the application of these Habits in your learning? Three fully online teachers were also selected for semi-structured individual interviews. They were prompted to reflect on the ways in which they saw the Habits of Mind influencing student learning and engagement in fully online classes, and the ways in which their pedagogical practice could better support students in developing and applying these Habits: 1) In what ways do you see these habits helping students in their learning in an online classroom? 2) In what ways do you see these habits helping students be engaged in online learning? 3) When students are faced with a
challenging task, which of these habits do you think are most helpful? 4) In what ways does your teaching practice help support the application of these Habits in student learning?

All data was collected through confidential, password-protected Google forms, in an account to which only the researcher had access. Data was automatically populated in Google sheets. Student and guardian names were collected to allow for follow-up communications for additional phases within the study, but were cleaned from the aggregate data files used for analysis.

Data Analysis

All data was aggregated by student: Habits of Mind self-score, Habits of Mind parent score, Habits of Mind teacher score, Habits of Mind average score, grouping factor, social presence score, and student task performance score. Any missing data sets or data sets that were found to lie outside of the expected range of scores resulted in all of that student’s data being excluded from the study.

Before running descriptive statistics and analysis on the data, identifying student information was removed from the data set to provide more protection against breaches of confidentiality with regards to student information.

The cleaned data set underwent a Multiple Analysis of Variance (MANOVA) in order to identify the relationships between social-emotional groupings and both dependent variables: student task performance and online social presence. The MANOVA was run first to test for significant associations between the independent variable groupings and both dependent variables, and was chosen to help minimize the likelihood of experiencing Type I errors, or incorrectly rejecting the null hypotheses. Effect sizes, power, and homogeneity were described as a result of the MANOVA. If significant relationships were reported via the MANOVA, additional, one-way ANOVAS and t-tests were run to identify mean differences between each group and further operationalize the strength of the relationship between Habits of Mind and each dependent variable separately.
Interviews were transcribed by the researcher, who then hand-coded the responses based on emerging themes and categories. Thematic content analysis focused on student behaviors and attitudes that support content-area skill development. In other words, the researcher was seeking to explain the ways in which student behaviors and attitudes reinforced or modeled throughout instruction.

Reliability and Validity

Arbaugh et al. (2008) report evidence of construct and external validity of the Community of Inquiry Questionnaire following a Principal Components Analysis of data collected from a multi-institutional sample of 287 participants. The results of their study demonstrate support for the ability to use the multiple dimensions of the Community of Inquiry framework as a valid and reliable predictor of student outcomes. Specifically, internal consistency of the items within the three dimensions of the Community of Inquiry instrument were supported by Cronbach’s Alphas of 0.91, 0.95, and 0.94 for the dimensions of Social Presence, Cognitive Presence, and Teaching Presence, respectively. Construct validity was evidenced by 61.3% of the total variance being attributed to the three factors, or dimensions, of study. However, it is important to note that the Community of Inquiry instrument was validated using samples of students in graduate-level classes at different institutions of higher learning in both Canada and the United States. The existing survey, with permission from the original authors of the survey tool and under the Creative Commons license as an open resource, has been adapted to fit the comprehension and reading level of fifth grade students. In addition, 15 out of the original 24 items on the survey were omitted, so that students only responded to the nine questions that pertain directly to the social presence dimension. This has the potential to weaken the validity of the measure used in the present study, although the researcher sought to retain the essence of each original question regarding perceptions of social presence.

Habits of Mind as a quantitative rating scale has a smaller body of research to support its validity, particularly with regards to the homogeneity and construct validity of
Habits of Mind checklists. As Muscott (2018) explains, construct validity in the assessment of Habits of Mind is threatened by the possibility that some items can, in fact, be measuring overlapping or indistinct constructs. In the present study, the researcher sought to mitigate these threats to construct validity by including Habits that do not appear to be mutually exclusive, and that are relevant skills for the subject area within which the Habits are studied. For example, Muscott (2018) asserts that metacognition is a prerequisite to any social and emotional disposition for effective thinking and learning, and therefore is an essential construct to include, regardless of the performance task or specific content area of interest. Further, concerns over homogeneity within each of the 16 constructs led to the decision to include both Striving for Accuracy (Habit #6) and Thinking and Communicating with Clarity and Precision (Habit #9) in the shorter, adapted version of the Habits of Mind Likert-scale survey used herein. Similarly, both Thinking Flexibly (Habit #4) and Creating, Imagining, and Innovating (Habit #11) were also included.

External validity for HoM ratings is also limited, but studies like Muscott’s (2018) are adding to the growing body of research in support of the theory that Habits of Mind can be predictors of student performance achievement. However, future studies are needed to provide more support for the generalizability of conclusions drawn about K-12 student performance as it relates to student dispositions.

In an effort to bolster both the reliability and validity of the adapted checklist used in the current study, the researcher triangulated ratings provided by the student participants themselves with ratings provided by the teacher of record and one legal guardian for each student. The mean cumulative Habits of Mind score of the three separate ratings was the value used to represent student proficiency in the application of the six Habits of focus. Lastly, the qualitative, explanatory focus of the open-ended questions was to provide further evidence of the validity of Habits of Mind as a predictor of social presence and student task performance, as well as the validity of using social presence as both an outcome of social-emotional dispositions and as a predictor of student achievement.
Chapter Four

Results

The investigator collected both narrative and survey data to clarify the complex ways in which students function as adaptive learners in online classrooms. Multiple means of data collection and analysis were used to bolster the reliability and validity of the evidence used to answer the guiding questions and ultimately help make recommendations for future areas of study and practice in the field of remote learning. While the Habits of Mind Rating Scale used in this study has a smaller body of evidence to support its external validity, efforts were made by the researcher to improve validity through the inclusion of related constructs, or Habits, and to improve reliability by triangulating the mean scores of the students, parents, and teachers before determining the grouping factor (Muscott, 2018). Arbaugh et al. (2008) have reported construct and external validity of the Social Presence Questionnaire in its original form, and internal reliability and consistency of items are supported by a Cronbach's alpha of 0.91 for the Social Presence dimension.

The validity and reliability of the present study is limited by the small sample size and the use of revised instrumentation that is appropriate for intermediate learners, but the researcher has attempted to mitigate these threats to validity and reliability by using interview responses to support the quantitative data and by selecting statistical analyses (MANOVA and ANOVA) that are less likely to result in a Type I error. Also, the data used for the MANOVA largely satisfied conditions for normality of groupings and equality of variances, thus supporting the appropriateness of the statistical tests applied to the data sets.

Research Guiding Questions

1. To what extent do social and emotional competencies predict online social presence and student performance?
2. How do social and emotional competencies manifest in fully online learning environments?
3. How are adaptive student behaviors and attitudes reinforced and modeled through remote instruction?

Demographic Data

In the 2020-2021 school year, the district of study offered hybrid and fully remote learning options as alternatives to traditional instruction due to the COVID-19 pandemic. Parents of elementary students had the choice to enroll their students in fully in-person, hybrid, or fully remote learning for the entire school year. The fully remote classes were conducted synchronously each day via Zoom, with asynchronous and independent work submitted daily through two learning management systems: Seesaw and Google Classroom. The 17 fifth grade student participants in this study were recruited from the population of approximately 120 fully remote learners from across the seven elementary schools in the district of study. Due to enrollment and staffing, the 120 students comprised six classes staffed by six certified teachers. Some of the classes consisted of virtual students from more than one physical elementary school building. The sample set initially included 19 students, but two student data sets were omitted due to missing data points. All requested data points were submitted for the 17 students who comprised the final sample. The sample students were surveyed regarding their own perceptions of their social and emotional competencies using the 18-question Habits of Mind rating scale. To provide a more robust and reliable assessment of the students’ adaptive work attitudes and behaviors, a parent or legal guardian and the students’ teacher of record also completed the Habits of Mind rating scale for each student. The three scores were then averaged, so each student received a mean Habits of Mind score to use in determining the grouping factor. The students were also asked to rate their perceptions of social presence using the corresponding nine question adapted subsection of the Community of Inquiry questionnaire. Seven students and their parents were selected to participate in semi-structured interviews regarding their perceptions of the ways in which the Habits of Mind help them as online
learners. Additionally, out of the population of six virtual 5th grade teachers, three were selected for semi-structured interviews.

**Organization of Data for Analysis**

Survey data was collected electronically using Google forms, and interview data was transcribed by the researcher. Survey data was collated by student name and then anonymized by removing any identifying student information from the data set before analysis using JASP. The narrative data was initially coded by applying deductive framework analysis using labels from the Habits of Mind. Subsequently, the researcher coded for additional themes and commonalities in the narrative responses using content analysis. The researcher reviewed each transcript in its entirety and applied inductive analysis to code for emerging themes beyond the Habits of Mind. Transcripts were initially reviewed and tagged, with categorization of response tags occurring in follow-up analyses.

**Research Guiding Question 1: To what extent do social and emotional competencies predict online social presence and student performance?**

The mean scores for the Habits of Mind Rating Scale was the determining factor in the grouping of students for the quantitative analyses. Students in the intuitive group, Group 1 (N=12), were those students who received a mean score of 54 points or higher, thus appearing to intuitively exhibit proficiency or above in their demonstration of the Habits of Mind being examined in this study. Students in the non-intuitive group, Group 2 (N=5), were those students with a mean score below 54 points.

Paired sample t-tests were run to identify any significant differences in student self-scored ratings compared to teacher and parent ratings. Paired sample t-tests were also run to compare self, teacher, and parent ratings to the average ratings. The student scores across all groups (M=61.61, SD=8.08) were significantly higher than the parent scores (M=58.11, SD=7.31), p=0.01, with a strong effect size (d=0.70). While the student scores (M=61.61, SD=8.08) were also higher than the teacher scores (M=57.64, SD=13.27), they weren’t significantly different, p>.05, although there was a moderate effect size (d=0.38).
There was neither a significant difference ($p>.05$) between the parent scores and the teacher scores, nor was there a large effect size ($d=0.04$). Differences in the mean scores are illustrated in Table 4.1 and in Figures 4.1 through 4.3. It can be observed that even though there are not statistically significant differences in self scores and teacher scores, students rated themselves higher than their teachers. Teachers and parents, however, submitted relatively similar ratings for their students, with the parents submitting slightly higher scores than the teachers.

### Table 4.1

<table>
<thead>
<tr>
<th>Measure 1</th>
<th>Measure 2</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
<th>Cohen's $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Score</td>
<td>Parent Score</td>
<td>2.919</td>
<td>16</td>
<td>0.010</td>
<td>0.708</td>
</tr>
<tr>
<td>Self Score</td>
<td>Teacher Score</td>
<td>1.582</td>
<td>16</td>
<td>0.133</td>
<td>0.384</td>
</tr>
<tr>
<td>Parent Score</td>
<td>Teacher Score</td>
<td>0.187</td>
<td>16</td>
<td>0.854</td>
<td>0.045</td>
</tr>
</tbody>
</table>

*Note.* Student's $t$-test.

### Figure 4.1

**Self Score – Parent Score**

![Graph showing the comparison between self scores and parent scores.](image)
Paired samples t-tests were also used to compare student self scores, parent scores, and teacher scores to the average scores, as shown in Table 4.2 and Figures 4.4 through 4.6. Student self scores were significantly higher than the average scores ($p<.05$), with a moderate effect size ($d=0.59$). There was no significant difference between the parent scores and the average scores ($p>.05$) and there was no significant difference between the
teacher scores and the average scores ($p>.05$). While teacher scores and parent scores appear to be below the average score for the students, their scores were not significantly different, thereby bolstering the reliability of the triangulated mean Habits of Mind scores.

Table 4.2

<table>
<thead>
<tr>
<th>Measure 1</th>
<th>Measure 2</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Score</td>
<td>Average Score</td>
<td>2.470</td>
<td>16</td>
<td>0.025</td>
<td>0.599</td>
</tr>
<tr>
<td>Parent Score</td>
<td>Average Score</td>
<td>-0.997</td>
<td>16</td>
<td>0.334</td>
<td>-0.242</td>
</tr>
<tr>
<td>Teacher Score</td>
<td>Average Score</td>
<td>-0.910</td>
<td>16</td>
<td>0.376</td>
<td>-0.221</td>
</tr>
</tbody>
</table>

*Note. Student’s t-test.*

Figure 4.4

Self Score – Average Score
Descriptive statistics were then run for the dependent variables. For the social presence measure, students were asked to rate the extent to which they agreed or disagreed with a series of nine statements on a five-point scale. The intuitive group averaged higher scores ($M=38.45$, $SD=5.54$) ranging from 27 to 45 points out of a maximum
of 54 points than the non-intuitive group (\(M=35.90, SD=2.40\)), ranging from 33 to 39 points. Post-hoc t-tests did not reveal a significant difference (\(p>.05\)) between the mean scores of the perceptions of social presence between the two groups. For most of the items, respondents expressed agreement or strong agreement, a few statements garnered some neutral responses, and only one statement elicited disagreement or strong disagreement from respondents.

When asked to identify to what extent they agreed with the statement that they felt like they belonged in their online class, six out of the 17 respondents indicated that they strongly agreed, ten respondents indicated that they agreed with the statement, and one respondent was neutral, as illustrated in Figure 4.7. No respondents expressed disagreement or strong disagreement with a feeling of belonging in class. This indicates that despite being in a fully remote classroom, students are still able to feel a sense of connection and belonging in a virtual setting.

Figure 4.7

![Bar chart showing responses to feeling like they belong in class](image)

Figure 4.8 shows the number of students who felt like they got to know their virtual peers. All students either strongly agreed (\(N=9\)) or agreed (\(N=8\)) with the statement that they felt like they got to know their classmates online. There were no students who expressed disagreement with this statement.
Participants were also asked to rate their comfort level communicating online, as shown in Figure 4.9. Most students expressed strong agreement (N=9) with the statement “I feel comfortable talking online”, while five students expressed agreement with the statement and an additional five students were neutral about their comfort level with online communication.
A similarly worded statement asked students to identify their agreement with the sentence “I feel comfortable participating in online discussions.” Their responses are illustrated in Figure 4.10. Four respondents were neutral, with the rest expressing strong agreement (N=9), agreement (N=5), or a combination of the two (N=1).

Figure 4.10

While respondents have expressed mostly agreement with their comfort in online communication, they have also expressed agreement in their perception of feeling understood by their classmates online, depicted in Figure 4.11. The majority of respondents (N=11) agreed with the statement “I feel like my classmates understand my point of view”, while four respondents expressed strong agreement and two respondents were neutral.
In addition to the majority of respondents expressing agreement feeling able to communicate with and be understood by classmates online, the majority of students responded with strong agreement ($N=9$) or agreement ($N=6$) when asked to what extent that they agree with the statement “I am able to work together with my classmates online.” One respondent was neutral, and one respondent indicated feeling neutral or agreeing with the statement. As depicted in Figure 4.12, most respondents felt like they were able to work with their peers in a virtual setting.
The statement with the greatest variability in responses was regarding the extent to which respondents feel that communicating online is a good way to socially interact with others, the responses to which are illustrated in Figure 4.13. Only about half of the respondents expressed some form of agreement with this statement. Four respondents strongly agreed, and five respondents agreed that online communication is a good form of social interaction based on their experiences in remote learning. Five respondents were neutral, while one respondent disagreed, and two expressed strong disagreement.

Figure 4.13

With the exception of the item on the social presence questionnaire regarding social interaction, most of the responses were either positive or neutral regarding perceptions of communication and connection in an online classroom. A quantitative analysis of social presence as a dependent variable was later conducted following the application of descriptive statistics.

A multivariate analysis of variance (MANOVA) was run to test for the differences in social presence and writing score means for the intuitive and non-intuitive groups. The overall multivariate test was significant for social-emotional grouping, Pillai’s Trace = .03, as shown in Table 4.3, indicating that the grouping factor (proficiency with Habits of Mind social-
emotional skills and attitudes) has a significant impact on one or both of the dependent variables (social presence scores and student achievement as measured by a summative writing score).

Table 4.3

<table>
<thead>
<tr>
<th>Cases</th>
<th>df</th>
<th>Approx. F</th>
<th>Trace Pillai</th>
<th>Num df</th>
<th>Den df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>1</td>
<td>2970.553</td>
<td>0.998</td>
<td>2</td>
<td>14.000</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>4.412</td>
<td>0.387</td>
<td>2</td>
<td>14.000</td>
<td>0.033</td>
</tr>
<tr>
<td>Residuals</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tests for normality and equal variances yielded mostly non-significant results, illustrated in Tables 4.4 and 4.5. The MANOVA satisfied Shapiro-Wilk's tests for normality of all groupings with the exception of the intuitive group of writing scores, \( p<.01 \), suggesting that there is not a normal distribution of scores within that group. The MANOVA satisfied conditions for Levene's tests of equality of variances for the social presence and writing score variables.

Table 4.4

<table>
<thead>
<tr>
<th>Test of Normality (Shapiro–Wilk)</th>
<th>W</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Presence Score</td>
<td>Intuitive SEL Group</td>
<td>0.923</td>
</tr>
<tr>
<td>Non-Intuitive SEL Group</td>
<td>0.957</td>
<td>0.787</td>
</tr>
<tr>
<td>Writing Score</td>
<td>Intuitive SEL Group</td>
<td>0.731</td>
</tr>
<tr>
<td>Non-Intuitive SEL Group</td>
<td>0.871</td>
<td>0.272</td>
</tr>
</tbody>
</table>

*Note. Significant results suggest a deviation from normality.*
Table 4.5

<table>
<thead>
<tr>
<th>Test of Equality of Variances (Levene's)</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Presence Score</td>
<td>3.290</td>
<td>1</td>
<td>0.090</td>
</tr>
<tr>
<td>Writing Score</td>
<td>0.804</td>
<td>1</td>
<td>0.384</td>
</tr>
</tbody>
</table>

Since the multivariate tests largely met conditions of normality and equality of variances, univariate testing was subsequently applied to the data set. To identify with which of the dependent variables there was a significant relationship, follow-up ANOVAS were run for social presence and writing scores. There was not a significant difference among the mean social presence scores for the intuitive group and the non-intuitive group, $F(1, 17) = 0.957, p > 0.05$, as shown in Table 4.6. The social-emotional grouping factor did not appear to have a relationship of statistical significance regarding student perceptions of social presence.

Table 4.6

<table>
<thead>
<tr>
<th>ANOVA: Social Presence Score</th>
<th>Cases</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>24169.471</td>
<td>1</td>
<td>24169.471</td>
<td>1001.693</td>
<td>&lt; .001</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>23.100</td>
<td>1</td>
<td>23.100</td>
<td>0.957</td>
<td>0.343</td>
<td></td>
</tr>
<tr>
<td>Residuals</td>
<td>361.929</td>
<td>15</td>
<td>24.129</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a significant difference, however, between the summative writing scores for the intuitive and non-intuitive groups, $F(1, 17) = 5518.25, p = .01$, as shown in table 4.7. Students in the intuitive group received significantly higher achievement scores than students in the non-intuitive group.
Even though the univariate analysis of variances did not provide significant results for both dependent variables, post-hoc independent samples t-tests illustrate that there was a moderate effect size for the difference between social presence scores for the intuitive group compared to the non-intuitive group \((p > .05, d = 0.52)\) as well as a strong effect size for the difference between the groups on the student achievement measure \((p = .01, d = 1.56)\), as shown in Table 4.8.

Table 4.8

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Presence Score</td>
<td>0.978</td>
<td>15</td>
<td>0.343</td>
<td>0.521</td>
</tr>
<tr>
<td>Writing Score</td>
<td>2.947</td>
<td>15</td>
<td>0.010</td>
<td>1.569</td>
</tr>
</tbody>
</table>

*Note. Student’s t-test.*

Therefore, while there was not a statistically significant difference in social presence scores between the two groups of study, it can be observed that the non-intuitive group had lower social presence scores than the intuitive group, illustrated below in Figure 4.14, warranting further consideration and exploration.
The difference in summative writing scores between the intuitive group and the non-intuitive group is visibility and statistically significant, illustrated in Figure 4.15. The intuitive group had significantly higher writing scores after a unit of instruction than their peers in the non-intuitive group.
Research Guiding Question 2: How do social and emotional competencies manifest in fully online learning environments?

Both student and teacher interviewees were shown an overview of the six Habits of Mind upon which the independent variable rating scales for the present study were based. Interviewees were then asked in what ways they see any of those six Habits of Mind helping them in their online learning and how they perceive the Habits of Mind help students overcome academic challenges and obstacles. They were also asked about their perceptions of the influence of the Habits of Mind on their sense of engagement and connectedness in their online class. Because individual student interviews were conducted in the presence of a parent or legal guardian, sometimes a student’s parent would offer input regarding their student’s experiences and habits in the online learning environment.

In both student and teacher interviews, a recurring theme was the ability to persist and persevere, even through tasks that are perceived to be difficult or mundane. Common refrains that allude to the recurrent theme of Habit #1 - Persistence as an efficacious student habit includes some variation of the words “persevere”, “persist”, “keep thinking,”, “practice”, “study”, and “try.” One student summarized how she finds the habits helpful in her independent work: “I find it helpful because it’s kind of easier when you think about these [habits] and working on something because most of the time you have to work on something on your own.” Even though the virtual learning model for the district of study was structured around synchronous learning sessions, students still had asynchronous times when they were responsible for completing and submitting independent work online. Teacher A shared a similar perspective by noting that students needed to become used to working independently and submitting their assignments online. She reinforced that this required a great deal of persistence, but that when students stuck with it, that students were able to observe and notice that the process of learning online became more routine:

In the beginning of the year a lot of students, they shared me that they were having a
hard time getting used to doing everything online and we were actually just talking about this today, it got easier as the year went on, so as they became more familiar with putting literally everything on Seesaw, it got easier.

In analyzing student responses, Habit #5 - Thinking About Your Thinking (Metacognition) seemed to be another common theme across many of the habits. Some students were able to identify their metacognitive habits by name. When asking which habits help when faced with a difficult or challenging task, one student responded as follows: “Definitely thinking about my thinking ’cause I would...it’s easy to rethink things when you know what you were already thinking.” When prompted to think of an example, the student elaborated. “I was taking a math test, and I wasn’t sure about one of the answers, so I just kept thinking it over trying to think of the correct one.” However, other students appeared to express metacognitive habits without explicitly identifying their thought patterns as metacognitive in nature:

Personally, I’m not very great at math and I don’t like math very much, but the more I could think about it in my head and the more I had help with the teacher understanding specific problems, then I was able to do it.

Even this student’s description of their perception of how they apply Habit #6 - Striving for Accuracy in their work sounds like metacognition and flexible thinking are playing a role in their awareness of their understanding: “Striving for accuracy; you can do that by asking for help sometimes and seeing what things are best for you, so if something you’re trying to learn about isn’t working so well you can try something else.” Similarly, another student explained that she strives for accuracy in a metacognitive process when her teacher asks for corrections in her work. “Well, she sends back the work if she knows it’s not correct to try and see if we can figure out where we went wrong, instead of just telling us that we were incorrect.” This process of attempting to revise and correct work appears to describe ways in which the Habits of Mind interact to create independent and resilient learners.
Although students did not explicitly reference or discuss Habit #9 - Thinking and Communicating with Clarity and Precision, there were elements of their responses that appear reflective of this mindset. Respondents appeared to be acutely aware of the importance of their communication in the virtual setting, as evidenced by responses such as this one:

Communication is a very important part of being an online learner because you need to be able to talk with classmates to discuss and maybe even with your teacher for help, and it can help you better, and if you communicate with people you can try harder and you can learn because you’re communicating with people.

Students identified that they often needed to share their thinking and give feedback to each other in breakout rooms. Some students also explained that they enjoyed being able to communicate online. “I really like to learn and I have a lot of fun interacting with kids my age.” Breakout rooms in virtual meetings appeared to be a common way for students to connect with their peers in discussion groups or partners for curricular topics.

The idea of communicating with clarity and precision was also highlighted as an area of importance by the virtual teachers:

I felt like with virtual learning, we had so much less time together than if we were in the classroom. I felt like students got better as the year went on at being more clear with their thinking, like when they were telling me what they needed help with, they were able to do it in a clear way, and then being able to share their screen with me was really helpful so they could show me what they needed help with. Just learning to communicate through a virtual setting, you have to be clear because, to me, it’s just very different from communicating in the classroom, so I just think that they learned how to communicate more clearly as the year went on.

One student provided a more detailed narrative for how she perceives ways in which multiple the Habits of Mind support her success as an online learner, including Habit #1 Persisting and Habit #4 - Thinking Flexibly:
I think there’s two, the persisting one and the thinking flexibly. For persisting, a lot of
the times if I don’t understand something I don’t go to something else, I work on it
until I get it. And for thinking flexibly, again if I don’t understand something, I’ll think of
it in a different way and I won’t let it get to me or affect me.

**Research Guiding Question 3:** How are adaptive student behaviors and attitudes
reinforced and modeled through remote instruction?

Students were asked in individual interviews about the ways in which their teachers
helped to reinforce the Habits of Mind or helped them be successful as an online learner,
while teachers were asked how they feel their instructional practices helped to model the
Habits or helped their students be successful in remote learning. The presence (or lack) of
fun appeared to play a mediating role in a student’s ability to be engaged and to persist in
the classroom. The word fun was noted five times in student narratives. In a virtual
classroom, fun often seemed to be induced through humor and non-academic socialization.
Students cited jokes as ways in which their teachers injected fun and humor into their
remote learning community:

She usually does like a joke at the beginning of the day, and sometimes the kids are
allowed to share their jokes. She does breakout rooms to allow kids to talk to other
people. Lunchtime, depending on when it is, usually we do it on Mondays, we can do
lunch together on launch days on Zoom.

Even Teacher B noted that fun was an important part of her online classroom community,
and an important characteristic of her teaching practice that she accessed to help
encourage her students to be engaged participants in their online learning. “Singing,
laughing...we laughed a lot, because I would sing everytime we would go to a breakout
room, so I feel like that really helps to create that positive atmosphere.”

Other students expressed that breakout rooms were a way to socialize with their
peers. However, some students’ perceptions of the amount of non-academic peer
socialization was mixed. “There isn’t a lot of social interaction. [My teacher could let us] just
have more fun. Fun in general." The conflicting narratives regarding the quality of the social interactions in the online classes mirrored the variability in the responses to the social interaction statement in the social presence survey, wherein about half of the respondents agreed that their online class was a good way to interact socially online while the other half expressed neutrality or disagreement with that concept. Teacher B agreed that socialization through Zoom was important:

We did mostly academic breakout rooms but once they finished their work I told them they could have a little social time. They needed it. Then the last month of school I did lunch with the teacher, and they’d sit and socialize, and any breaks we had, they’d sit and socialize, and I think that helped.

She later added that this socialization was key to “getting to have a good time and getting to make new friends. Some of them made new friends this year.” During a student interview, a parent communicated her perception of how her daughter’s teacher helped nurture socialization in a virtual setting: “Her teacher has really been able to create a classroom environment and I hear them giggling at lunchtime and her teacher lets them do different things which I think is important for peer collaboration.”

Teacher A and Teacher B both described the use of breakout rooms as a teaching practice that reinforces Habit #11 - Creativity, Imagining, and Innovating, with Teacher A stating: “I would use breakout rooms as much as I could, and I think having them work with a partner or small group often helped them be creative.” It appears from the student and teacher responses that breakout rooms serve a social function in the online classroom whether used for purely academic purposes or not.

Teacher B was unique in her use of another district employee, a certified teacher’s assistant, who functioned in a co-teaching role periodically to monitor breakout rooms for the purpose of student socialization during non-instructional times. For example, the district implemented a special schedule on the first school day of each week that it dubbed “launch days.” On these days, synchronous instruction would conclude by 12:00, and the afternoon
session would be designated for teacher planning, asynchronous work, and student pickup of any necessary supplies or materials from school buildings. Teacher B noted that her teacher’s assistant would “do social time on our launch days; she’d hop on Zoom and she’d sit and let them socialize on launch days, if that’s what they wanted to do.”

Another theme that emerged regarding ways to reinforce adaptive learner behaviors was through organization and feedback. Students cited their teachers’ organization five times as ways that helped them be successful in their online learning; responsibility was grouped as a similar construct, and was identified twice in interview narratives. One parent described the experience of her student in remote learning as follows:

It was a rough go at the beginning. We learned a lot about responsibility. I think the metacognition piece and the accuracy piece and the organizational piece is the advantage that these kids are going to have when these kids go into middle school, because she will go back full time in person next year, but I think as a parent and educator it is really amazing to see how organized she is as a 5th grade student.

Teacher feedback was also cited several times in narratives regarding teacher habits that reinforced adaptive student behaviors. Another parent described in detail her perceptions of how feedback helped supportive adaptive student habits in remote learning:

Her teacher has really evolved to give tremendous feedback. Now...she put a system in place, so you can really see how she’s doing, she shows grades, her transparency...just the feedback loop with her has been phenomenal, and I just think it helps to keep her engaged and know how she’s doing and how she’s doing in her subjects. It was hard on me as a parent to be connected, and now that they do this whole feedback loop, then I as a parent am much more connected to the process.

Teacher A felt that the online learning environment allowed her the unique opportunity to utilize Universal Design for Learning principles in her asynchronous instruction.

A lot of their directions for assignments I recorded in Seesaw. I mean reading aloud directions is an accommodation that a lot of students get who have an IEP but it's so
helpful for so many other students, so I’m glad that the assignments they were doing independently that I recorded those directions so they could hear them being read aloud. And that’s something when you’re doing something in the classroom, you’re not going to record yourself reading the directions, so I think Seesaw allowed me to do that this year and I’m glad that I took advantage of that.

Teacher C described additional characteristics of her virtual teaching that are indicative of UDL, including having multiple ways for students to ask for help or clarification. One positive feature that she observed about synchronous online instruction was that students had the option to either raise their hand and ask for help, or use the private chat feature and send a direct message to the teacher expressing what they needed in real-time during the lesson. Whether using direct messages, email, or the Learning Management System, Teacher C observed that there were many opportunities for students to communicate with her about their needs.

This ability to communicate to the teacher during live instruction or access the teacher during office hours for help is an example of how metacognition and striving for accuracy can be reinforced by teachers for the benefit of student learning. Several students also expressed that their teachers were available for 1:1 synchronous help sessions via Zoom, which they sometimes initiated or the teachers sometimes initiated. “She keeps Zoom open as long as possible, so if we have a question we can always go back and have her answer it.” Teachers specified in their interviews that they offered daily office hours on Zoom, for a minimum of 1 to 2 hours per day, wherein students had the option of signing on to request assistance as they worked through their independent assignments. “I feel comfortable [asking for help]. I usually go on with my teacher 2 or 3 times a week after school to help with something I’m struggling with.” A student’s parent chimed in to extend the discussion on how virtual office hours helped her daughter to be successful in math this year:
I think she’s done well, I think she gets a lot of attention from the teacher. I think she gets a lot of tutoring time from math that’s hard for her that she wouldn’t have gotten in the regular education class.

As students strive to increase their accuracy and grapple with their awareness of what they know and what they don’t know, it appears their ability to persist may strengthen as well. After her daughter talked about striving for accuracy and asking for help, her mother talked more about the development of another habit:

I just feel like the perseverance has really been a positive to virtual learning. When she first started virtual learning, you had a hard time staying on task and I think it was a lot because everybody was home, and that was something that you’ve really learned.

Teacher B agreed that getting her students to persist in virtual learning required a lot of reinforcement, particularly in the beginning of the year: “Just reminding them - keep going, don’t give up.” Teacher C expressed similar refrains about the importance of praise and encouragement in getting her students to persevere: “Just really praising them and acknowledging them for their efforts; it wasn’t easy, especially being online and being self-motivated and being self-disciplined most of the day, so just encouraging them and being there for them.”

Metacognition even appears to play an implicit role in the way teachers reinforce habits like Habit #4 - Thinking Flexibly. Teacher B noted that she made an adjustment relatively early on in the school year with how much independent work she was assigning to students each day. Instead of assigning six independent activities in Seesaw, for example, she lessened the number of independent activities to two or three. When asked what prompted her to do this, she explained that the students were becoming overwhelmed, and she knew this “because I was becoming overwhelmed...they were overwhelmed.” Even though earlier in the interview Teacher B stated “I don’t know that we actually spent a whole lot of time just sitting and thinking about our thinking,” it appears that she was actually
demonstrating awareness of her own state of mind and the state of mind of her students, and using that awareness to flexibly adjust her teaching and expectations. Teacher B also stated that she explicitly reinforces flexible thinking by “just reminding them that no matter what comes up, just having that other perspective helps. Maybe somebody else thinks of it differently.”

Teacher C explained that part of her pedagogy focused on metacognition through self-reflection and mindfulness. She would use self-reflections periodically throughout the school year, and have students describe themselves in terms of their level of responsibility, respectfulness, strengths, weaknesses, and goals. Teacher C noted that she felt that her students were honest in their self-evaluations, which she would use in parent-teacher conferences and to help facilitate goal-directed behaviors as the school year progressed. Teacher C also used online meditation and mindfulness to help facilitate a learning state of mind for her students:

Another thing I did was a meditation thing each week - the Mind Yeti - and I found some other ones, and I assigned that once a week and I think that helped the kids calm down, get refocused, focus on their breathing, not feel as stressed, and be ready to go into their assignments.

Summary

The quantitative and qualitative data summarized in Chapter 4 illustrate the role and function of the Habits of Mind in student perceptions of social presence and student task performance in fully online learning environments. The data collected from 17 student participants and three teacher participants through surveys and interviews indicate that student proficiency in the Habits of Mind are positively correlated with summative writing scores. While there was not a significant correlation between Habits of Mind proficiency and social presence scores, descriptive statistics of survey responses found the greatest variability in student perceptions of social presence regarding whether or not an online class is a good way to socially interact with same-age peers. Most survey respondents indicated
that they were able to communicate with their peers online and work together in a remote learning class. Regarding the Habits of Mind that appeared most evident in efficacious student work habits, both student and teacher interview responses frequently cited Persistence, Thinking Flexibly, Thinking About Your Thinking (Metacognition), Striving for Accuracy, and Thinking and Communicating with Clarity and Precision. Persistence was the most commonly discussed Habit, and was included in every respondents’ narrative about successful student habits. In addition, teacher behaviors that appeared to help reinforce effective student work habits included organization, feedback, immediacy/teacher availability for help, and use of UDL strategies such as audio and video recordings, while breakout rooms and frequent use of partner and small group discussions appeared to help facilitate student connectedness and social interaction.
Chapter Five

Introduction

Online learning platforms are becoming an increasingly popular form of instructional delivery in K-12 schools across the United States, and enrollment in some form of online learning in the U.S. has increased by more than 60% since the early 2000s (Barbour et al., 2011; Gemin et al., 2017; U.S. Department of Education, 2010). Millions of K-12 students comprise the population of U.S. learners who are receiving instruction via digital learning systems (Schroeder, 2019). As the online education market increases in popularity and value, researchers are recommending that further studies evaluate student outcomes in online courses in order to better inform school and legislative policies and practices (Clements et al., 2015). The need for additional research has become particularly apparent during the COVID-19 pandemic, the time-frame during which the present research study was implemented. Many schools across the country made an abrupt shift to hybrid or fully online learning models during the pandemic. Even fully in-person classes have seen the impacts of COVID-19 on the integration of technology in the classroom, as 1:1 devices functioned as a means to mediate the effects of physical distancing and safety protocols by maintaining rigorous instruction with routine feedback from teachers and collaboration with peers.

Many studies support the conclusion that student achievement does not vary significantly as a function of the instructional environment (traditional vs. online) alone (Brodersen & Melluso, 2017; Cho & Tobias, 2016; Richardson et al., 2014). However, much of the previous research regarding student achievement in online learning models has been concentrated in post-secondary educational institutions and has relied predominantly on self-reported data. In a meta-analysis by Broderson and Melluso (2017) of 162 K-12 studies involving the effect of online learning on academic outcomes, only 17 were considered rigorous enough in methodology to be included in the discussion of findings.
The present study, therefore, attempted to identify and describe the existence of any relationships between social-emotional skill proficiency using the Habits of Mind framework, social presence as defined by the Community of Inquiry theory, and student task achievement by addressing the following research questions:

1. To what extent do social and emotional competencies predict online social presence and student performance?
2. How do social and emotional competencies manifest in fully online learning environments?
3. How are adaptive student behaviors and attitudes reinforced and modeled through remote instruction?

In the Spring of 2021, a mixed-method design using convenience sampling was employed to recruit student (N=17) and teacher (N=3) participants. Statistical analyses were run using JASP, and included MANOVA, ANOVA, and independent and paired t-tests. Qualitative coding of student and teacher interviews was applied using the Habits of Mind framework and inductive analysis.

**Summary of Findings**

Social-emotional skills represent goal-directed cognitive, emotional, and interpersonal processes and habits (Jones et al., 2017). The Habits of Mind theoretical framework has emerged within the broader context of social-emotional skills, and identifies specific attributes, or Habits, that individuals may habitually employ in the process of intelligently selecting goal-directed thoughts and behaviors (Costa et al., 2020; Kallick & Costa, 2009). Social-emotional proficiency was determined using a modified, 18-item ordinal rating scale within the Habits of Mind framework. Students who averaged a score of three or higher on each of the 18 questions were in the proficient SEL group (N=12), and students with an average per-item score of 2 or below were in the non-proficient SEL group (N=5). Paired t-tests demonstrated that while student self-reported ratings were significantly higher than teacher and parent ratings as well as the averaged triangulated ratings, the teacher
and parent ratings did not differ significantly from each other nor from the averaged triangulated scores. These results support the reliability of the mean SEL scores, as well as the reliability of the teacher and parent ratings.

Quantitative analysis of student achievement as measured by performance on a summative writing task revealed that students who demonstrate SEL proficiency scored significantly higher on the performance task than their non-SEL proficient peers. Students also described in their narrative interviews ways in which all of the Habits included in the present study manifested in their successful completion of their academic work in the online classroom. Students and teachers most frequently discussed the importance of applying persistence to student work. Similarly, student narratives also often discussed how they think flexibly to persist through challenges and difficult tasks. Although few teachers or students explicitly identified some of their thoughts as metacognitive in nature, many of their responses indicated evidence of metacognition in evaluating understanding and adjusting plans and thought patterns in order to be successful. Metacognitive habits appeared to be a foundational skill for striving for accuracy. Students shared how the accuracy of their work could be improved as a function of self-reflection and self-advocacy through the use of teacher office hours.

In the present study, social presence was defined according to the Community of Inquiry (COI) framework as a construct that describes student perceptions of feeling a sense of belonging in a learning community (Fiock, 2020). A revised version of the social presence dimension of the Community of Inquiry Questionnaire was administered via a 5-point Likert scale for each of nine questions. While there was no significant statistical relationship among SEL groupings between social presence score and summative writing score, descriptive statistics for each of the nine survey questions provided a more robust depiction of the ways in which students functioned and communicated in the online classroom. The results of the survey questions appear to indicate that students feel comfortable participating in online discussions and talking with their classmates synchronously via video.
conferencing. However, there is more variability in the extent to which students perceive synchronous video conferencing in the digital classroom as a positive means of social interaction, as shown in Figure 5.1. Only about half (53%) of the respondents expressed agreement with the sentiment that communicating online is a good way to socially interact with others. About one-third (29%) of participants were neutral in their belief that their online classroom was efficacious in the provision of social interaction, while 18% expressed disagreement.

Figure 5.1

Individual interviews helped to expand the narrative on the variability in student perceptions of online social interaction. Both students and teachers cited fun through non-academic socialization and the use of humor as ways that teachers helped to improve social connectedness online.

Students also described other ways in which their teachers helped to support their success as online learners. Students reported frequent use of small group discussions via
breakout rooms, clear and consistent organization and structure, feedback, and availability as key components of their teachers’ practices that they found particularly helpful.

**Recommendations**

The results of the present study offer more evidence in support of the nested levels of student outcomes, as identified by Kallick and Costa (2009), pictured below in Figure 5.2. Although the relationship between Habits of Mind and student achievement cannot be described with respect to causality, the present study found a strong positive correlation between Habits of Mind proficiency and student achievement on a writing task, thus reinforcing the existing framework that has established Habits of Mind as foundational prerequisites to engaging in cognitive tasks, applying thinking skills, and, lastly, acquiring content knowledge.

![Figure 5.2](image)

It is theorized that the direct instruction and implicit reinforcement and modeling of the Habits of Mind support students’ abilities to strategically think and plan cognitive tasks, and then subsequently to apply the kinds of thinking skills that will allow students to engage with and retain content-area knowledge and skills (Kallick & Costa, 2009). The present study
supports prior research calling for embedded social-emotional learning as part of the existing instructional framework (Atlan et al., 2017; Costa & Kallick, 2008; Jones et al., 2017; Kallick & Costa, 2009). In particular, the Habits of Persisting and Thinking About Your Thinking (Metacognition) were recurrent themes in teacher and student narrative responses, and appear to be fundamental attributes for other Habits of Mind.

The present study also supports the application of additional teaching strategies and practices in online learning environments in order to support student motivation, engagement, and performance. It is recommended that ample opportunities are provided for social interaction to increase perceptions of social presence and student engagement, and to decrease perceptions of social isolation (Erdoğdu & Çakıroğlu, 2021; Journell, 2013). This concept was reinforced in individual interviews, wherein students who appeared to have more positive perceptions of their online learning communities were quick to describe multiple opportunities for non-academic interaction via video conferencing breakout rooms and the functional use of humor in the classroom. In their study on the use of humor in the classroom, Erdoğdu and Çakıroğlu (2021) cite research supporting the potential for humor to facilitate a positive social-emotional learning environment. They recommend that humorous elements be designed for multiple purposes in instruction, including attention, recall, and feedback, in addition to using humor for non-academic breaks.

In a teacher interview, the application of principles of Universal Design in Learning (UDL) were utilized to improve student accessibility with content and directions using multiple methods of representation. UDL describes models of curricular design and learning systems that are accessible to learners with diverse cognitive, physical, social-emotional, and linguistic abilities (Rose & Strangman, 2007). Audio-recorded and written instructions, and video-recorded feedback and lessons are examples of ways cited in the narrative responses to incorporate UDL in digital learning platforms. In addition, structured and frequent feedback through both formal and informal assessment of student work was described by students and teachers as ways to improve personalized learning in an online
learning environment from a UDL perspective. This mirrors some of the best practices recommended by Vadell (2013) for UDL in online instruction.

Another overarching theme is the need for teacher training in instructional practices specific to digital learning platforms (Barbour et al. 2011). As the narrative responses in the current research study indicated, there was variability in the ways in which teachers structured their synchronous and asynchronous learning experiences. Therefore, consistency in pedagogy may facilitate more positive affective experiences and enhanced learning outcomes for students.

**Suggestions for Further Research**

The present study was limited by its small sample size, as well as the homogeneity of the sample and the population from which the sample was drawn. The seventeen sample participants were recruited from a single district composed of predominantly white students, with fewer than 20% of the student population qualifying for Free and Reduced Lunch. This limits the generalizability of the present results to white students from middle class homes. Future research could recruit larger and more racially and socioeconomically diverse samples using K-12 learners in order to provide a more robust depiction of the relationships between social presence, social-emotional dispositions, and student achievement and performance. While there was no significant statistical relationship between social-emotional dispositions and social presence scores, there was a moderate effect size ($d=0.52$). The lack of a significant $p$ value may be a function of the limited sample size. Therefore, replicating the study with a larger, heterogeneous sample, particularly with regard to social presence, is recommended.

Social-emotional proficiency scores in this study were triangulated based on student self-reflection, teacher rating, and parent rating using a Habits of Mind ordinal scale. Paired sample t-tests revealed that students rated themselves significantly higher in Habits of Mind proficiency than teachers or parents. There was no significant difference between the ratings
given by teachers and parents. In future studies, reliability may be preserved by using only teacher or parent ratings for Habits of Mind proficiency.

The scope of the research was also limited to six out of 16 total Habits of Mind, as described by Kallick and Costa (2009), and shown in Table 5.1.

Table 5.1

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<tbody>
<tr>
<td><strong>1. Persisting</strong>*</td>
<td>Demonstrating perseverance and staying focused on a task.</td>
</tr>
<tr>
<td><strong>2. Managing Impulsivity</strong></td>
<td>Being deliberative, thoughtful, and thinking before acting</td>
</tr>
<tr>
<td><strong>3. Listening with Understanding and Empathy</strong></td>
<td>Making an effort to perceive and understand someone else’s feelings and point of view</td>
</tr>
<tr>
<td><strong>4. Thinking Flexibly</strong>*</td>
<td>Being able to generate and consider alternative options</td>
</tr>
<tr>
<td><strong>5. Thinking about Thinking (Metacognition)</strong>*</td>
<td>Having awareness of one’s own thoughts, feelings, and behaviors, and being able to understand the effect one has on others</td>
</tr>
<tr>
<td><strong>6. Striving for Accuracy</strong>*</td>
<td>Consistently finding ways to check and improve work so that it meets a high standard</td>
</tr>
<tr>
<td><strong>7. Questioning and Posing Problems</strong></td>
<td>Having the disposition to frequently ask questions and identify problems to solve</td>
</tr>
<tr>
<td><strong>8. Applying Past Knowledge to New Situations</strong></td>
<td>Transferring prior knowledge to new contexts</td>
</tr>
<tr>
<td><strong>9. Thinking and Communicating with Clarity and Precision</strong>*</td>
<td>Striving for accurate and precise communication in speech and in writing</td>
</tr>
<tr>
<td><strong>10. Gathering Data Through All Senses</strong></td>
<td>Using the five senses to observe and perceive the world</td>
</tr>
<tr>
<td><strong>11. Creating, Imagining, Innovating</strong>*</td>
<td>Generating original and new ideas with fluency</td>
</tr>
<tr>
<td><strong>12. Responding with Wonderment and Awe</strong></td>
<td>Perceiving the world as mysterious and intriguing</td>
</tr>
<tr>
<td><strong>13. Taking Responsible Risks</strong></td>
<td>Trying new things in order to expand the limits of one’s competency</td>
</tr>
<tr>
<td><strong>14. Finding Humor</strong></td>
<td>Appreciating what is unexpected, whimsical, or incongruous; not taking oneself too seriously</td>
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The researcher selected the six Habits of Mind for the quantitative rating scale in an attempt to improve the validity of the rating scale for those Habits which appear most relevant to student performance in a writing class. Future studies have the opportunity to explore the relationship between additional Habits and other student performance tasks. As the body of quantitative research between Habits of Mind and student achievement increases, researchers can support more confident and reliable recommendations for future instructional practices through digital learning platforms.

Meanwhile, the Community of Inquiry framework, as illustrated in Figure 5.3, is predicated on the construction of a meaningful learning experience for students by way of the interdependence of social presence, cognitive presence, and teaching presence (Zidiropoulou & Mavroidis, 2019). Fiock (2020) defines cognitive presence as the student perception of having achieved learning outcomes through metacognitive reflection of content knowledge and skills in a given subject area, and teaching presence as the combined effect of instructional design, the instructional delivery itself, and the facilitation of discourse or interaction on the social and cognitive aspects of learning.
Figure 5.3 Community of Inquiry Framework

For the purpose of limiting the scope of the research and making the surveys manageable and accessible for elementary school students, only the social presence dimension of the Community of Inquiry Questionnaire was administered, in a revised format. However, in interview responses, students described ways in which their teachers appeared to help facilitate social and cognitive presences in their instructional practices. It is therefore recommended that future studies employ the administration of the Community of Inquiry Questionnaire in its entirety in order to assess the complex interaction of the multiple presences within COI.

In addition to assessing cognitive and teaching presences, it may also be worthwhile to examine more closely the workload of teachers in a virtual classroom setting versus those in a traditional setting. The results of this study indicated that teachers spent an extended part of their school days conducting office hours and 1:1 support, in addition to planning and constructing differentiated, UDL-based instruction. The present study did not directly
address the workload of virtual teachers, but this may be an important implication for future research and training of online teachers.

**Conclusion**

This mixed-method, cross-sectional study was conducted with 5th grade public school virtual learners for the purpose of making recommendations for K-12 teaching and learning practices in online learning environments. The students in the present study who appeared to intuitively possess or demonstrate key social-emotional dispositions scored higher on a final summative writing performance task than their peers who were not proficient in social-emotional attributes. Therefore, student proficiency in social-emotional competencies is related to student achievement and students may benefit academically by receiving explicit instruction in SEL skills, processes, and behaviors.

Other factors that may relate to student achievement and perceptions of connectedness and engagement in online learning platforms is the purposeful use of humor and social and academic interactions in various sized groupings. Students also reported benefiting academically from teacher availability for 1:1 help, teacher organization and structure, and clear and consistent feedback systems. Teachers reported that their use of breakout rooms for collaborative work and interaction, as well as their use of Universal Design of Learning strategies for multiple means of representation, were helpful in structuring their online learning environments to best support their students. However, there was variability in student responses regarding the use of efficaciously perceived teacher practices in online classrooms particularly as it pertains to social interaction, thereby reinforcing the importance of district and legislative policies to mandate teacher training in the delivery of instruction using digital platforms.
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Appendix A

GWYNEDD MERCY UNIVERSITY
Gwynedd Valley, Pennsylvania
Consent Form
Adult Participants

**Title of Study:** Exploring the Relationship Between Social-Emotional Competencies and Student Outcomes in Online Learning Environments

**Principal Investigator:** Ms. Sarah Teeple  
**Email Address:** teeple.s@gmercyu.edu  
**Faculty Advisor:** Dr. Amanda Benolken  
**Study Contact Telephone Number:** 469-767-0175

**What are some general things you should know about research studies?**

You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, at any time, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

**What is the purpose of this study?**

The purpose of this research study is to explore the connection that may exist between social and emotional (SEL) competencies, online social presence, and student learning outcomes in virtual learning. The purpose of this study is to provide evidence and support for certain types of teacher training for the benefit of online students. Based on the information extracted from the data, the researcher will provide recommendations for K-12 schools in developing successful virtual learning programs. You are being asked to participate in this study because you are currently teaching in a virtual setting.

**How many people will take part in this study?**

If you consent to participation in this study, you will be one of approximately 50 students and 10 teachers who will also participate in this research study.

**How long will your part in the study last?**
You will need approximately 20 minutes to complete survey questionnaires. There will be one follow up interview that is conducted virtually, and the interview will take approximately 15 minutes.

**What will happen if you take part in this study?**

You will be asked to complete survey questionnaires regarding student social and emotional competencies as you have observed in your classroom. You will also be asked to participate in a follow up interview to answer questions regarding the role of student habits in virtual learning. If you choose to participate in the second phase of the study, your responses will be audio recorded.

**What are the possible risks or discomforts involved from being in this study?**

There are minimal to no risks associated with participation in this study. If you feel anxiety regarding the questions in the survey or any follow-up interview, you may withdraw from participating at any time during the study. If you have questions or concerns or would like to speak with a counselor on the topic, please reach out to the principal investigator. There may be previously unknown risks. You should report any problems you experience during the study.

**How will your privacy be protected?**

Your name and other personal information will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, Gwynedd Mercy University will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety. I will do my best to preserve your confidentiality and securely retain all information, including notes, interview transcripts, names, and other types of identifying information unavailable to other parties. All participants will remain anonymous. All data will be stored in password-protected computers or cloud-based storage drives. The summarized findings with no identifying information may be published in an academic journal or presented at a scholarly conference. Audio recordings for any follow-up interviews or focus groups will be stored in password-protected computers and cloud-based storage drives. You may request audio recordings to be turned off at any point during an interview.

**Will you or your child receive anything for being in this study?**

If you choose to participate in the study, you will be entered into a raffle to receive a $15 Amazon.com gift card.

**Will it cost anything to be in this study?**

There will be no cost for being in the study. Your participation is voluntary.
What if you have questions about this study or your rights as a participant?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions or concerns, you should contact the researchers listed on the first page of this form. All research on human volunteers is reviewed by the Institutional Review Board at Gwynedd Mercy University who work to protect your rights and welfare. If you have questions or concerns about your rights as a research participant, you may contact the principal investigator, Sarah Teeple, at teeple.s@gmercyu.edu.

-----------------------------------------------------------------------------------

Participant’s Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily give permission to allow my child to participate in this research study.

__________________________________________
Printed Name of Research Participant

__________________________________________    __________________
Signature of Research Participant      Date
Title of Study: Exploring the Relationship Between Social-Emotional Competencies and Student Outcomes in Online Learning Environments

Principal Investigator: Ms. Sarah Teeple
Email Address: teeple.s@gmercyu.edu
Faculty Advisor: Dr. Amanda Benolken
Study Contact Telephone Number: 469-767-0175

What are some general things you should know about research studies?
You are asked to allow your child to take part in a research study. The participation in this study is voluntary. You may refuse to give permission, or you may withdraw your permission for your child to be in the study, for any reason, at any time. Even if you give your permission, your child can decide not to be in the study or to leave the study early.

Research studies in education are designed to obtain new knowledge useful for schools, teachers, and students. This new information may help educators improve the quality of services they provide in the future. Your child may not receive any direct benefit from being in the research study. There also may be certain risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you and your child can make an informed choice about his or her participation in this research study.

You will be given a copy of this consent form. You and your child should ask the researchers named above any questions you have about this study at any time. The principal investigator will verify your consent via the phone number provided below.

What is the purpose of this study?
The purpose of this research study is to explore the connection that may exist between social and emotional (SEL) competencies, online social presence, and student learning outcomes in virtual learning. The purpose of this study is to provide evidence and support for certain types of teacher training for the benefit of online students. Based on the information extracted from the data, the researcher will provide recommendations for K-12 schools in developing successful virtual learning programs. Your child is asked to be in the study because he or she is currently participating in virtual learning.

How many people will take part in this study?
85
If you and your child consent to participation in this study, your child will be one of approximately 50 students who will also participate in this research study.

**How long will your child’s part in the study last?**

Each participant will need approximately 20 minutes to complete a survey questionnaire. In addition, if your child chooses to participate in the follow up interview, the interview will take approximately 15 minutes via a virtual meeting with a parent or guardian present.

**What will happen if your child takes part in this study?**

Each student will be asked to complete a survey questionnaire independently. You and your child’s teacher will complete a similar survey questionnaire. Some students and teachers may also choose to participate in a follow up interview to answer questions regarding the role of student habits in virtual learning. If you and your child choose to participate in the second phase of the study, their responses will be audio recorded.

**What are the possible risks or discomforts involved from being in this study?**

There are minimal to no risks associated with participation in this study. If your child feels anxiety regarding the questions in the survey or any follow-up interview, they may withdraw from participating at any time during the study. If you have questions or concerns or would like to speak with a counselor on the topic, please reach out to the principal investigator. There may be previously unknown risks. You should report any problems you experience during the study.

**How will your privacy be protected?**

Your child’s name and other personal information will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, Gwynedd Mercy University will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety. I will do my best to preserve your confidentiality and securely retain all information, including notes, interview transcripts, names, and other types of identifying information unavailable to other parties. All participants will remain anonymous. All data will be stored in password-protected computers or cloud-based storage drives. The summarized findings with no identifying information may be published in an academic journal or presented at a scholarly conference. Audio recordings for any follow-up interviews or focus groups will be stored in password-protected computers and cloud-based storage drives. You and your child may request audio recordings to be turned off at any point during an interview.

**Will you or your child receive anything for being in this study?**
If you and your child choose to participate in the study by completing the survey questionnaire, you will each be entered into a raffle to receive a $15 Amazon.com gift card. If your child also participates in the follow-up interview, your child will be entered into an additional raffle for another $15 Amazon.com gift card.

**Will it cost anything to be in this study?**

There will be no cost for being in the study. Your child’s participation is voluntary.

**What if you have questions about this study or your rights as a participant?**

You have the right to ask, and have answered, any questions you may have about this research. If you have questions or concerns, you should contact the researchers listed on the first page of this form. All research on human volunteers is reviewed by the Institutional Review Board at Gwynedd Mercy University who work to protect your rights and welfare. If you have questions or concerns about your rights as a research participant, you may contact the principal investigator, Sarah Teeple, at teeple.s@gmercyu.edu.

**Parent’s Agreement:**

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily give permission to allow my child to participate in this research study.

______________________________
Printed Name of Research Participant (Child)

______________________________    ___________________
Signature of Parent       Date

______________________________
Printed Name of Parent

______________________________    ___________________
Phone number for parent to be contacted for verification

______________________________    ___________________
Signature of Investigator       Date
Appendix C

GWYNEEDD MERCY UNIVERSITY
Gwynedd Valley, Pennsylvania
Assent to Participate in a Research Study
Minor Participant (age 10-11 years)

Title of Study: Exploring the Relationship Between Social-Emotional Competencies and Student Outcomes in Online Learning Environments

Principal Investigator: Ms. Sarah Teeple
Email Address: teeple.s@gmercyu.edu
Faculty Advisor: Dr. Amanda Benolken
Study Contact Telephone Number: 469-767-0175

What are some general things you should know about research studies?
You are asked to take part in a research study. Your parent or guardian needs to give permission for you to be in this study. You do not have to be in this study if you don’t want to, even if your parent has already given permission. To join the study is voluntary, which means that you may refuse to join, or that you may stop participating at any time in the study, for whatever reason, without consequence.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researcher named above any questions that you have about this study at any time.

What is the purpose of this study?

The purpose of this research study is to explore the connection that may exist between social and emotional (SEL) habits, online social presence, and student learning outcomes in virtual learning. The purpose of this study is to provide evidence and support for certain types of teacher training for the benefit of online students.

How many people will take part in this study?

If you decide to be in this study, you will be one of approximately 50 students who will also participate in this research study.

How long will your part in the study last?
You will need approximately 20 minutes to complete a survey questionnaire. In addition, if you choose to participate in the follow up interview, the interview will take approximately 15 minutes via a virtual meeting.

**What will happen if you take part in this study?**

Each student will be asked to complete a survey questionnaire independently. Your teacher and parent or guardian will complete a similar survey questionnaire. Some students may also choose to participate in a follow up interview to answer questions regarding the role of student habits in virtual learning. If you choose to participate in the second phase of the study, your responses will be audio recorded.

**What are the possible risks or discomforts involved from being in this study?**

There are minimal to no risks associated with your participation in this study. If you feel anxiety regarding the questions in the survey or any follow-up interview, you may withdraw from participating at any time. If you have questions or concerns or would like to speak with a counselor on the topic, please reach out to the principal investigator. There may be previously unknown risks. You should report any problems you experience during the study.

**How will your privacy be protected?**

Your name and other personal information will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, Gwynedd Mercy University will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety. I will do my best to preserve your confidentiality and securely retain all information, including notes, interview transcripts, names, and other types of identifying information unavailable to other parties. All participants will remain anonymous. All data will be stored in password-protected computers or cloud-based storage drives. The summarized findings with no identifying information may be published in an academic journal or presented at a scholarly conference. Audio recordings for any follow-up interviews or focus groups will be stored in password-protected computers and cloud-based storage drives. You may request audio recordings to be turned off at any point during an interview.

**Will you receive anything for being in this study?**

If you choose to participate in the study by completing the survey questionnaire, you will be entered into a raffle to receive a $15 Amazon.com gift card. If you choose to also participate in the follow-up interview, you will be entered into an additional raffle for another $15 Amazon.com gift card.

**Will it cost anything to be in this study?**

There will be no cost for being in the study. Your participation is voluntary.
What if you have questions about this study or your rights as a participant?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions or concerns, you should contact the researchers listed on the first page of this form. All research on human volunteers is reviewed by the Institutional Review Board at Gwynedd Mercy University who work to protect your rights and welfare. If you have questions or concerns about your rights as a research participant, you may contact the principal investigator, Sarah Teeple, at teeple.s@gmercyu.edu.

--------------------------------------------------------------------------------------------------------------------------

Participant’s Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

________________________________________  ______________________
Signature of Research Participant  Date

________________________________________
Printed Name of Research Participant

________________________________________  ______________________
Signature of Investigator  Date
Appendix D
Student Questionnaire

Habits of Mind Questionnaire

Student self-reflection

* Required

Email address *

Your email

What is your name? *

Your answer

Who is your teacher? *

Your answer
Read each statement carefully. Please select the box that you think best describes you. Only choose one response for each statement. Pick the response that you think best describes yourself at this time.

<table>
<thead>
<tr>
<th></th>
<th>Never or Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always or Usually</th>
</tr>
</thead>
<tbody>
<tr>
<td>I stick to a task until it is completed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I stay focused on a task.</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>I work towards goals.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I try to find new approaches to solve problems.</td>
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<tr>
<td>I can think of different solutions to problems.</td>
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<tr>
<td>I am quick to consider different points of view.</td>
<td></td>
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<tr>
<td>I can reflect upon my own feelings.</td>
<td></td>
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<tr>
<td>I can reflect upon my own thoughts.</td>
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<td>Statement</td>
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<td>---------------------------------------------------------------------------</td>
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<tr>
<td>I am aware of how my actions affect others.</td>
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<tr>
<td>I consistently complete work.</td>
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</tr>
<tr>
<td>I turn in high-quality work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I show pride in my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I write using precise language and clear terms.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I speak using precise language and clear terms.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I can support my thinking with reasons and evidence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am creative.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy figuring things out.</td>
<td></td>
<td></td>
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<tr>
<td>I am willing to accept constructive criticism.</td>
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</tbody>
</table>
Appendix E
Parent Questionnaire

Habits of Mind Questionnaire

Parent/guardian rating scale
* Required

Email address *

Your email

What is your child's full name? *

Your answer

Read each statement carefully. Please identify the extent to which the following statements describe your child by selecting the appropriate box for each statement. Only select one response for each statement. Pick the response that you think best describes your child at this time. *

<table>
<thead>
<tr>
<th>Never or Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always or Usually</th>
</tr>
</thead>
<tbody>
<tr>
<td>My child sticks to a task until it is completed.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>My child stays focused on a task.</td>
<td>□</td>
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</tr>
<tr>
<td>Statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>My child is goal-directed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My child seeks new approaches to problems.</td>
<td></td>
<td></td>
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<tr>
<td>My child can generate alternative solutions to problems.</td>
<td></td>
<td></td>
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<tr>
<td>My child is quick to consider different points of view.</td>
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<tr>
<td>My child can reflect upon their own feelings.</td>
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<tr>
<td>My child can reflect upon their own thoughts.</td>
<td></td>
<td></td>
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<tr>
<td>My child demonstrates awareness of how their actions affect others.</td>
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<tr>
<td>My child consistently completes work.</td>
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<tr>
<td>My child turns in high-quality work.</td>
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<tr>
<td>Statement</td>
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<td>2</td>
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</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
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<tr>
<td>My child demonstrates pride in their work.</td>
<td></td>
<td></td>
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<tr>
<td>My child communicates accurately in written form by using precise language and clear terms.</td>
<td></td>
<td></td>
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<tr>
<td>My child communicates orally using precise language and clear terms.</td>
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<tr>
<td>My child can support their thinking with reasons and evidence.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>My child is creative.</td>
<td></td>
<td></td>
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<tr>
<td>My child enjoys figuring things out.</td>
<td></td>
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<tr>
<td>My child is willing to accept constructive criticism.</td>
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</tbody>
</table>
Appendix F
Teacher Questionnaire

Habits of Mind Questionnaire

Teacher Rating Scale

* Required

Email address *

Your email

What is the full name of the student for whom you are applying these ratings? *

Your answer

Read each statement carefully. Please identify the extent to which the following statements describe the student by selecting the appropriate box for each statement. Only select one response for each statement. Pick the response that you think best describes the student at this time. *

<table>
<thead>
<tr>
<th>Never or Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always or Usually</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student sticks to a task until it is completed.</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Never or Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always or Usually</th>
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</thead>
<tbody>
<tr>
<td>The student stays focused on a task.</td>
<td></td>
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</table>

97
<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>The student is goal-directed.</td>
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<tr>
<td>The student seeks new approaches to problems.</td>
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<td>The student can generate alternative solutions to problems.</td>
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<tr>
<td>The student is quick to consider different points of view.</td>
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<tr>
<td>The student can reflect upon their own feelings.</td>
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<td>The student can reflect upon their own thoughts.</td>
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<tr>
<td>The student demonstrates awareness of how their actions affect others.</td>
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<tr>
<td>The student consistently completes work.</td>
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<tr>
<td>The student turns in high-quality work.</td>
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<td>The student demonstrates pride in their work.</td>
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<tr>
<td>The student communicates accurately in written form by using precise language and clear terms.</td>
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<td>The student communicates orally using precise language and clear terms.</td>
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<td>The student can support their thinking with reasons and evidence.</td>
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<td>The student is creative.</td>
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<td>The student enjoys figuring things out.</td>
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<tr>
<td>The student is willing to accept constructive criticism.</td>
<td>□</td>
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Appendix G
Community of Inquiry Survey Instrument: Social Presence

Affective expression

1. I feel like I belonged in the class.
2. I feel like I got to know some of my classmates.
3. Communicating online was a good way to socially interact with others.

Open communication

4. I felt comfortable talking online.
5. I felt comfortable participating in online discussions.
6. I felt comfortable interacting with my classmates.

Group cohesion

7. I felt comfortable disagreeing with my classmates in a respectful way.
8. I felt that my classmates understood my point of view.
9. I was able to work together with my classmates online.

5 point Likert-type scale
1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree
Appendix H

Exploring the Relationship between Social-Emotional Competencies and Student Outcomes in Online Learning Environments
Principal Investigator: Sarah Teeple

Student Interview Protocol

Thank you for volunteering to participate in this research study. My goal is to understand your experience as a virtual 5th grade student in the Pennridge School District. Before we begin, do you have any questions based on the information you read in the consent form?

I am interested in learning more about how certain social-emotional skills, or Habits of Mind, have helped support you as a learner this year. (projects and reads out loud each of the six Habits of Mind shown below).

1. In what ways do you see any of these Habits helping you in your learning in an online classroom?

2. In what ways do you see any of the Habits helping you be engaged in your online learning?

3. When you are faced with a challenging task, which of these Habits do you think are most helpful?

4. In what ways does your teacher help support these Habits in your online learning?
Appendix I

Exploring the Relationship between Social-Emotional Competencies and Student Outcomes in Online Learning Environments
Principal Investigator: Sarah Teeple

Teacher Interview Protocol

Thank you for volunteering to participate in this research study. My goal is to understand your experience as a virtual 5th grade teacher in the Pennridge School District. Before we begin, do you have any questions based on the information you read in the consent form?

I am interested in learning more about how certain social-emotional skills, or Habits of Mind, have helped support your teaching practices this year. (projects and reads out loud each of the six Habits of Mind shown below).

1. In what ways do you see any of these Habits helping your students be successful in an online classroom?

2. In what ways do you see any of the Habits helping your students be engaged in your online learning?

3. When your students are faced with a challenging task, which of these Habits do you think are most helpful?

4. In what ways does your teaching practice help support these Habits in your students' online learning?