A PHENOMENOLOGICAL STUDY OF TEACHER-TO-STUDENT TECHNOLOGY-

MEDIATED COMMUNICATION IN SECONDARY VIRTUAL SCHOOL ENVIRONMENTS

by

Sherry Janine Ashe

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

The purpose of this transcendental phenomenological study was to describe teacher experiences of teacher-to-student technology-mediated communication (TMC) in secondary virtual school (VS) environments in Alabama. The central research question for this study was: How do virtual school teachers in Alabama describe their experiences of teacher-to-student technology-mediated communication in secondary virtual school environments? Five sub-questions were also used: (1) How does technology-mediated communication meet the needs of individual teachers? (2) How does technology-mediated communication lead to better work performance? (3) How do teachers describe characteristics of the tasks that must be performed? (4) How do teachers describe characteristics of the technology that are used? (5) How do user characteristics impact the use of technology-mediated communication? The theory guiding this qualitative study was Goodhue and Thompson's (1995) task-technology-fit (TTF) theory. Students educated in virtual environments use TMC, so teachers must know what kinds of TMC work best. The problem is that the teacher voice has been ignored in identifying teacher-to-student TMC that is effective in secondary VS environments. Using purposeful sampling of 12 VS teachers in Alabama, this research utilized semi-structured interviews, artifacts, and an asynchronous online focus group to uncover teacher experiences of teacher-to-student interactions in VS environments. Data analysis included bracketing, coding, establishing patterns, textural and structural descriptions, and development of the essence of participants' experiences. In seeking meaning from their experiences, the predominant theme of whatever is best for the students became evident. Four themes developed pertaining to the participants' experiences: Teacher mindset, teacher presence, integration of technology into instruction, and technology issues.

Keywords: task-technology fit, technology-mediated communication, virtual school.

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Dedication

This entire degree would not have been possible without my children, William and Jacob, who patiently waited for me to complete this journey. I have lived in a rather withdrawn state for nearly the entire time I have been working toward and on this dissertation, and you have both given me the time and space I needed. I love you more than you will ever know. I hope that through this journey I have instilled in you the desire to be lifelong learners. Now, let's go do something fun!

To my parents, Michael and Brenda Hanson, I thank you for always supporting me and loving me through all my endeavors. You have always encouraged me to better myself, and I am convinced that at times you had more confidence in me than I did myself. Thank you for accepting my absenteeism over the past couple years. Your love, kindness, and support have not gone unnoticed. You have been a true blessing in my life, and I could not have asked for better parents. I love you both beyond measure.

Thank you to my committee, Dr. Carol Gillespie, Dr. Lisa Reason, and Dr. Sharon Weldon for helping me through this process, but mostly for helping me maintain my sanity. I will be forever indebted to you for all you have done for me.

Even with the support of my family and committee, I know that my accomplishments would not have been possible if it were not for Jesus Christ. The times I wanted to give up, He sustained me. If not for His love and guidance, I would surely not have succeeded.

This study is also dedicated to all educators who teach or facilitate online learning. Although your position may appear easy, it is teeming with challenges that consistently arise; Your dedication to your students and your profession is commendable.

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List of Abbreviations

Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS)

Alabama State Department of Education (ALSDE)

Institutional Review Board (IRB)

Task-technology fit (TTF)

Technology-mediated communication (TMC)

Virtual School (VS)

CHAPTER ONE: INTRODUCTION

Overview

Student success is a topic of great concern, and although education is a matter for each individual state, the federal government has intervened with various programs such as No Child Left Behind and Every Student Succeeds Act to improve student success in elementary and secondary education environments (Every Student Succeeds Act [ESSA], 2015). In addition, many states have instituted online learning courses or virtual schools (VSs) to facilitate different learning preferences and increase student success. Online learning is growing rapidly and changing the way K-12 education looks today (Kennedy & Archambault, 2012; Watson, Murin, Vashaw, Gemin, & Rapp, 2011).

As with other programs, online learning is not free from issues. One of the most concerning issues is that of communication (Lu, 2011). There are three types of interaction in virtual schools: student-to-content, student-to-teacher, and student-to-student (Abrami, Bernard, Bures, Borokhovski, & Tamim, 2011; Borup, Graham, & Davies, 2013a). This study focused on student-to-teacher communication in VS environments. Teacher-to-student communication and student-to-teacher communication were synonymous in this study. Teacher-to-student communication impacts students positively in terms of both quantity and quality (Hawkins, Graham, Sudweeks, & Barbour, 2013). Teacher-to-student communication in VS environments is important for all students but especially for high-risk students (Hawkins et al., 2013). Virtual school teachers acquire their online communication skills through trial and error as opposed to formal learning (Hawkins, Barbour, & Graham, 2012), so their experiences are of utmost importance. The rapid increase of online schooling means that educators must be responsive to the students' needs. To do this, educators must have knowledge of how to teach their VS

students (Kennedy & Archambault, 2012). This includes the necessity of effective communication.

The purpose of this chapter is to provide a framework for this study. Background information regarding the importance of and the issues with communication in VSs will be furnished along with how this researcher is personally involved with the study. The purpose statement will describe the goal of the study, and an explanation of the importance of the study will also be given. Research questions that guided this study will be presented in this chapter along with important definitions and a summary of the chapter.

Background

Although it appears VS programs are the newest educational endeavor, they have been around for quite some time. Virtual schools, however, are steadily increasing in number at the secondary school level (Hawkins, Barbour, & Graham, 2012). There are several types of virtual programs available to students. Some VS programs include face-to-face communication, such as on-campus VSs, and some have no face-to-face communication, such as the off-campus VSs. Communication plays a large part in the success of VS students (Borup et al., 2013a), and just as traditional school teachers rely on the use of face-to-face communication, VS teachers rely on the use of TMC. The types of TMC that teachers use with their students is of great importance as it must be readily received and utilized by the teachers and the students, and it must fit its purpose within the context in which it is used (Goodhue & Thompson, 1995). There is a gap in the literature, though, as no research has been located that specifically addresses teacher experiences of teacher-to-student TMC in VS environments. The best means of understanding teacher-to-student technology mediated communication needs is to qualitatively study the phenomenon (Belair, 2012b).

Historical Context

Distance education, or the idea of acquiring an education away from a physical school, is nothing new. As far back as the 1880's, one of the first forms of distance education evolved as a mail order correspondence course (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012). It was then that Anna Ticknor created the Society to Encourage Studies at Home in the 1800's and thus began the education of persons via distance education (Caruth & Caruth, 2013). Also in the 1800's, the University of Chicago's first president, William Rainey Harper, implemented a distance education program that utilized the postal service (Caruth & Caruth, 2013; Greenway & Vanourek, 2006). Since those first correspondence courses began, generation after generation has brought change to the idea of distance education. Following the mail order correspondence courses came courses via radio (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012). Radio distance education quickly gave way to courses delivered by television, which then paved the way for video courses (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012). The modern day version of distance education uses computers and the Internet to teach VS courses (Kentnor, 2015; Lease & Brown; Moore & Kearsley, 2012).

Originally, education outside of the traditional school setting was predominantly for either adult or college-level programs (Borup et al., 2013a). In 1991, Laurel Springs, the first virtual high school, was started in California (Barbour, 2010; Kennedy & Archambault, 2012), and students' programs were completely online (Greenway & Vanourek, 2006). Later in the 1990's, Florida and Utah launched their high school VSs (Greenway & Vanourek, 2006). Today, there is a VS located in every state within the United States (Kim, Park, Cozart, & Lee, 2015), and the number of enrollees is continuously growing (Kim et al., 2015). Typically, VSs

at the secondary level include high school courses, but there are also some middle school virtual courses available (Oliver, Osborne, Patel, & Kleiman, 2009b).

Just as the method of distance education has changed, so too have issues that must be addressed. One such issue that must be attended to is communication between teacher and student in VS environments (Kentnor, 2015). Although it would seem that VS students, who have chosen to take their courses away from the school building, would not need or want teacher interaction, Belair (2012b) found that "A majority of students in the study expected their teachers to regularly communicate examples and explanations beyond the standard curriculum" (p. 29). Similarly, Ingerham's (2012) study found that when a teacher is not available, the effectiveness of online learning is greatly lessened. Since online programs are growing more rapidly than any previous distance education program in the past (Kentnor, 2015), it is important that teacher-to-student communication issues be addressed.

Social Context

Online VS programs have garnered both positive and negative attention from educators, students, parents, legislators, and the media. Virtual schools have both advantages and disadvantages (Morgan, 2015). Virtual school students can work at their own pace from any location with an Internet connection, and they can choose to work when they please; however, virtual programs lack face-to-face contact with teachers and regular communication between teacher and student (Morgan, 2015). Additionally, when students lack the discipline to complete assignments or manage their time wisely, lack of teacher-to-student communication becomes a very important negative factor (Morgan, 2015). As in any teaching/learning environment, communication in the virtual environment impacts both student learning and student motivation (Borup et al., 2012a). Stressing the importance of communication in VS environments, Belair

(2012b) wrote "Communication is a vital component of teacher responsibilities and competent teachers must enter the virtual arena with this tacit ability" (p. 27).

How students and teachers communicate, or fail to communicate, has been shown to be important (Belair, 2012b). Some virtual programs have a person or a call center that students contact with issues, and if that first contact person cannot handle the problem, it is then escalated to the teacher (Borup et al., 2012a). This would solve the issue of students contacting teachers before they attempt to resolve problems themselves, as one study stated (Belair, 2012a). Another study (Beese, 2014) found that students perceive their teachers as unresponsive to their communication, while at the same time, teachers perceive that students are unresponsive to their communication. It is possible that teachers and students are not using a mutually agreeable form of communication. Belair (2012a) found that phone calls are not a viable means of communication because students do not consistently respond to telephone communication. Also, although it was not the topic of Belair's (2012a) research, Belair (2012a) found that one participant responded that students do communicate well through text messaging. This led Belair (2012a) to suggest that further research be done to ascertain what kind of technology-mediated routes of communication work best in VS environments (Belair, 2012a; Belair 2012b).

In the past, VS students were typically the advanced learners who were self-driven, but today's VSs include many students who are attempting to recover lost credit or to gain enough credits for graduation (Hawkins et al., 2013). Likewise, many alternative schools are using virtual programs to teach their students. These students need quality interaction with their teachers, especially if they are at risk of dropping out of high school (Hawkins et al., 2013). Although there are both self-driven and struggling students in VS programs, research has found that they all need teacher redirection just as their non-virtual counterparts (Ingerham, 2012).

Virtual schools have been around for quite some time now, but they are still a growing trend (Kentnor, 2015). Determining an agreeable means of TMC that works for both teachers and students is important if VSs are to be successful. As one study suggested, VS is much more than learning via technology; it is the combination of teachers, students, and technology (Kim, Trimi, Park, & Rhee, 2012).

Theoretical Context

Reliable communication in VS environments is vital for both the teacher and the students (Conn & Rue, 2011). In beginning this research, finding a solid theoretical framework that focused on both technology and communication was important. Goodhue and Thompson's (1995) task-technology fit (TTF) theory was a logical choice because it focused on how well the technology used fits with the task it is intended to help accomplish. Teacher and student goals with TMC vary, so a TMC must meet the needs of both in order to be effective. For instance, teachers may need to utilize motivational communication or communication that gives guidance and direction to their students, whereas students may need to communicate a lack of understanding of the course content or information regarding times they may be absent from their studies. Goodhue and Thompson (1995) described TTF as "the degree to which a technology assists an individual in performing his or her portfolio of tasks" (p. 216).

In the case of this study, TTF describes the degree to which TMC assists the users in the exchange of various kinds of information to each other. Communication in VS environments is necessary between teacher and student, but what form of technology works best in facilitating that communication is unknown (Belair, 2012a, 2012b). New communication technologies are constantly being developed and used (Hung, Kong, Chua, & Hull, 2006). Task-technology fit theory provided a theoretical framework to base how well various technologies aid in facilitating

effective communication between VS teachers and students. In using TTF theory, characteristics of tasks that must be performed between teachers and students were evaluated, the characteristics of technology used to perform those tasks were evaluated, and finally, the fit of the two together was evaluated.

Researching technology is difficult because it is ever-changing (Hung et al., 2006). Some technologies are used often in personal communications. For instance, instant messaging has seen improvements over the years, and users still view it as a casual form of communication, but a person's prior communication with another conveyed a sense of effectiveness of the technology (Hung et al., 2006). This will not likely be the case between teachers and students. Using TTF theory, various forms of communication have been suggested as successful means of communicating for specific purposes in that the communication technology serves the task well (Hung et al., 2006). There are no such findings pertaining to communication in VS environments. This qualitative study using TTF allowed for deeper understanding of teacher experiences regarding the fit of various technologies to the communication tasks that must be performed.

Situation to Self

This research is important to me on a professional level. As an administrator of a school with steadily increasing VS enrollment numbers, I noticed that teachers try diligently to contact students via telephone, email, and sometimes text messages, but oftentimes, students do not respond. In some cases, students state that they never check their email, and they openly admit that they do not like communicating with their teachers via telephone. Communication is the main topic that consistently arises when I ask the VS teacher and the students what their main difficulty in the VS program is. When communication does not take place between the teacher

and the student, student success plunges. It is my responsibility to help these students graduate, so I have a vested interest in solving the communication issue. This frustrating issue might be resolved with this research as VS teachers share their TMC experiences.

This study is also important to me on a more personal level, as I believe that most problems arise from lack of clear communication. I also believe that students learn best when appropriate relationships are formed between teachers and students. Without effective communication, it is difficult to build the relationships necessary for students to succeed.

There are many communication methods available, and teachers have an opportunity to be creative with communication methods in virtual environments. There is little personal contact between teachers and their students in virtual environments because of the nature of virtual schools. As such, effective, reliable TMC is imperative to bridge the communication gap with which virtual teachers and their students struggle. I believe that if teachers and students can find common ground regarding what works and what does not work for communication purposes in the VS environment, then teachers will be happier and students will find greater success with less stress.

Using pragmatism as a means of interpreting data from this study (Creswell, 2013), I intended to let the information gleaned from the participants determine the outcome of this study. It is the end result of this study that will potentially lead to greater student success and more satisfied teachers, so I believe that understanding situations and outcomes as they relate to TMC in VS environments aided this study in understanding teachers' experiences. Having done so, this study will potentially effect change in VS communication but also in student success. I utilized phenomenological epoche to suspend my own thoughts and opinions of the topic (Moustakas, 1994). Following an ontological philosophical assumption (Creswell, 2013), I

believe that gathering information from the multiple perspectives of the teachers who work in VS environments allowed me to understand the essence of their experiences and permitted multiple realities to emerge. In learning the essence of teachers' experiences regarding communication in VS environments, it is my hope that the study delineated communication methods that fit with teacher and student preferences and with the information being conveyed so that communications issues are less prevalent. Because of my experiences with VS teachers and students, I am confident that a qualitative, phenomenological approach was the best approach for this study.

Problem Statement

Today's secondary teachers and students experience education in traditional brick and mortar schools and in VSs. In both venues, communication is of great importance. However, research into the type of communication teachers and students need at the secondary level in virtual environments is sparse (Belair, 2012b). In VSs, students do not have a teacher with them to answer questions, but they must still interact with their teachers for direction and assistance (Ingerham, 2012). One study found that teacher-to-student communication impacted students positively in terms of both quantity and quality in VS environments (Hawkins et al., 2013). Teacher-to-student interaction often involves motivating and helping students with the course content (Borup et al., 2013a). Research also shows there is a need to study the TMC that is used to help students succeed (Belair, 2012a; Hawkins et al., 2013). In working with their students daily, VS teachers are likely to have experiences with what types of TMC are most effective. The teachers also have experienced which forms of TMC work well for the various tasks students and teachers must complete.

The problem is that the teacher voice has been ignored in identifying the types of teacher-to-student TMC that are effective in secondary VS environments. This study adds to the body of empirical literature that addresses communication in VS environments by giving voice to teachers. Previous studies addressed communication in VS environments, but there was a gap in the literature, as no research was located that specifically addressed teacher experiences of teacher-to-student TMC in VS environments.

Purpose Statement

The purpose of this transcendental phenomenological (Moustakas, 1994) study was to describe teacher experiences of teacher-to-student TMC in secondary VS environments in Alabama. For the purposes of this research study, TMC will be generally defined as the use of technology to take the place of human face-to-face interaction (Lessa, 2008). This research focused on 12 participants who are VS teachers within the state of Alabama in the United States of America. The theory guiding this study was Goodhue and Thompson's (1995) TTF theory as it is based on the belief that the characteristics of the technology used and the characteristics of the task must fit each other in order to be successfully implemented. Task-technology fit theory describes the extent to which a technology meets individual user needs and leads to better work performance (Goodhue & Thompson, 1995). According to TTF, in order for technology to lead to better work performance, the technology must be used and be a good fit for the task for which it is being utilized and for the persons utilizing the technology (Goodhue & Thompson, 1995). Using task-technology fit theory was appropriate because teacher and student goals with a TMC may vary, so any technology used must meet the needs of both in order to be effective.

Significance of the Study

This transcendental phenomenological study contributes to the larger body of literature that addresses communication in VSs by addressing teacher experiences of teacher-to-student TMC that is used in secondary education VS environments. Qualitative in nature, this study allowed for deeper understanding of teachers' experiences about the fit of technologies to tasks that must be performed. This research builds on previous research that focused on general communication in VS environments (Belair, 2012a; Belair, 2012b; Borup et al., 2013a) with hopes of learning what TMC forms work best.

This research also added to the theoretical body of literature regarding TTF theory in that students and teachers use communication in VS environments to accomplish different tasks. Using TTF (Goodhue & Thompson, 1995) to determine the fit of communication technologies that teachers and students currently use to the tasks they each must accomplish allowed for a systematic means of evaluating new technology as it becomes available. No research has been located that utilized the TTF theory while focusing on communication between students and teachers in secondary VS environments, but this could very well help teachers and students make more informed communication decisions.

In a practical sense, this research is important to educators, parents, VS students, teacher education programs, and the public. Educators and teacher licensure programs will find this study important because VSs are a reality in schools today. Educators must effectively communicate with students to help them succeed, and interaction in VS environments is significantly supported by technology (Borokhovski, Bernard, Tamim, Schmid, & Sokolovskaya, 2016). As a result of this research, both educators and students may be able to make more informed decisions by examining the teachers' experiences of TMC in VS environments. One

study found that "students' improvement in disposition towards the content was significantly correlated with their reported quantity of learner-instructor interactions…" (Borup et al., 2013a, p. 163). Colleges and universities strive to teach future educators best practices for their future positions as teachers. This study provides useful information that can be included in teacher licensure programs. Parents and students will find this research of interest due to the importance of teacher-to-student interaction in VS environments. One study found that parents and students believed that students were more motivated by teacher-to-student communication than any other form of interaction (Borup, Graham, & Davies, 2013b). Finally, the public will find this research important because the same young people who are students today will be part of the work force in the future. This study gives educators additional information from which to base decisions regarding communication in VS environments, but the information is also be available for public use so that those in other fields may make informed decisions.

Students who are educated in VS environments use technology to communicate with their teachers. The forms of communication these students use change as rapidly as technology changes. Teachers and students must communicate, so understanding teachers' experiences with TMC is essential. It is imperative that students are comfortable with the TMC chosen, but it is also important that TMC used fit well with the tasks that are to be performed.

Research Questions

Research has found that communication between teacher and student in VS environments is important for student success (Borup et al., 2013a). Prior studies on communication in VS environments have been performed (Belair, 2012a, Belair, 2012b; Borup, et al., 2013a), but no studies have focused on TMC from the teacher's perspective. Belair (2012a, 2012b) researched communication in VSs and suggested that parents and students should be told how to

communicate with their teachers but also specified that research should focus on how the learner likes to communicate, especially in the area of technology. This is important in that VS students face the same issues as traditional students such as being off-task, in need of redirection, slow starting, and shutting down too early (Ingerham, 2012). Students need effective communication, and what forms of communication are effective in reaching and assisting students is further addressed in this study. This research intended to seek the teachers' perspective of teacher-to-student TMC in secondary VSs in Alabama. To determine that, the following questions guided the researcher:

Central Question

How do virtual school teachers in Alabama describe their experiences of teacher-to-student technology-mediated communication in secondary virtual school environments? Most research regarding communication with VS students focuses on the need to effectively communicate (Beese, 2014; Belair, 2012a; Borup et al., 2013a). Morgan (2015), however, found that VS teachers provide better communication and support for their students than those in traditional settings. Research has also found that use of the telephone is an ineffective means of communication with students (Belair, 2012a). Since VS students are not in a classroom with the teacher for face-to-face communication, then alternate avenues of communication must be used. This guiding question helped steer the researcher in determining the overall essence of participants' experiences regarding TMC with their students.

Sub-Question One

How does technology-mediated communication meet the needs of individual teachers? Virtual school teachers have reported that the use of the telephone is ineffective in a VS environment (Belair, 2012a), but research also has shown that effective communication is

imperative to student success (Beese, 2014; Belair, 2012a; Borup et al., 2013a). This question provided insights into what technologies VS teachers believe are effective in communicating with their VS students. Virtual school teachers work with their students daily and are likely to know what forms of TMC meet their various needs.

Sub-Question Two

How does technology-mediated communication lead to better work performance? To determine the fit of TMC being used, the tasks being performed must be known. In fact, according to TTF theory, for a technology to lead to better work performance, it must be used, be a good fit for the task for which it is being used, and be a good fit for the persons using the technology (Goodhue & Thompson, 1995). This question served to identify what it is about a TMC that leads to better work performance.

Sub-Question Three

How do teachers describe characteristics of the tasks that must be performed? New communication technologies are constantly being developed and used in organizations (Hung et al., 2006). This question guided the researcher in discovering task characteristics in order to understand what it is that TMC are expected to be able to accomplish. The task characteristics could be important in determining if the communication technologies selected for use will be effective.

Sub-Question Four

How do teachers describe characteristics of the technology that are used? Borokhovski et al. (2016) acknowledged that "Technology is just a tool and it behooves us to learn to employ it effectively" (p. 24). If teachers do not fully understand the characteristics of technologies, it could mean that an inadequate technology is being used where a more technical one is needed or

an overly complicated technology is being used for a task that could use a simplistic technology. Either scenario means that a task and technology do not fit together well for their intended purposes (Goodhue & Thompson, 1995). This question identified what characteristics each teacher believes the various technologies possess.

Sub-Question Five

How do user characteristics impact the use of technology-mediated communication? Goodhue and Thompson (1995) stated that characteristics of a task and a technology must fit each other to be used successfully. This question served to determine how user characteristics impact the use of specific technologies for the various tasks performed.

Definitions

1. *Computer code* – Computer code is a set of rules that governs behavior in an online environment (Stromer-Galley & Martey, 2009).

2. *Task-technology-fit theory* – Task-technology fit theory is a theory is based on the belief that the characteristics of the technology used and the characteristics of the task must fit each other in order to be successfully implemented (Goodhue & Thompson, 1995).

3. *Technology-mediated communication* – Technology-mediated communication is the use of technology to take the place of human face-to-face interaction (Lessa, 2008).

4. *Virtual school* – Viritual school is distance education provided by an accredited school that offers online courses requiring the use of a computer and the Internet (Barbour & Reeves, 2009).

Summary

This first chapter introduced the proposed research study and gave an overview of pertinent literature regarding the increase in VSs at the secondary education level and the need

for effective communication between teachers and students. The literature has revealed a gap in that no research has been located that specifically addresses teacher experiences of teacher-to-student TMC in secondary VS environments in Alabama. The problem is that the teacher voice had been ignored in identifying the types of teacher-to-student TMC that are effective in VS environments. The purpose of this transcendental phenomenological (Moustakas, 1994) study was to describe teacher experiences of teacher-to-student TMC in secondary VS environments in Alabama. This chapter provided a framework for this study including background information regarding the importance of and the issues with communication in VSs. Guiding research questions were given, and the researcher's relationship to the study was addressed.

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this chapter is to ground this transcendental phenomenological study on prior research and theory that is pertinent to teacher-to-student communication in secondary VS environments. This chapter includes a literature review on the rise of VSs from the early days of distance education dating back to the early 19th century to current day, Internet-supported VSs. The advantages of VSs, such as the ability to learn from any location at any time (Alalshaikh, 2015; Kirby, Sharpe, Bourgeois, & Greene, 2010; Morgan, 2015; Oliver et al., 2009a; Pastore & Carr-Chellman, 2009; Roblyer, 1999; Russell, 2006; Strader, Reed, Suh, & Njoroge, 2015; Wang & Decker, 2014) will be discussed along with the disadvantages of VSs, such as the difficulty students face in pacing themselves in virtual courses (Lewis, Whiteside, & Dikkers, 2014; Oliver et al., 2009a). A review of the characteristics of virtual school students is also included along with information pertaining to communication in VS environments.

The framework for this study is based on Goodhue and Thompson's (1995) TTF theory. Task-technology theory served as a guide in analyzing the fit of TMC as it is used in VS environments. Using TTF theory, this research will help VS educators gain an understanding of the most beneficial forms of TMC by evaluating the fit of various types of technology with teachers and students in terms of expectations, student support, effectiveness and timeliness of feedback, ease of use, attitudes of teachers, and overall impact.

Theoretical Framework

Much research pertaining to online education utilizes constructivism as a theoretical framework (Mikropoulos & Natsis, 2011). Constructivism functions under the assumption that people construct their own knowledge from their position or circumstance in the world. In a

virtual environment, students still construct meaning, but it may not be constructed in a way that is advantageous to the student unless effective communication methods are employed. Because the construction of knowledge would be difficult in a virtual school environment without effective communication technology in place, this research utilized TTF theory. Task-technology fit theory explains the extent to which a technology meets individual needs and leads to better work performance (Goodhue & Thompson, 1995). According to TTF, for a technology to lead to better work performance, it must be used, be a good fit for the task for which it is being used, and be a good fit for the persons using the technology (Goodhue & Thompson, 1995). This qualitative study allowed for deeper understanding of teacher experiences pertaining to the fit of various technologies to the tasks that must be performed.

Task-technology fit matches features of technology with features of the task that must be accomplished (Hung et al., 2006). Hung et al. (2006) reported, "task-technology fit, as applied to communication, stresses the fit between the message sender's communication intentions or goals and the communication medium's characteristics" (p. 2). The utilization of a particular technology is known as "the behavior of employing the technology in completing tasks" (Goodhue & Thompson, 1995, p. 218). Goodhue and Thompson (1995) theorized that individual attributes, the characteristics of the task to be performed, and the characteristics of the technology that is to be used would combine to determine the fit of the technology or task-technology fit. Task characteristics, technology characteristics, and teacher and student goals with a TMC vary, but a TMC must meet the needs of all. Goodhue and Thompson (1995) described this as "the degree to which a technology assists an individual in performing his or her portfolio of tasks" (p. 216). In the case of this study, TTF described the degree to which TMC assists the users in communicating various kinds of information to each other. A user's

perception of TMC effectiveness is impacted by his past perceptions of that medium and by how well known the TMC is in matching the task for which it is to be used (Hung et al., 2006).

Researching technology is difficult because it is ever-changing with new communication technologies constantly being developed (Hung et al., 2006). As Aiken, Gu, and Wang (2013) stated, "Choosing suitable communication technology for a given group, task, and environment can be a daunting task" (p. 4). Using TTF theory, various forms of communication have been suggested as successful means of communicating for specific purposes in that the communication technology serves the task well (Hung et al., 2006). In this study, teacher experiences with technology and the communication process were evaluated using TTF theory. Characteristics of the user, the task, and the technology were all used to determine TTF. In order to gain the true essence of teacher experiences with TMC in VS environments, several areas were explored.

Virtual school teachers must aptly convey expectations if they are to help their students be successful. The TMC by which expectations are conveyed and the teacher's expectations for communication needed to be determined. Teachers must often interact with students individually to help them with VS assignments, so it was also important to evaluate TTF in terms of student support. Effective and timely feedback is important for student success, so determining which TMC was the best fit for specific tasks was very important. There were still other items to consider when applying TTF theory. The ease of use of the TMC by the students and instructor was likely to be a factor in the use of a specific technology. In addition, teacher and student attitudes toward TMC were potential factors and needed to be evaluated using TTF theory. Finally, the overall impact a TMC has on its users was vital to this study and was investigated.

There are many TMCs available to teachers and students, but a communicator's prior utilization and perceptions of a form of communication may carry over to workplace (school) perception and utilization (Hung et al., 2006). For instance, although instant messaging has seen improvements over the years, users still view it as a casual form of communication (Hung et al., 2006). However, a person's prior instant messaging communication experience with another led users to believe the TMC was worthwhile (Hung et al., 2006). Teacher experiences with other forms of TMC using TTF helped to clarify the overall essence of how and why TMCs are chosen.

Related Literature

There is much literature pertaining to communication in VS environments, and this section will address key topics that are important to this study. As such, the appropriate place to start is with the rise of virtual schools. The idea of receiving an education from distant locations outside a traditional school setting is nothing new. From the first mail order courses to today's online virtual schools, people have sought out non-traditional ways to further their education (Cavanaugh, 2009; Caruth & Caruth, 2013; Kentnor, 2015; Moore & Kearsley, 2012). With the rapidly increasing number of students utilizing VSs (Beck, Maranto, & Lo, 2014; Moore, 2015), it seems obvious that students and parents are aware of the advantages of VSs, but there are both advantages and disadvantages that they should consider prior to utilizing VSs.

Characteristics of secondary virtual school learners is another topic of interest. It is sometimes believed that only the brightest students utilize VSs, but that is not the case. Today's VSs serve a wide range of secondary students from advanced learners to students who struggle to pass courses (Oliver et al., 2009a). One topic of concern for students in VS environments is communication because of the lack of face-to-face interaction. Without the use of physical cues

to aid a student's understanding, teachers and students must rely on alternate means of communication (Watson, Murin, Vashaw, Gemin, & Rapp, 2010). Finding the perfect means of communication, however, is no easy task.

The Rise of Virtual Schools

As far back as the 1800's, people have been receptive to the idea of acquiring an education away from the physical location of a school. Mail order correspondence courses were the first form of distance education, which began back in the 1880's (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012). The Society to Encourage Studies at Home, created by Anna Ticknor, began an educational expansion that has changed over the years but has not stopped (Caruth & Caruth, 2013). Around that same time, the University of Chicago began a distance education program that, like The Society to Encourage Studies at Home, operated via the postal service (Caruth & Caruth, 2013; Greenway & Vanourek, 2006).

Although the delivery methods for employing distance education have changed over the years, the idea of distance education is here to stay. The innovative thinking of those first distance education creators sparked what seems to be a perpetual trend. As available technology changed over the years, so did the delivery methods of distance education courses (Cavanaugh, 2009). Following mail order correspondence courses that began in the late 1800s, distance education courses morphed into courses delivered via radio technology (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012). Radio distance education, impacted by the invention and rise of the television, was then replaced by televised distance education courses. Those distance education courses soon gave way to video courses that utilized the mail and the television (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012). Students today still enjoy distance education, but radio, television, and video courses have given way to courses that

utilize computers and the Internet (Kentnor, 2015; Lease & Brown, 2009; Moore & Kearsley, 2012).

In the past, education outside of the traditional school setting was predominantly for either adult or college-level programs (Borup et al., 2013a). However, in 1991, Laurel Springs, the first virtual high school, was started in California (Barbour, 2010; Kennedy & Archambault; 2012), and students' programs were completely online (Greenway & Vanourek, 2006). Later in the 1990's, Florida and Utah launched their high school VSs (Barbour & Reeves, 2009; Greenway & Vanourek, 2006). Today, there is a VS located in every state within the United States (Kennedy & Archambault, 2012; Kim et al., 2015), and the number of enrollees is continuously growing (Kim et al., 2015). The number of K-12 students participating in online courses rose by nearly 50 percent between 2007 and 2009 (Morgan, 2015). Typically, VSs at the secondary level include high school courses, but there are also some middle school virtual courses available (Oliver et al., 2009b), and "independent, asynchronous and synchronous" methods of delivery are available (Barbour & Reeves, 2009, p. 412).

Virtual schools at the K-12 level have increased dramatically in recent years (Beck et al., 2014; Kim et al., 2015), and VS numbers are still increasing. It has been predicted that nearly half of all high school students will take their classes online by the year 2019 (Morgan, 2015), and still others (Toppin & Toppin, 2016) believe that it is possible that the number of students attending VSs may soon exceed those attending traditional schools. With that thought in mind, it appears that this newest form of distance education will be around for some time, so ensuring VS effectiveness is important.

Advantages and Disadvantages of Virtual Schools

The number of virtual schools is continuously rising as students continue taking advantage of VS options. Some wonder, though, whether VSs are viable educational options for the nation's youth. While some research claims that the success of VSs is based predominantly on advanced learners, still other research claims that there are equally as many at-risk students who are successful in VS environments (Barbour, 2011). Whether students and their parents choose virtual schools or traditional schools is much a matter of preference and availability. As a fan or a critic, there are advantages and disadvantages to VSs, but there are also some aspects of virtual courses that make even traditional school classes more manageable. For instance, schools that offer courses online boast smaller traditional class sizes and a greater variety of courses that can be offered (Ingerham, 2012). In addition, because instructors of virtual courses are not responsible for supervising their students, they have more time to devote to learner-to-instructor communication (Borup et al., 2013a). Stack (2015) found that differences in course final exam scores between VS students and traditional students were negligible. Regardless of whether one focuses more on the advantages or disadvantages of VSs, the important point to consider is whether a student, and in turn society, will benefit from virtual schooling (Russell, 2002). There are several advantages and disadvantages to VSs, but in the end student success in distance education is most dependent on the teacher, the student, and the learning method - not the mode of delivery (Rice, 2006).

Advantages of virtual schools. Students today are fortunate to have the choice of attending a VS or a traditional high school. Regardless of whether students and parents choose traditional school or VS, simply having another avenue to acquire a high school diploma gives them a sense of control. Proponents of VSs know there are several advantages VS students at the

secondary level receive that their traditionally-schooled counterparts may not. These advantages include benefits that affect the students while they are working in VS, but there are also long-lasting benefits that are sometimes not realized until after high school.

Virtual schooling affords students the opportunity to learn at times and places that are suitable for them (Kirby et al., 2010; Lewis, Whiteside, & Dikkers, 2014; Morgan, 2015; Oliver et al., 2009a; Pastore & Carr-Chellman, 2009; Roblyer, 1999; Russell, 2006; Strader et al., 2015; Toppin & Toppin, 2016; Wang & Decker, 2014). This is a major advantage for those students who, like many teenagers, do not like the school hours that traditional schools maintain. It is also helpful for those students with medical or personal issues that make it difficult to attend traditional schools. In addition to the ability to work at various times from various places, students can also work at their own pace (Borup et al., 2013a; Lewis, et al., 2014; Morgan, 2015; Oliver et al., 2009a; Toppin & Toppin, 2016). The traditional school format requires that students have a certain amount of seat time in order to acquire course credit, but that is not the case for VS formats. Instead, students can take as much or as little time as necessary to master the course content, which allows students who struggle and those who excel to have individualized instruction. For those students looking for classes that may not be offered at their traditional high schools, VSs often offer many courses that cannot be or are not offered at traditional schools for various reasons such as financial or personnel limitations (Oliver et al., 2009a; Toppin & Toppin, 2016). Virtual schools also afford learners greater personalized instruction and support from their teachers (Oliver et al., 2009a). In VS environments, there is something for all learners, from the advanced learners wishing to take advanced courses to the at-risk learners wishing to recover lost credit (Morgan, 2015).

There are some skills that virtual school students acquire that reach beyond their high school years (Kirby et al., 2010). For instance, students who take online courses are forced to develop greater self-control and self-sufficiency and to take responsibility for their learning (Kirby et al., 2010). Virtual school teaches students to be more responsible for their own education (Oliver et al., 2009a), and VS students have been found to be better able to learn new technologies (Morgan, 2015). In addition, VS students attributed their preparation for post-secondary education to having been forced to learn these skills during their VS high school years, and students who participated in high school virtual classes entered post-secondary education in slightly greater numbers than their traditional school counterparts (Kirby et al., 2010).

Disadvantages of virtual schools. Students today are fortunate to have the choice of attending a traditional high school or a VS, but just as there are many advantages to VSs, there are also disadvantages. It has been said that VSs are not beneficial for every student (Russell, 2002), and that disadvantaged students in particular receive an added advantage in traditional schools that they may not receive in VS (Morgan, 2015). This may have much to do with the non-academic programs and supports that traditional schools often offer. Some students find it difficult to learn in online environments (Morgan, 2015), and students who lack the ability to manage their time and lack the discipline needed for virtual school struggle to do well (Morgan, 2015; Oliver et al., 2009a). Virtual school students have trouble focusing and maintaining the self-discipline required for online learning (Ingerham, 2012; Lewis et al., 2014), and they sometimes experience less motivation than they do in the traditional school setting (Kirby et al., 2010). Similarly, teachers reported that their students were not self-motivated, which led the students to have difficulty pacing themselves with their online coursework (Oliver et al. 2009a).

It is also noteworthy to point out that students who take online courses as a means of recovering lost credit are less motivated than more advanced students, and therefore they need additional supports to ensure success that might not be available (Oliver et al., 2009a).

Some research shows that virtual schools have an attrition rate that exceeds that of traditional schools (Borup et al., 2013a). Sometimes students do not have adequate equipment, such as suitable computers and high-speed Internet, to be successful in a virtual environment (Oliver et al., 2009a). In addition, students' lack of skills with technology also can create problems in virtual environments (Oliver et al., 2009a). Even the switch from traditional to virtual schooling can create issues for the learner because the responsibility for ensuring students are completing their assignments falls from the teacher to the parent (Russell, 2006). Sometimes the parent is not capable or will not assume the responsibility (Russell, 2006).

Some teachers and students believe online courses are more difficult than the same traditional courses (Oliver et al., 2009a), and this may be the case considering the virtual school teacher does not have the luxury of nonverbal cues to help gauge when a student is struggling mentally or emotionally (Conn & Rue, 2011; Morgan, 2015; Russell, 2002). Communication is sometimes seen by students as an issue in virtual schools (Kirby et al., 2010). Students cite quality and quantity of interaction as problem areas in online courses (Borup et al., 2013a). Difficulty with communication is one reason students sometimes prefer traditional classrooms to online learning (Kirby et al., 2010). One study (Ingerham, 2012) found that when a teacher is not available to assist the students, the effectiveness of online learning is compromised.

Attendance and academic honesty are difficult for teachers to supervise in virtual school environments (Morgan, 2015). This is a problem because it is difficult to know with certainty who is completing the virtual assignments. The true attrition rate of VS students is difficult to

determine, but it is possible that this is another disadvantage as it is thought to be higher than that of traditional schools (Borup et al., 2013a). Others see VSs as a disadvantage because they believe the rise in the number of VSs is in response to economic concerns (Russell, 2002). For instance, the more students who participate in VSs, the fewer teachers and resources are needed to effectively run the school (Russell, 2002).

Categories of Virtual Schools

There are five identified categories of virtual schools (Watson, Winograd, & Kalmon, 2004). According to Watson et al. (2004), there are "statewide supplemental programs," "district level supplemental programs," "single district cyberschools," "multi-district cyberschools," and "cyber charter schools" (p. 69). The schools Watson et al. (2004) referred to as cyber schools offer credit for the courses and can confer diplomas. The supplemental programs offer online courses to students enrolled in other schools (Watson et al., 2004).

An example of a statewide supplemental program is Alabama's virtual program known as Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS). This program is free to Alabama's public school districts for use with their students (ACCESS Virtual Learning, n.d.). As mentioned earlier, Alabama has a requirement that their school districts offer virtual school to all public education students (Brubaker, n.d.). The ACCESS statewide virtual school program can be used to satisfy that virtual school requirement (ACCESS Virtual Learning, n.d.). Students cannot receive credit or acquire a diploma through the ACCESS program, but individual districts can grant credit and diplomas for students who utilized ACCESS courses (ACCESS Virtual Learning, n.d.).

If a school system offers virtual classes but the credit for those classes and any accompanying diplomas are issued by a different school, then the program is a district-level

supplemental program (Watson et al., 2004). One example of this would be if a district offers virtual classes or even a virtual high school diploma option, but the credit and diploma issued are from a high school within that district. For instance, in Chambers County School District in Alabama, students can attend a virtual school, but credit for any classes and diplomas are issued in the name of one of the two high schools within the system.

A virtual school that is operated through one individual school district but issues credit and diplomas in the name of the virtual school in that district is called a single district cyberschool (Watson et al., 2004). These virtual schools accept students only from within the same district in which the virtual school is operated. One example of this is Alabama's Baldwin County Virtual School. Students from within the Baldwin County School District may apply to that virtual school (Baldwin County Public Schools, n.d.). Earned credits and diplomas from this virtual school are issued in the name of the specific virtual school.

Multi-district cyberschools are those virtual schools that function within one school district but accept students from all over (Watson et al., 2004). One example of this type of program is the Alabama Virtual Academy at Eufaula City Schools in Alabama (Alabama Virtual Academy at Eufaula City Schools, 2017). In this situation, diplomas and any credits earned through this program will be issued in the name of that online school.

Cyber charter schools are privately managed VSs that typically fall within and are funded by public school money within one school district (Mann & Baker, 2016; Watson et al., 2004). Typically, these cyber charter schools permit VS students from all over the state to enroll (Mann & Baker, 2016; Watson et al., 2004). Course credit and diplomas are awarded in the name of the cyber charter school.

Virtual school programs can be synchronous, asynchronous, or a combination of both. Asynchronous programs are not aligned or synchronized with live classrooms or live online classes (Bernard et al., 2004). Synchronous programs are typically taught in groups and at specific times at which the students must be present (Bernard et al., 2004). Synchronous, asynchronous, or a combination of both can be found in any of the five types of virtual schools mentioned above.

Characteristics of Secondary Virtual School Learners

Russell (2002) stated that "…the overarching reason that warrants the introduction of virtual schooling is a reasonable belief that the student, or society, will benefit more from virtual schooling than the available conventional schooling" (p. 34). Today's students may very well agree with that statement, as they are increasingly viewing virtual schooling as a viable option to traditional schooling (Pastore & Carr-Chellman, 2009). Virtual schools are comprised of advanced learners, standard learners, and at-risk students. Advanced learners tend to take advanced courses, standard students tend to take non-advanced courses, and at-risk students are those who have or are failing a course and may need to recover lost credit through online credit recovery courses (Oliver et al., 2009a). The at-risk students are in danger of not graduating on time.

Students who enter VSs are often independent learners who are quite disciplined and capable (Barbour & Reeves, 2009). These students are sometimes looking to gain advanced credit (Rice, 2006) that could potentially lead to early graduation. Students also take online courses because they enjoy the convenience and ability to take control over the pace of a course (Roblyer, 1999), but there are other reasons, too. For instance, VS students can take classes that would otherwise not be available to them (Oliver et al., 2009b).

Some VSs are making great strides with students who are behind in their coursework or who struggle in the traditional classroom setting (Morgan, 2015; Wang & Decker, 2014). These students are choosing VS for reasons such as credit recovery (Hawkins et al., 2013), but some schools utilize virtual courses with students who have discipline issues (Wang & Decker, 2014). Still other VS enrollees include students from the lower socioeconomic group and students with disabilities (Wang & Decker, 2014). It can be argued that the number of economically disadvantaged students in VSs are disproportionately high (Wang & Decker, 2014). According to Pastore and Carr-Chelllman (2009), many students choose to enroll in virtual courses because VSs provide flexibility for the students to work when it is convenient and at a pace that is most beneficial to the learner.

Whatever the reason for entering VS, students who take VS classes tend to be self-motivated and can self-regulate (Kim et al., 2015; Rice, 2006). Those with these positive characteristics tend to perform better in online courses; this information suggests that students who lack motivation or the ability to self-regulate need more support from their online teachers (Kim et al., 2015). Virtual school students also tend to be willing to take more responsibility for their own learning than their traditional school counterparts, and they are willing to take risks (Rice, 2006). This is evidenced in the students' willingness to try VS courses. Some people, including students, are technologically inclined and opposed to the use of textbooks (Ingerham, 2012). This trend, too, has led to an increase in the demand for online instruction (Ingerham, 2012).

Communication in Virtual Environments

There are three types of interaction in virtual schools: learner-to-content, learner-to-instructor, and learner-to-learner (Abrami et al., 2011; Borup et al., 2013a). Learner-to-content

interaction involves the student's engagement with the course content. Learner-to -instructor interaction involves motivating the student and helping the student with the course content (Borup et al., 2013a). Learner-to-learner interaction involves the interaction between virtual school students (Borup et al., 2013a). Students view learner-to-instructor communication as equally motivating as learner-to-learner communication (Borup et al., 2013a), but they believe learner-to-instructor communication is of greater importance than learner-to-learner communication (Lonn, Teasley, & Krumm, 2011). In addition, the amount of time students spend communicating with their teacher has a direct positive impact on students' attitudes toward the class (Borup et al., 2013a). Since VS teachers are not in a room with their students and cannot see the students' body language, it is important that they maintain communication with the students and their families to provide adequate support (Watson et al., 2010).

Some virtual schools have policies that dictate the amount and type of learner-to-instructor communication that must take place, and most policies require that the instructor communicate more with struggling or non-compliant students (Cavanaugh et al., 2009). However, VS teachers often learn their online communication skills through the job itself instead of through formalized training (Hawkins et al., 2012). Regardless of who the interaction is between, communication is a difficult issue to contend with in online learning environments (Lu, 2011), and because of the lack of face-to-face contact, interaction in VS environments is significantly supported by technology (Borokhovski et al., 2016). Simply using technology, though, is not enough, as "technology is just a tool and it behooves us to learn to employ it effectively" (Borokhovski et al., 2016, p. 24).

Some students and teachers in VS environments feel a sense of distance, but that distance is not as much a result of physical distance as it is a perceived distance created by

communication methods (Belair, 2012a). Teacher-to-student communication impacts students positively in terms of both quantity and quality, and it is of great importance in VS environments, especially with high-risk students (Hawkins et al., 2013). Teachers of online classes sometimes mistakenly believe that students do not want interaction (Hawkins et al., 2012), but quality and quantity of interaction has been found to be a factor in students' course completion (Hawkins et al., 2013). Hawkins et al. (2013) found that teacher contact with VS students in their first few days is extremely important as students are most likely to engage in the course at that time. It is important that teachers to reach out to students even if the students are not making much progress in their courses (Hawkins et al., 2013; Kim et al., 2015).

Communication between student and instructor is one of the most difficult issues that must be overcome (Lu, 2011). One study (Ingerham, 2012) found that when a teacher is not available, the effectiveness of online learning is greatly lessened. Another study (Beese, 2014) found that students perceive their teachers as unresponsive to their communication while teachers perceived students to be unresponsive to their communication. Students tend to view teachers negatively when there is a delay in teacher response (Beese, 2014; Lu, 2011). Teachers, however, may not see the value in a quick reply to a virtual student's request (Dixson, Greenwell, Rogers-Stacy, Weister, & Lauer, 2016). According to Borup et al. (2013a), "Students' improvement in disposition towards the content was significantly correlated with their reported quantity of learner-instructor interactions regarding the content…" (p. 163).

Students want their virtual teachers to communicate with them to help them set goals and remind them of deadlines (Oliver et al., 2009a). Similarly, VS students' parents want their children's VS teachers to push them (the parents) to monitor their student's progress (Oliver et al., 2009a). This is recognized by some VSs in that they require teachers to make and log regular

contact with parents (Oliver et al., 2009a). The type of communication is of importance in virtual environments, too. Belair (2012a) found that both teachers and students prefer written communication with each other. When teachers' written communication was consistent, it was more valuable to the students than telephone communications (Belair, 2012a; Hawkins et al., 2012). One teacher found that instant messaging was instrumental in reaching virtual students, and several teachers used a form of email with their students (Belair, 2012a).   Effective online learning is also impacted by blogs and discussion boards (Kerr, 2011). Likewise, Ingerham (2012) found that TMC that allows students to communicate with instructors includes instant messaging and emails. The characteristics of online learning enable and often require students and instructors to utilize TMC (Strader et al., 2015).

Because VS students cannot see the amount of time a teacher is spending with other students, they may have unrealistic expectations of how much time the teacher should devote to them (Oliver et al., 2009a). This is important because of the high value students place on teacher-to-student communication (Borup et al., 2013a). The amount of time a student spends interacting with the course material (learner-to-content), however, does not impact the student's course success (Borup et al., 2013a). Communication between students, teachers, and content is imperative regardless of whether the class is online or in a traditional setting (Borokhovski et al., 2016).

Communication Technology

Teacher-to-student interaction in a virtual environment is challenging because face-to-face communication either does not occur or seldom occurs. With no face-to-face communication, teachers and students are dependent upon technology to communicate with each other (Beese, 2014). As such, it is extremely important that teachers and students know what

technologies are available to aid in that communication. Although the telephone is still a viable option, one study (Belair, 2012a) found that students tend to avoid phone calls. Even so, it was also determined that at times, students prefer communication via the telephone over email (Belair, 2012b). It is the teacher's responsibility to determine which technologies will work best for the teacher, the student, and the intended purpose (Carlson, Austrbara, McNeill, Powell, & Witt, 2012), and it is important that whatever technology is used, the teacher must keep the learner's best interest as a determining factor (Sipilä, 2014). Teachers' attitudes and abilities along with rapid developments in technology are cited as some reasons that teachers have difficulty with communication technologies (Indrasiene, Dromantiene, & Bielskyte-Simanaviciene, 2015). Nonetheless, teachers do see the value in communicating with their VS students. In one study (Indrasiene et al., 2015), researchers found that some teachers believe virtual environments make learning difficult because there is a lack of communication during lectures and because teachers cannot see a student's reactions. Varied communication methods in VS environments, however, can have a positive impact on student achievement (Young, Birtolo, & McElman, 2009).

Teachers must move away from traditional teaching and learn more innovative ways to teach (Sipilä, 2014). Teachers must create an appropriate learning environment even in online classes (Sipilä, 2014), but there is technology available to aid teachers and students with communication in VS environments. The number of communication tools available to students and educators is so great that not all can be discussed here. There are several tools, however, that stand out for the purposes of teaching and communicating in VS environments.

Because of the Internet and new technologies, teachers and students communicate with each other quite differently than in the past (Carlson et al., 2012). Interactive online journals are

one communication option, and they also allow VS students to create a sense of community (Hodkinson, 2007). Since voice and body language between classmates is not typically available in an online environment, students use emoticons such as smiley faces to help give voice, presence, and tone to a written discussion or post (York, Yang, & Dark, 2007). Sometimes students are required to present information in online courses, and there are several ways this can be accomplished. A written paper can be uploaded and posted to a particular site, a Powerpoint presentation can be created if one has the necessary software available, or students can use other software programs such as "Breeze, Camtasia, or Articulate" (York et al., 2007, p. 46). Of course, without the availability of any of those software programs, students could utilize discussion boards to present information. Web sites that convey learned information can also be created to present information online (York et al., 2007).

Some educational institutions utilize Moodle with their online students (Al-Khasawneh & Obeidallah, 2015). Moodle allows teachers and students to work collaboratively using features available through Moodle such as the uploading of files for others to view, discussion boards, chat rooms, and online tests (Al-Khasawneh & Obeidallah, 2015). Web conferencing is another tool that teachers can use to communicate with their students (DePietro, 2013). A few web conferencing platforms include Wimba, GoToMeeting, Cisco WebEx, Microsoft Office Live Meeting, and many others (Carlson et al., 2012; DePietro, 2013). These platforms provide viable avenues for questions and answers in that other students can see and/or hear the communication from and to other students (DePietro, 2013). Some of these have a fee for use (DePietro, 2013), which may be an issue for teachers and students.

A-View is a platform that works well for communication in VS environments because it includes interactive chat boards and digital white boards (Rajesh, 2015). Likewise, Wiz-IQ has a

digital white board in which the teacher can invite any number of students to attend (Rajesh, 2015). Skype and Edmodo are also viable means in which teachers and students can communicate. Skype is a synchronous videoconferencing tool, and Edmodo is an educational online tool that provides communication and collaboration through items or comments posted to the site. Second Life is a 3D virtual world platform that can be used to communicate with students (DePietro, 2013). In Second Life, users utilize an avatar to do anything a real person would do (DePietro, 2013). Through Second Life, users can move their avatars, meet others, communicate, and participate in activities (DePietro, 2013).

Facebook, Twitter, Instagram, and Ning are each social networking platforms that instructors can use to communicate with their students (DePietro, 2013; Rajesh, 2015). Facebook can be used as a forum in which teachers can post announcements and both teacher and students can comment (DePietro, 2013). Care needs to be taken if using Facebook, though, because some students see this as a personal social technology, not one for school (DePietro, 2013). However, creating a Facebook page for each class could serve the purpose of providing a communication technology that students are comfortable with while separating it from the students' social lives (DePietro, 2013). Twitter, also a social networking platform, allows users to send small text of 140 characters or less to others (DePietro, 2013; Dobler, 2012). With Twitter, users send messages called tweets (Dobler, 2012). Users can choose to follow each other on Twitter and communicate via the tweets that are sent and received. Users must be aware, however, that messages are available to the public unless the sender makes it available to only specific users (Dobler, 2012). Instagram is another social media communication method that can send text or pictures (Baeva, 2016), and Ning is also a social networking site that can be

used for educational purposes (Rajesh, 2015). Social networks outpace other forms of communication in VS environments, with Facebook being the most widely used (Baeva, 2016).

There are many technologies available for students and teachers to use. The challenging part is finding the technology that best suits the students and that the teachers are willing and able to utilize. Finding appropriate technologies for communication is important because a lack of established lines of communication has been found to be detrimental to programs (Beese, 2014).

Rapport

Teacher-to-student rapport is an important facet of education (Murphy & Rodriguez-Manzanares, 2012). Rapport is defined as "a mutual phenomenon characterized by mutual attentiveness, mutual respect, mutual openness, mutual attention, and mutual understanding" (Murphy & Rodriguez-Manzanares, 2012, p. 168). When rapport is established in a teacher's classroom, students are more apt to attend class, enjoy class, and be engaged in the lesson (Benson, Cohen, & Buskist, 2005). A positive rapport between teachers and students is indicative of the potential for emotional and intellectual learning (Frisby & Martin, 2010). Rapport building is important in traditional school settings, but this is also true for VS settings. Virtual school environments present challenges to the traditional idea of building rapport, but these students need it just as much as their traditional school counterparts (Murphy & Rodriguez-Manzanares, 2012).

Rapport between students and teachers is important to both students and teachers (Granitz, Koernig, & Harich, 2009). One of the most important characteristics of an effective teacher is his or her ability to build rapport with students (Granitz et al., 2009). This is important for students because rapport is associated with greater learning outcomes, better attendance,

greater focus, increased enthusiasm, and greater participation (Granitz et al., 2009). To have a connection with VS students, it is important that teachers build rapport with their students (Murphy & Rodriguez-Manzanares, 2012). Rapport is especially important in VS environments because the more familiar teachers are with their virtual school students and the more contact that teachers and students in virtual school environments have, the better the chance of student success (Murphy & Rodriguez-Manzanares, 2012). Virtual school students and teachers do not have face-to-face contact with each other, so knowing something about each other helps teachers to better understand the students' personalities and needs (Murphy & Rodriguez-Manzanares, 2012). It is also important to build rapport because knowing a student's specific place in life (teenage parent, caretaker of ill parent, etc.) allows teachers to better personalize each student's VS experience (Murphy & Rodriguez-Manzanares, 2012). There is a positive aspect for teachers, too, as rapport is associated with greater teacher satisfaction and higher evaluation scores (Granitz et al., 2009).

Rapport in any setting is sometimes tough to establish, but building rapport in VS environments presents many unique challenges. Rapport in VS environments is difficult to establish in part because of physical distance and on-task time differences (Murphy & Rodriguez-Manzanares, 2012). Physical distance adds to the difficulty of building rapport because the students and teachers are not in close enough proximity to get to know each other in person (Murphy & Rodriguez-Manzanares, 2012). Since body language is not available in VS environments, VS teachers must find creative ways of building rapport with their students (Murphy & Rodriguez-Manzanares, 2008). On-task time also creates issues in building rapport because teachers' duty hours and the hours that students choose to work on school work do not necessarily coincide, especially with asynchronous courses (Murphy & Rodriguez-Manzanares,

2012). Also, some students require so much attention from the teacher that the teacher can build great rapport with them, but that sometimes comes at the expense of building rapport with other students whose attention requirements are less demanding (Murphy & Rodriguez-Manzanares, 2012).

Building rapport with students who attend VSs is not an easy task, especially when asynchronous courses are utilized (Murphy & Rodriguez-Manzanares, 2012). In addition, some students do not want to be contacted by their VS teacher, which adds to the difficulty in building rapport with these students (Murphy & Rodriguez-Manzanares, 2012). Another barrier to rapport is that teachers in VS environments may not see its value in promoting student success (Murphy & Rodriguez-Manzanares, 2012). Murphy and Rodriguez-Manzanares (2012) stated that one teacher warned that in virtual school environments it is difficult to tell what frame of mind a student is in, so attempts to joke with a student, which is sometimes a rapport building strategy, may be taken out of context (Murphy & Rodriguez-Manzanares, 2012). In addition, teachers of VS students may still believe that today's distance education is the same as it was in the past where there was no student-to-teacher contact, and students were forced to manage without it (Murphy & Rodriguez-Manzanares, 2012).

According to Granitz et al. (2009), three factors must be present for rapport to grow. These factors are approachability, personality, and homophily (Granitz et al., 2009). Approachability describes the degree to which a teacher is available to students and the comfort with which a student feels in communicating with the teacher (Granitz et al., 2009). Personality refers to the psychological characteristics of a teacher, such as attitudes and behaviors, that are inviting to students (Granitz et al., 2009). Homophily refers to the sameness of the teacher and

students (Granitz et al., 2009). This is the case because people are more drawn to others with similar characteristics (Granitz et al., 2009).

Murphy and Rodriguez-Mananares (2012) identified six rapport building areas for distance education teachers. The first area, "recognizing the person/individual," (p. 177) pertains to getting to know a little about the students and their personalities. The second area is "supporting and monitoring," (p. 177) which includes giving positive reinforcement and monitoring each student's progress. Third, "availability, accessibility, and responsiveness" (p. 177) addresses teacher availability and the speed with which teachers respond to their students. "Non-text-based interactions" (p. 177) is the fourth area, and it includes real interaction between student and teacher. The fifth area, "tone of interaction" (p. 177) addresses the tone that is used in interactions, which signifies friendliness, trustworthiness, and respect (p. 177). Finally, the sixth area identified is "non-academic conversation/interactions," (p. 177) which means interacting in a social manner.

Teacher Preparation for Teaching in a Virtual School Environment

Learning in an online environment is rapidly increasing across the United States (Kennedy & Archambault, 2012), and this increase in online education results in an increased demand for qualified teachers of online programs (Moore-Adams, Jones, & Cohen, 2016). However, few who are involved in teacher preparation programs believe that preparation for online educators needs to be a focus (Kennedy & Archambault, 2012). This insinuates that traditional teacher training, which focuses on teaching in traditional school settings, is effective in the online classroom (Kennedy & Archambault, 2012). Some teachers, though, found that their regular teaching methods did not serve them well when working in a technology-mediated environment (Rehn, Maor, & McConney, 2016). Because of the lack of teacher preparedness

and training for teaching in an online environment, teachers of virtual classes must often learn to teach in that venue by trial and error (Hawkins et al., 2012). In their study, Kennedy and Archambault (2012) found that only 1.3 percent of teacher education programs prepare teachers for teaching in online environments, and only 13 percent of teacher education programs plan to do so in the future.

Some teacher preparation instructors themselves are uncomfortable with online pedagogy, so they find it difficult to teach their students (future teachers) how to teach in online environments (Kennedy & Archambault, 2012). Nevertheless, since the idea of education is rapidly changing from traditional brick and mortar schools to include virtual schools, teacher education programs and policy makers need to consider addressing the needs of educators who teach online (Kennedy & Archambault, 2012). Teachers should be taught how to teach in online environments (Watson et al., 2011).

Teachers should receive initial training or professional development in online pedagogy to be prepared for online teaching (Watson et al., 2011). Although some standards taught in teacher education programs are relevant to both traditional and online schools, some standards are more applicable to one than the other (Kennedy & Archambault, 2012). For instance, while possessing technology skills is important for both traditional and online teachers, it is of utmost importance for online teachers (Kennedy & Archambault, 2012). In a virtual environment, teachers must not only have training in pedagogy, technology, and course content, but they must also know how to effectively merge these components when working with students (Moore-Adams et al., 2016). Teachers need to know their curriculum, but they also need to know how to use technology to teach that curriculum to their students (Oliver, Kellogg, Townsend, & Brady,

2010). Teachers need to be taught how to use various online tools, but they also need to learn

strategies needed to teach young students in online environments (Oliver et al., 2010).

Teachers of online courses assume different roles depending on the approach that the

teacher takes with the course (Kerr, 2010-2011). According to Barbour (2011), some students

struggle as a result of little course content assistance from the instructor in online environments.

Contact with a teacher regarding relevant instructional material is important to student success in

distance education environments (Bernard et al., 2004). It was also found that interaction

between teachers and students positively impacts students' course completion rates, so teachers

should make a concerted effort to reach out to their students (Borup et al. 2013a; Hawkins et al.,

2013). Both parents and students stated that teacher-to-student communication provided students

with the greatest motivation for the course (Borup et al. 2013b).

As the popularity of virtual schools continues to rise, so too will the need for teachers

who are appropriately trained to teach in virtual school environments (Kennedy & Archambault,

2012). When using technology to teach students, knowledge of technology is not enough.

Teachers need to be proficient with technology and be able to merge their pedagogical skills with

technology in order to effectively convey lessons (Rehn, Maor, & McConney, 2016). Even if the

transition from traditional schooling to online schooling is a difficult process for teacher

preparation programs, the change must be made for those programs to teach relevant information

pertaining to both pedagogical methods (Kennedy & Archambault, 2012). In the words of

Borokhovski et al. (2016), "technology is just a tool and it behooves us to learn to employ it

effectively" (p. 24).

Student Support in Virtual Schools

Extra-curricular activities and counseling support at the K-12 level are important experiences for students (Toppin & Toppin, 2016). This is because students who receive support services from their home institutions are more likely to succeed in online environments (Brown, Keppell, Hughes, Hard, & Smith, 2013). Students need access to resources that are "continuously available, easily accessible, and relevant" (Beese, 2014, p. 301). Although providing student support services in a VS environment is difficult, it is important that educators find creative ways to provide these services as students enrolled in VSs have a legal right to these services, just as their traditional school counterparts (Toppin & Toppin, 2016).

It is difficult to successfully offer the full range of counseling services to online students (Toppin & Toppin, 2016), but VS's should provide a framework for ensuring that all students are aware of and are offered student support services (Brown et al., 2013). The use of an orientation program where students can learn of various support services prior to entering VS has been shown to be effective in increasing course persistence (Glazer & Murphy, 2015). Along with an orientation or transition to support the switch to online education, support from guidance counselors may be necessary to help students with the transition (Lewis et al., 2014). Likewise, another study (Gaytan, 2015) found that student support services helps with student retention in online environments. Peer tutoring, individualized help from a teacher, frequent progress updates, and regular office hours for the teacher are areas that students have suggested they need support (Lewis et al., 2014).

Barbour and Plough (2012) stated that often it is the responsibility of K-12 schools to provide socialization skills for young people. Social networks are beneficial in this area in that as students become more involved in social networks with other online students, they become

more involved in their own education (Barbour & Plough, 2012). Virtual school environments may not offer the same social opportunities that traditional schools do, but schools are attempting to find ways to alleviate this issue (Barbour & Plough, 2012). In an online environment, there is no standardized time for students to meet or work together, but an online social network can provide a path that can permit student to collaborate with other students about school work and non-academic related subjects (Barbour & Plough, 2012). Students who participate in a social network with other students feel a greater sense of belonging to their school (Barbour & Plough, 2012). Through social networks, students also provide emotional support to each other and organize extracurricular activities (Barbour & Plough, 2012). Of course, student safety is of utmost importance in creating a social network for students, so finding a closed or protected network is preferable to an open platform such as Facebook, Twitter, or Instagram (Barbour & Plough, 2012).

Traditional schools have socialization opportunities readily available to students via extracurricular activities such as sporting events and school dances (Barbour & Plough, 2012). There is also time built into the school day when students can interact with each other (Barbour & Plough, 2012, p. 4). Virtual school students cite extracurricular activities and social interaction as the areas they most miss when comparing their schooling to traditional schooling (Harvey, Greer, Basham, & Hu, 2014). In one study, Harvey et al. (2014) found that when students participated in extracurricular activities as traditional school students and then switched to VS, their level of participation in those extracurricular activities lessened over time, perhaps as they became adjusted to the online environment. It is also possible that as students get comfortable in the VS environment, they decide to participate in extracurricular activities in venues outside the school (Harvey et al., 2014).

If appropriate supports are in place in VS environments, then there is a good potential for increased self-efficacy among students, especially at-risk students (Lewis et al., 2014). Much like their traditional school counterparts, VS students need support from counselors, teachers, and peers.

Summary

This chapter discussed the theoretical framework of task-technology fit as it applies to the use of TMC in VS environments. Goodhue and Thomson (1995) purported that for a technology to lead to better work performance, it must be used, be a good fit for the task for which it is being used, and be a good fit for the persons using the technology. Use of TTF theory in this study provided a framework in which various communication technology paths were evaluated according to how well they fit a task and how well they served the teachers' and students' needs. This qualitative study allowed for deeper understanding of teacher experiences pertaining to the fit of various technologies to the tasks that must be performed and to the users involved. Characteristics of the user, the task, and the technology all served to determine TTF (Goodhue & Thompson, 1995). In order to gain the true essence of teacher experiences with TMC in VS environments, several areas were explored, such as expectations, student support, effective and timely feedback, ease of use by both teachers and students, and attitudes toward the TMC being addressed.

The idea of VSs is nothing new, as distance education courses have been around for quite some time. From the first mail-order distance education courses in the 19th century up to the most current Internet and computer distance education delivery methods today, distance education is here to stay. Although the mode of distance education changes with the ages, the idea of receiving an education away from traditional schools is one that transcends the ages.

Because of its staying power, it is important that educators make distance education as beneficial to students as possible.

The many advantages and disadvantages of virtual schools were also discussed. Virtual schools offer a variety courses from advanced classes to credit recovery, and the classes are offered to all learners, from advanced students to those with special needs. These courses afford students the ability to learn at a slower pace or complete courses ahead of time, but there are also disadvantages that were discussed. Some students are not proficient at pacing themselves through online courses, and sometimes self-motivation becomes a detrimental factor.

This review also addressed the five categories of virtual schools and the characteristics of secondary virtual school learners and found that there is great diversity among those who choose to attend VSs. Some students are very driven whereas others are motivated by the need to recover lost credit. Communication is also a factor in VSs because of the lack of face-to-face communication. In completely virtual environments, all communication is via TMC, and this sometimes creates issues. Communication technology was also discussed, and several types of technology were addressed that are available for teachers and students to use in VS environments. The wants and needs of both teachers and students are often not well communicated and are thus not fulfilled. The purpose and types of communication, the effectiveness of varying kinds of communication, and the quality of various types of communication are all important in virtual environments. This literature review also found that there are several categories of virtual schools, of which all could benefit from more research pertaining to TMC communication.

This review of related literature also found that when teachers build good rapport with their VS students, both teachers and students are positively impacted. Teachers in VS

environments are often given the task of teaching or facilitating online learning but have not learned how to do so. This, too, was discussed, and it was found that there is a lack of training in teacher preparation programs that would prepare new teachers to teach or facilitate in VS environments. Likewise, student support in VS environments is another topic of concern. The distance between the traditional school where support is readily available and the students' locations create logistical problems with providing various services. In addition, some VSs do not have a physical school that the students can attend to receive services making it even more difficult to provide services to those students.

In addressing literature surrounding teacher and student communication, it was found that information addressing communication in terms of technology is sparse. This study served to aid in filling that gap by addressing the teacher experiences of the TMC that work best between teachers and students in VS environments.

CHAPTER THREE: METHODS

Overview

The purpose of this transcendental phenomenological study was to describe teacher experiences of teacher-to-student TMC in secondary VS environments in Alabama. According to Moustakas (1994), "transcendental science" (p. 43) evolved as a result of other sciences' failure to consider human experiences. Transcendental phenomenology, therefore, is the study of how experiences and objects are perceived by individuals. It is one's perception of an event or object, not the actuality of it, which is important because humans gain knowledge primarily through their perceptions. Transcendental phenomenology seeks to explain an experience and its meanings as it is perceived by those who experienced it in order to grasp the "essence of the experience" (Moustakas, 1994, p. 49).

This chapter will give detailed information about the methods of this study. It will first address the design, the guiding research questions, the setting, and the participants. It will then address the procedures, the role of the researcher, data collection, and data analysis. Finally, trustworthiness and ethical considerations of the research will be discussed.

Design

The purpose of this study was to describe teachers' lived experiences of teacher-to-student technology-mediated communication (TMC) in secondary virtual school (VS) environments. The phenomenological method of qualitative research was best suited to seek the teachers' perspective of teacher-to-student TMC in secondary VSs in Alabama. Qualitative phenomenological studies focus on experiences as described by those involved in a phenomenon and the meaning of those experiences for the participants (Creswell, 2013; Moustakas, 1994; Simon & Goes, 2011). According to Moustakas (1994), "phenomenology is committed to

descriptions of experiences, not explanations or analyses" (p. 58). It seeks the "inner core of what the 'thing' is, and without which it could not be what it is" (Larsson & Holmström, 2007, p. 59). According to Finlay (2013), "More than a method, phenomenology demands an open way of being—one that examines taken-for-granted human situations as they are experienced in everyday life but which go typically unquestioned" (p. 173).

This proposed study utilized a qualitative design to seek the teachers' perspectives of teacher-to-student TMC in secondary VSs in Alabama. Qualitative research designs possess a wide-ranging methodology that includes interpreted understandings of experiences, detailed data collection methods that vary depending on the situation, and individual as well as synthesized themes (Ritchie, Lewis, Nicholls, & Ormston, 2014). Themes are accepted as they become apparent via detailed accounts of the phenomenon as it is expressed by the participants (Ritchie et al., 2014). Denzin and Lincoln (2011) defined qualitative research as involving words and images instead of numbers. Qualitative research answers what, why, and how instead of how many, as quantitative research would (Ritchie et al., 2014). Where quantitative research focuses on the power of numbers, qualitative research is powerful because of the rich, multifaceted descriptions that are used to convey participants' experiences of a research topic (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). According to Mack et al. (2005), "It provides information about the 'human' side of an issue–that is, the often contradictory behaviors, beliefs, opinions, emotions, and relationships of individuals" (p. 1). Qualitative research provides detail that gives understanding to complicated issues that may be missed by other methods of research (Cooley, 2013).

This study used the transcendental phenomenological research design. Moustakas (1994) explained that "transcendental" means "in which everything is perceived freshly, as if for the

first time" (p. 34). Likewise, Padilla-Diaz (2015) explained that transcendental phenomenology "analyzes the essences perceived by consciousness with regard to individual experiences" (p. 103). Transcendental phenomenology requires bracketing of the researcher's personal experiences and beliefs to allow for a fresh lens in which to study a phenomenon. In utilizing transcendental phenomenology, this research focused on the lived experiences of the participants and not so much on researcher interpretations (Creswell, 2013; Moustakas, 1994; Simon & Goes, 2011). This research process is considered transcendental because the researchers, through the participants' voiced experiences, views the phenomenon as completely new and is open to all meanings (Simon & Goes, 2011).

Research Questions

This research intended to seek the teachers' perspective of teacher-to-student TMC in secondary VSs in Alabama. To determine that, the following questions guided the researcher:

CQ: How do virtual school teachers in Alabama describe their experiences of teacher-to-student technology-mediated communication in secondary virtual school environments?

SQ1: How does technology-mediated communication meet the needs of individual teachers?

SQ2: How does technology-mediated communication lead to better work performance?

SQ3: How do teachers describe characteristics of the tasks that must be performed?

SQ4: How do teachers describe characteristics of the technology that are used?

SQ5: How do user characteristics impact the use of technology-mediated communication?

Setting

This study was conducted in locations that utilize Alabama's virtual school program

called Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS). The setting was chosen for several reasons. First, in order for the VS teacher to avoid face-to-face communication with the students, which would preclude the need for TMC communication, the site VS teacher must have students who are not on campus. Also, school systems in the state of Alabama were chosen because of the state's mandatory VS law. In 2015, the Alabama legislature passed a bill mandating that all school systems in the state of Alabama provide a VS option to high school students (Brubaker, n.d.). The mandate compels Alabama school districts to provide a virtual schooling option by the 2016-2017 school year (Brubaker, n.d.). The new law specified what school systems in the state should include in their new VS policies, but communication was not one of those items (Brubaker, n.d.). Since Alabama requires that every school district have a VS component, it was a good place to conduct this research. Teachers who teach VS for ACCESS were emailed a request to participate, and participants were chosen according to the order in which they responded to the request. The first to respond was chosen first and so on.

Participants

Participants in this study were Alabama certified secondary education teachers who had taught VS for at least one school year. Each participant also had experienced the phenomena of communicating with VS students through TMC, and each participant was or had been the main person or one of the main persons responsible for communicating with VS students. The main requirements for participants in phenomenological studies is that they had experienced the phenomenon being studied, they were interested in the outcome of the study, and they were willing to participate in the study (Moustakas, 1994). This study employed purposeful criterion sampling (Creswell, 2013). Criterion sampling ensured that the participants selected had the

characteristics necessary for this study (Conn & Rue, 2011). For this study, a VS director was emailed a letter asking for permission to use the VS teachers from his program. After receiving permission and IRB approval, a letter was then sent to the VS teachers via the email addresses provided by the director. The letter briefly explained the study and the requirements as listed above, and it asked teachers to participate in the study if they matched the criteria. This recruitment letter also contained the informed consent document that was collected from each VS teacher prior to participation. Applicants were accepted in the order in which they were received as long as they truly matched the criteria. The number of participants was important in that too few participants would have potentially yielded unreliable information that would not adequately address the issue, but too many participants could have produced too much data resulting in shallow, insincere information (Cleary, Horsfall, & Hayter, 2014). A minimum of 10 to 12 participants were thought to be needed to achieve thematic saturation (Cleary et al., 2014; Creswell, 2013). Twelve participants were used in the study.

Participants were selected from a virtual program that is provided by the State of Alabama. Alabama Act 2015-89 mandated that all school systems in Alabama adopt a policy that provided a virtual school option for all high school students no later than the 2016-2017 school year. The Alabama State Department of Education does provide and fund a virtual school program that may be used by all local education agencies within the state. This program, called Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS), is the third largest state virtual program in the United States (ACCESS Virtual Learning, n.d.). This study utilized teachers who teach or have taught classes for Alabama's ACCESS program who qualified and responded to the request for participants. Participants were accepted in the order in which they were received by the researcher.

Table 1

Participant Demographics

Name	Age	Teaching Experience (years)	VS Experience (years)
Susie	40	15	9
Valerie	41	14	10
John	63	41	11
Andie	55	28	13
Christy	47	15	7
Maria	54	10	4
Julia	67	22	10
Gary	49	19	19
Rosemary	40	16	12
Justin	48	22	2
Michel	45	13	7
Brian	55	33	2

Procedures

The first step in this research was to secure essential approvals to conduct the research. First, approval to perform the research was acquired through the Alabama State department of Education (ALSDE). This was accomplished through the one of the ACCESS directors (see Appendix G). Next, the proposed research was submitted to the Institutional Review Board (IRB) for approval (see Appendix B for IRB approval). It is the Institutional Review Board's (IRB) responsibility to ensure that a researcher's research proposal is ethical and that the safety of human participants has been properly addressed. Upon ALSDE and IRB approval, I then contacted an ACCESS director by email to begin contacting VS teachers who fall under the ACCESS director's jurisdiction to acquire participants' voluntary cooperation in the research. The ACCESS director provided email addresses to me, and I then emailed a recruitment letter (see Appendix A) with an attached informed consent letter (see Appendix C) to potential participants (VS teachers). Upon receipt of the signed informed consent forms, I verified that

each participant met the qualifications for the study. Interviews were then scheduled, and an asynchronous online focus group was prepared. Pseudonyms were used for the participants and the ACCESS region involved.

Interviews were recorded via two recording devices and were then transcribed by a professional transcriber. After the interviews, participants were given the information about the asynchronous online focus group and were asked to participate. Participants also were informed that they may, at any time, submit artifacts they believe to be pertinent for the study. Utilizing manual analysis and Atlas.ti software, all forms of data were examined in an ongoing manner as they became available.

Epoche, phenomenological reduction, imaginative variation, and synthesis are all processes that were used in this transcendental phenomenology. The first process, epoche, is the act of the researcher intentionally setting aside biases and beliefs in order to see a phenomenon through a fresh lens. In doing this, I revealed my thoughts and opinions regarding the subject and made a conscious effort to bracket them out of the study. Phenomenological reduction was the next process. It included bracketing the research question in a manner that was unbiased and receptive to the participants' thoughts, feelings, and experiences. Phenomenological reduction also includes "describing in textural language" (Moustakas, 1994, p. 90) what is seen, external and internal, and what is experienced. This process was repeated from different angles until themes and horizons became evident. The next process, imaginative variation, was used to determine possible meanings of an experience. This process included changing the way the experiences were evaluated, such as looking at them from different viewpoints and using "polarity and reversals" (Moustakas, 1994, p. 97). It also required that imagination be employed and that intuition be used in the development of themes that lead to the essence of the

phenomenon. The final process was synthesis. I synthesized all information in order to determine the essence of the phenomenon by determining what "condition or quality without which a thing would not be what it is" (Moustakas, 1994, p. 100).

The Researcher's Role

As the human instrument in this proposed study, I remained ethical and responsible. This included the maintaining of ethical behavior throughout the research process, ensuring the safety of human participants, and being honest about how I fit into the research. Addressing how I fit into the research was important to the overall study in order to avoid personal assumptions and biases.

As a high school principal at a school that includes a VS component, I am the supervisor of the teachers who work with VS students in my district. Because the success of the VS component at my school and in the school district that employs me is very important to me, so too are the results of this research regarding TMC in VS environments. In my school and district, I have noticed that communication with students in virtual environments is quite different than communication in traditional schools. There is no face-to-face communication in a completely virtual environment, so teachers must find ways to communicate with students that students are also comfortable with. If a mode of communication works for teachers but not students or students but not teachers, then a communication breakdown ensues that could be detrimental to student learning, teacher satisfaction, and virtual school success. Virtual school teachers do what they can to meet their students' needs, but if research were available to them that tell of the types of TMC that are preferable, it could alleviate some communication issues, increase student achievement, and help VS teachers better serve their students.

This research did not take place in my school district, and I had no connections with any of the participants prior to this research. I did have assumptions regarding what works and what does not work in communicating with students. As a supervisor who encouraged the VS teacher to use alternate forms of communication with students, I did bracket my own personal beliefs so that they would not interfere with the study.

Data Collection

Prior to collection of data, an ACCESS director was contacted and permission was requested and received to perform the study within that region. After obtaining permission from the ACCESS director who received permission from the Alabama State Department of Education, I asked VS teachers who qualified as participants and who worked under the director with whom permission was granted to participate in the study. Upon agreement, data for the proposed research was collected using semi-structured interviews, an asynchronous online focus group, and artifacts. Pseudonyms were used for the participants and the ACCESS region used for the study.

Upon receipt of all necessary consent forms, interviews were scheduled at a mutually agreed upon time/place. Each interview was held at a public location that was agreeable with the participant or via technology, such as video-conferencing. Participants received a copy of the interview questions by mail or e-mail prior to the scheduled interviews. Interviews were recorded via two recording devices and were then be transcribed by a professional transcriber. At the time of the interview, participants were given information pertaining to the asynchronous online focus group. Such information included instructions of an email to follow that included a link to the online focus group and a statement regarding additional information that may be requested. Artifacts pertaining to the study were collected in an ongoing manner. This study

utilized triangulation of data to ensure credibility of the study. In triangulation, the participant interview data, the asynchronous online focus group data, and the collected artifacts were analyzed against the others to ensure that the themes, patterns, and ideas were the same across all data types (Creswell, 2013).

Interviews

Semi-structured interviews was the first data collection method used in this research. According to Moustakas (1994), phenomenological interviews are often long and informal. The interviews contain open-ended questions that permit discussions and questions (Moustakas, 1994). This was appropriate because interviews are the preferred methods of data collections for phenomenological studies because they allow for great depth in the answers to the question posed (Moustakas, 1994). The semi-structured approach allows the researcher to ask follow-up questions in order to better understand answers given by participants.

As suggested by Moustakas (1994), the semi-structured interview questions, as seen in Appendix D, were broad in order to obtain the rich data from the participants' experiences. Interviews were performed at a mutually-agreeable public location or via technology with a prearranged date and time, and each began with a get-to-know-you conversation to help the participants feel more comfortable (Moustakas, 1994). Interviews were recorded via two recording devices and were then transcribed either by a professional transcriber. Pseudonyms were used for the participants and the ACCESS region used in the study in order to maintain confidentiality. Interview questions for the research were divided among the research sub-questions as follows:

Sub-Question One interview questions. These questions addressed how technology-mediated communication meets the needs of individual teachers.

(1) Please describe your needs regarding technology-mediated communication.

(2) How do you know when a method of communication works well for you?

(3) How do you describe communication technologies that do not meet your needs?

Sub-Question Two interview questions. These questions addressed how technology-mediated communications lead to better work performance.

(4) The purpose of technology-mediated communication is to increase work performance. What do you believe is needed for you to increase your work performance when interacting or attempting to interact with students?

(5) What characteristics could a technology offer that would help you to do your job better?

(6) How important is communication between you and your students in terms of student success?

Sub-Question Three interview questions. These questions addressed how teachers describe characteristics of the tasks that must be performed.

(7) In your position, what tasks require that you communicate with or to your students?

(8) How do you describe the characteristics of each task that must be performed?

(9) What is it about each task that makes it easy to communicate with your students?

(10) What is it about each task that makes it difficult to communicate with your students?

Sub-Question Four interview questions. These questions addressed how teachers describe characteristics of the technology that are used.

(11) In your position, you utilize various technologies in communicating with your students. How do you know which technology to use?

(12) What are the characteristics of the technologies that you use that drive you to use

them?

Sub-Question Five interview questions. These questions addressed how user characteristics impact the use of technology-mediated communication.

(13) What are your thoughts about technology-mediated communication?

(14) What are your feelings pertaining to technology-mediated communication?

(15) What is it about you that leads you to use specific kinds of technology-mediated communication?

(16) What are some methods of technology-mediated communication you have considered using that you have not tried yet, and do you intend to try them?

(17) Which technology-mediated communication methods that you use or have used do you prefer and why?

Interview questions one through three allowed me to understand teachers' needs regarding TMC. They also helped me determine if participants' needs varied. These questions helped me understand what participants were looking for in a TMC to meet their needs and where various technologies are lacking.

Questions four through six addressed how technology-mediated communications lead to better work performance. These questions drew responses from the participants pertaining to characteristics of TMC that aid the teachers in the performance of their jobs.

Questions seven through 10 addressed the characteristics of tasks that must be performed. In using TTF theory, the characteristics of a task must fit with the technology for the technology to be effective (Goodhue & Thompson, 1995).

Questions 11 and 12 addressed how teachers describe characteristics of the technologies they use. As was mentioned above, the characteristics of a task must fit with the characteristics

of a technology in order for the two to fit each other and be effective (Goodhue & Thompson, 1995).

The final set of questions, 13 through 17, addressed how user characteristics impact the use of technology-mediated communication. This helped me to understand how user characteristics affect individual experiences with a phenomenon. These questions helped capture the essence of the VS teachers' experiences.

Each question was presented to the participants, and follow-up questions that resulted from the answers to the initial questions were asked. Prior to completing the participant interviews, I submitted the proposed questions to other education professionals who work in or with VS environments. This allowed me to add to or take away from the questions and helped clarify wording of each question. I also performed a pilot interview in order develop interview skills and to ensure the questions were clear and concise. Participants were encouraged to have open dialogue during the interview where questions and comments were generated.

Asynchronous Online Focus Groups

Another method of data collection used was the online asynchronous focus group. An online forum was developed that allowed the participants and I to publish additional ideas, information, or questions. The link to this online forum was given to each participant following each interview, and each participant was asked to participate in the forum until the conclusion of the data collection period. This focus group was considered asynchronous because participants could log in to the site and participate whenever it was convenient for them to do so. Participants were asked to use their pseudonyms when participating in the focus group to maintain anonymity. They were asked to participate in the focus group by posting their thoughts and responding to others' thoughts and comments at least weekly until the conclusion of the data

collection period. The researcher posed questions, as seen in Appendix E, following initial interviews. Participants were encouraged to ask questions and make comments on theirs and others' posts.

Online asynchronous focus group questions for the proposed research were as follows:

(1) Following your interview, what thought or reactions do you have pertaining to VS technology-mediated communication?

(2) In thinking back on your answers to the interview questions, is there anything you would like to add to your responses?

(3) Is there anything you wish the researcher would have asked but did not, and what might that be? What is your response to that or those questions?

(4) Is there anything that you would like the researcher to know, but the opportunity did not present itself to breach the subject?

Question one is an ice-breaker type of question that simply allowed the participants to reflect back on their interview. It was designed to encourage the participants to reflect back on the interview, questions, and responses and give a general reaction to the idea of TMC in the VS environment.

Too often people think of important details after an opportunity has passed. Question two allowed participants to add their thoughts and feelings that were not previously stated in the regular interviews. Other participants were able to then respond to the comments.

Question three was designed to elicit questions and responses that the researcher may have omitted, intentionally or unintentionally, that may have been of importance to the research. Admittedly, it was possible that the researcher might not have thought of pertinent questions that those in the field may see as important.

Question four was designed to prompt participants to give information that may have been important to the research but not directly related to technology-mediated communication. This question was intended to open lines of communication for areas that might have impacted the research results either positively or negatively.

Prior to completing the asynchronous online focus group, the researcher submitted the proposed questions to other education professionals who work in or with VS environments. This allowed the researcher to add to and take away from the questions and served to help clarify the wording of each question. The researcher also performed a pilot asynchronous online focus group to ensure the questions were clear and concise and that the online focus group platform worked correctly.

Artifacts

Artifacts were also used as a method of data collection for this research (Creswell, 2013). Artifacts included TMC documents between teacher and student, information related to various kinds of TMC, communication logs, and screen-shots of computer applications. All documents were accepted, but identifying information was deleted from such artifacts.

<div align="center">

Data Analysis

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Data analysis was conducted on the semi-structured interviews, the asynchronous online focus group, and all artifacts. Data analysis procedures followed Moustakas's (1994) guidelines for transcendental phenomenological research, which include epoche, phenomenological reduction, imaginative variation, and synthesis. The analysis of data, according to Moustakas (1994), begins with organization when the researcher sets the transcribed interview data in front of himself and begins the phenomenological analysis methods.

In an attempt to view the phenomenon in as unbiased a manner as possible, I bracketed my own preconceived thoughts, opinions, and assumptions about the subject (Creswell, 2013, Moustakas, 1994). This is known as epoche, "the process of setting aside predilections, prejudices, predispositions, and allowing things, events, and people to enter anew into consciousness" (Moustakas, 1994, p. 85). Epoche was used from the beginning stages of the research project through the data analysis procedures.

Using the verbatim transcripts, each participant's interview statements, along with the asynchronous online focus group and artifacts, were studied according to the significance it held for the research. This involved horizonalization of the data (Moustakas, 1994), which means that every statement pertaining to the research topic was of equal value. Phenomenological Reduction is a procedure that includes horizonalization and the creation "a complete textual description of the experience" (Moustakas, 1994, p. 96). This involved giving a detailed description of what was seen in both the physical form and in terms of the perception of the phenomenon (Moustakas, 1994). Through phenomenological reduction, data was analyzed using different angles and varying ideas until an understanding of meaning of the experience became evident (Moustakas, 1994).

After phenomenological reduction, imaginative variation was employed in analyzing the data. Imaginative variation allowed me to look at data in creative ways to determine possible meanings. This included looking at the data from varying perspectives, with different lenses, and from different roles. Doing so allowed the underlying factors of the experience to surface. It answered how the "experience of the phenomenon come to be what it is?" (Moustakas, 1994, p. 98). With the use of the imagination, any perspective imaginable was permitted to surface.

The final step in analyzing data involved the synthesizing of "meanings and essences" (Moustakas, 1994, p. 100). I intuitively combined the textural and structural experiences into one principal essence of the phenomenon.

Trustworthiness

Trustworthiness of a research study refers to the study's credibility, dependability, confirmability, and transferability (Creswell, 2013). When these four concerns are properly addressed, a study is deemed trustworthy. This research study used Creswell's (2013) validation strategies to address the issues. These strategies include triangulation, rich, thick descriptions, member checking, and peer review of data.

Credibility

For this phenomenological study to be useful in VS environments, it had to be able to accurately describe teacher experiences with TMC at secondary VS environments. This study utilized triangulation of data to ensure credibility of the study. In triangulation, the participant interview data, the asynchronous online focus group data, and the collected artifacts were analyzed against the others to ensure that the themes, patterns, and ideas were the same across all data types (Creswell, 2013). In an additional step, member checking, the act of having the participants review the coded and analyzed data, was also utilized to ensure credibility (Creswell, 2013). In this study, participants were sent via email the codes and themes that were developed in order to member check the data and facilitate the establishment of credibility.

Dependability and Confirmability

Dependability of a study means that if the same research methods and participants were used again in another study, the results would be nearly the same (Lincoln & Guba, 1996; Shenton, 2004). In this study, external audits were used to ensure the dependability (Creswell,

2013). The auditor was a non-participating virtual school teacher who reviewed all data, researcher notes, coding, and results to verify the accuracy of each.

Confirmability, the accurate interpretation of participants with researcher bias excluded (Lincoln & Guba, 1985), was established by clarifying researcher bias (Creswell, 2013). According to Creswell (2013), researcher awareness of his own assumptions and biases helps him to exclude it from the actual research. To do this, I fully explained my position regarding the topic and explained, in detail, my thoughts, feelings, and opinions. I also explained my experience with the phenomenon.

Transferability

Transferability refers to the ability of research findings to be able to be used in, or transfer to, other contexts (Creswell, 2013). If the research is to be used in locations other than Alabama, the researcher must ensure transferability. To do this, I used rich, thick descriptions to convey an abundance of detailed information regarding the participants, the setting, and the data (Creswell, 2013). Without the use of detailed descriptions of the themes derived from the data, future researchers or readers might be unable to fully comprehend the information gleaned from this study. Including detailed descriptions of the participants and setting will ensure that the information learned through this study can be applied to other persons and settings that are similar.

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Ethical Considerations

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As in any research study involving human participants, maintaining the highest ethical standards is imperative. There were no known risks that were expected to surface in this research study, but there were several ethical considerations that had to be addressed. Since human subjects were involved in this study, Institutional Review Board (IRB) approval was

requested and received before any research took place. In addition to receiving approval from the IRB, I requested and received written approval to perform the research from the ACCESS director and from each participant involved prior to the start of the study. I acquired clear agreements from the ACCESS director and research participants involved that fully revealed the nature and purpose of the study along with any requirements that were included (Moustakas, 1994). The agreements also contained information pertaining to the participants' right to voluntarily participate and even to withdraw from participation at any time during the study (Moustakas, 1994). Confidentiality of the ACCESS region involved and the participants involved was maintained by use of pseudonyms. Any information deemed private or damaging to a participant or to the ACCESS region was removed or disguised (Moustakas, 1994). In addition, all data was maintained in either a locked room that only I could access or on a computer that I ensured was password protected. All communication between the involved ACCESS region and participants was in a direct, straight forward manner, and all care was taken to avoid disclosure of information that could have potentially caused harm to the ACCESS region or participants.

Interview questions were open-ended and conversational in nature so that any misunderstandings could be corrected as the interviews occurred (Moustakas, 1994). Participants had the right to examine, concur, or change data generated from their individual experiences (Moustakas, 1994). Copies of the results of the study were provided to the involved ACCESS region director and the participants.

Summary

This research was a qualitative transcendental phenomenological study. This study adds to existing scholarly research pertaining to communication in VS environments. A

phenomenological design was chosen because the researcher was seeking to understand the essence of VS teachers' experiences with teacher-to-student TMC in secondary VS environments. The justification for this design was clearly and justifiably presented. The site, ACCESS VSs in Alabama, and participants, the VS teachers who teach ACCESS virtual classes, were identified along with an explanation for why the sites were chosen. The data collection procedures for the semi-structured interviews, the asynchronous online focus group, and the artifacts were clearly delineated, and the procedures for analysis of the data were specified. Trustworthiness, such as credibility, dependability, confirmability, and transferability, is of great concern, and strategies used to address these issues were addressed. Finally, recognizing that research must maintain the highest standard of ethics, several ethical considerations were identified, and precautions the researcher followed were provided.

CHAPTER FOUR: FINDINGS

Overview

This transcendental phenomenological study seeks to describe teacher experiences of teacher-to-student technology-mediated communication (TMC) in secondary virtual school (VS) environments in Alabama. This study utilized triangulation of data to ensure credibility of the study. Participant interview data, asynchronous online focus group data, and collected artifacts were analyzed against the others as the researcher searched for themes, patterns, and ideas that describe virtual school teachers' perspective of technology-mediated communication in virtual school environments in Alabama. All participants' stories of their lived experiences were analyzed for the researcher to understand how virtual school teachers in Alabama describe their experiences of teacher-to-student, technology-mediated communication in secondary virtual school environments.

The central research question for this study was: How do virtual school teachers in Alabama describe their experiences of teacher-to-student technology-mediated communication in secondary virtual school environments? Five sub-questions were also posed to fully understand the experiences and perceptions of the participants:

(1) How does technology-mediated communication meet the needs of
individual teachers?

(2) How does technology-mediated communication lead to better work performance?

(3) How do teachers describe characteristics of the tasks that must be performed?

(4) How do teachers describe characteristics of the technology that are used?

(5) How do user characteristics impact the use of technology-mediated communication?

This chapter, using rich, thick descriptions (Creswell, 2013) presents each of the 12 participants and identifies the research themes that surfaced through the phenomenological analysis method. This analysis included epoche, horizonalization of the data, phenomenological reduction, imaginative variation, and synthesizing of "meanings and essences" (Moustakas, 1994, p. 100). The researcher then intuitively combined the textural and structural experiences into one principal essence of the phenomenon.

The central research question is answered in this chapter along with the five sub-questions. This chapter concludes with a summary of the research findings.

<div align="center">**Participants**</div>

Participants for this study were selected using purposeful criterion sampling. Each participant taught virtual school for Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) program. Twelve virtual school teachers, seven females and five males who range in age from 40 years to 67 years, participated in this study. Each participant has between 10 and 41 years overall teaching experience, and between two and 19 years of virtual school teaching experience. One participant teaches in Alabama, but resides outside the state of Alabama. All other participants reside in locations across Alabama. Pseudonyms were employed for each participant and for any employment-related information, such as names of traditional schools where teachers may work or names of courses taught in the VS environment. All participants were emailed the codes and themes that were developed to member check the data and facilitate the establishment of credibility.

Susie

Susie is a 40-year-old female who has taught traditional school for 15 years and VS for 9 years. She believes that communication with her students is "very important because if you're

not giving feedback for the students, they don't know what they need to correct." She went on to state, "Feedback is probably the number one, 100 percent way, I'm in touch with my students, so if I don't have that, I don't have good communication." Susie went on to say that giving and receiving feedback with her VS students makes it easier to accomplish all other tasks. One issue, though, is that "some students just choose not to do what I've left back." She then went on to say that it would be nice if there were a way to tell if her comments/posts were read by the students. Susie has tried several TMC's in an attempt to communicate with her students, but she has found that sticking with those provided in her ACCESS platform works best. She believed this is because students experience issues with trying to gather information from too many locations. When Susie has too much difficulty reaching a student, she has had success with sending a message to the facilitator at the student's home school. She stated,

> So whether that teacher [facilitator] is writing it on the board, like, 1965 called and they want their marker back, whatever, I think it's just that adult. Somebody in authority…I think the technology has some authority, but ultimately it's just a computer.

Valerie

Valerie, a 41-year-old female, has been teaching school for 14 years and VS for 10 years. She tends to use TMC's that are available through her ACCESS platform, and she described the importance of communicating with her students as "varied." She posts assignments and gives information primarily through a newsfeed provided by the platform she uses. "Reminding them [students] about work when it's due, changing due dates, finding a mistake, like a link being broken, or a mistake that I put in for their assignments…introductions at the first of the school," are some examples of tasks that require Valerie to communicate with her students. She went on to say that the best way to grab her students' attention is by using "a lot of colors in the actual

post." Although Valerie is a fan of the newsfeed, she stated that email makes it easiest to communicate with her students because "they can go back and read it again," and it also easier for her because she has "the ability to be able to do it when I need to, the ease…"

John

John is a 63-year-old male who has been teaching school for 41 years and virtual school for 11 years. He described the importance of communicating with his students as "real important," but expressed his frustration "not knowing if they're actually doing the things they need to do to get my communication." He expressed concern that students do not read the emails he sends. "I can say, hey, you know you're behind, and you got to get to work, … but if they're not reading it…" John believes that the easiest way of communicating with his VS students is through email and the newsfeed because they enhance the chance of communication being successful. In assisting students with their assignments, John stated that he would like the platform he uses to have a screenshot capability imbedded. That ability would permit him to work a problem and send it to the student rather quickly.

Andie

Andie is a 55-year-old female who has been teaching school for 28 years and VS for 13 years. She believes that communication with her students is very important. "Communication between me, as a teacher, and students is the, I would think, number one ingredient for student success." Andie specified that "email is really the way that my students and I connect with each other, like one-on-one, more than any other way." She knows when a TMC works well because she gets responses from her students, and she is assured that her students are engaged when she receives a lot of email correspondence. However, Andie did state that the students who "get it and want to move on" are the ones least likely to interact with her.

Christy

Christy, a 47-year-old female with 15 years overall teaching experience and seven years of VS teaching experience, described communication with her students as "crucial." She uses synchronous video-conferencing equipment and corrects her students' errors on the spot. Email, though, is her preferred method of communication outside of her regular class hours. When asked what makes it easy to communicate with her students, Christy replied, "I'm hung-up on the word easy. It's not the best, really, to connect via video-conference, however, I don't know of a better way." While talking about the difficulties involved in video-conference classes, Christy gave an example of a microphone placed near a printer. She stated, "…it sounds like a bulldozer coming through the wall every time the printer goes off, and I just have to wait." She proceeded to explain that technology is "part of our world, part of the way we function in prepping our kids for the future."

Maria

Maria, a 54-year-old female has been teaching for 10 years and VS for four years. She described communication with her students as "very, very important, especially in an online class, and [I] tell them that the very first day." She wants to make sure her students understand that in the online environment, she cannot tell if they are struggling, so they must find a way to let her know. She stressed that she wants all of her students to be successful. Maria has found that PowerPoint presentations are not an effective way of communicating with her students because "they don't take the time to open it up and look at it." Another area of concern for Maria is the difficulty she has with her VS platform when grading. When speaking about what it would take to increase her work performance, she stated, "I want to be able to, when they submit a

writing activity, I want to be able to grade it right there without me having to copy, paste, download, save, upload, you know. That would save so much time."

Julia

Julia is a 67-year-old female who has been teaching school for 22 years and VS for 10 years. She described communications with her students as "absolutely essential," and stated that "pretty much everything" she does requires that she communicate with her students. She went on to say that, typically, the students she does not hear from are the ones who do not do well in her virtual classes. Julia knows when a TMC is working well when "I get the right response and it's going well, and they seem to be doing well." She explained that her greatest need in VS is to "talk to them face-to-face." She believes that speaking to them face-to-face would permit her to provide a sort of "tutoring session" for her struggling students. Julia is cognizant that she is working with virtual school students, though, and she is willing to use TMC, such as video-conferencing, to provide face-to-face assistance to her students.

Gary

Gary, a 49-year-old, tech-savvy male, has been teaching VS as long as he has been teaching traditional school – 19 years. In speaking with Gary, it became clear that he loves working with technology. He stated that communication with his students is "very important because I need to know what they're thinking; do they understand?" Gary explained that he uses a wide variety of TMC in his virtual classes so his students "don't lose their interest." Gary is a very tech-savvy teacher, and he uses that to his students' advantage. He claimed that his excitement about using a TMC creates excitement in his students, hence making it easy to communicate with them. Gary did, however, specify that conflicts between his schedule and the students' schedules sometimes made it difficult to communicate with the students. He also

pointed out that there are socio-economic issues that prevent some student from having VS access at home. That limits the amount of time those students get to spend on classwork, and if the student's schedule conflicts with the teacher, it can create problems for the student in terms of seeking help with the course.

Rosemary

Rosemary is a 40-year-old female who has been teaching school overall for 16 years and VS for 12 years. She describes communication between her students and herself as "…hugely important because the last thing you want is for the only time you communicate with a student is when you have something bad to say." She is a believer in positive encouragement. She knows when a TMC works well because she receives "fewer questions or fewer emergency contact questions." Rosemary's needs regarding TMC are relatively simple; she stated that the ACCESS platform she uses has given her "everything," she needs to work with her students, but she would like to have an app for her cell phone that supports the ACCESS platform that she uses with her virtual students. She stated,

> We don't have a sit-down, here I'm going to do it [virtual school]. It's more of a five
> minutes here, 20 minutes there, or an hour here, okay, another five minutes here. When
> you have it, the ability to do it on your phone, it meets you where you are.

Justin

At 40 years of age, Justin, a male, has already been teaching overall for 22 years and teaching VS for two of those years. Justin stated that communication with his virtual students is "extremely" important because without it "…students aren't getting what they need and you as a teacher aren't being able to do the things that you can do to help the students better themselves." His choice of TMC depends on the task at hand, as some tasks may work better with email,

whereas others work better with a newsfeed. Justin knows when a TMC works well for him because his students participate and remain on task. Justin sees himself as being rather traditional, so although he knows that it is "not necessarily true," he tends to feel that face-to-face, in-person courses are more beneficial.

Michael

Michael is a 45-year-old male who has been teaching for 13 years overall and has been teaching in VS for seven years. He believes that communication with his students is "essential," stating, "there has to be communication, otherwise there is no guarantee the students will really get the most out of being an online student." In referring to his VS platform, Michael stated "what I really like about this program is that the instruction is more individualized, it's more personalized. We target students on an individual basis." There is one point of frustration, though, as he has found that his greatest need regarding TMC is ensuring that the students have the same TMC capabilities as the teachers. This would alleviate the issue of the students' inability complete assignments because of a lack of or different types of TMC.

Brian

Brian is a 55-year-old male who has worked in education for over 30 years and taught VS for about two years. He described communication in the courses he teaches as "imperative," and believes that "a lack of interaction only causes the students to become disinterested in the course or think that the instructor doesn't value their own feedback." He described his needs regarding technology-mediated communication as being "constant," as he uses it to correspond with both parents and students almost daily. Due to its conciseness, Brian's preferred method of TMC is email, but he specified that if the message is long and/or complicated a phone call or some type of face-to-face communication is necessary. The TMC that Brian is least likely to use is video

conferencing, such as Skype, due to the potential for dropped connections or equipment malfunctions.

Results

The following central research question guided the study: How do virtual school teachers in Alabama describe their experiences of teacher-to-student technology-mediated communication in secondary virtual school environments? Five sub-questions were developed to fully study and understand the experiences and perceptions of the participants: How does technology-mediated communication meet the needs of individual teachers? How does technology-mediated communication lead to better work performance? How do teachers describe characteristics of the tasks that must be performed? How do teachers describe characteristics of the technology that are used? How do user characteristics impact the use of technology-mediated communication?

Open-ended questions were utilized for individual semi-structured interviews along with focus group questions to fully understand the participants' lived experiences. Artifacts were also used in triangulation of the data to determine meanings. Using Moustakas's (1994) transcendental phenomenological approach to analyze data, epoche, horizonalization of the data, phenomenological reduction, imaginative variation, and synthesizing of "meanings and essences" (Moustakas, 1994, p. 100), four major themes emerged from the data: Teacher mindset, teacher presence, integrating technology into instruction, and technology issues. The themes were not clear upon initial review of the data. With well over a hundred initial codes (see Appendix G), the researcher looked at each piece of data as being equally important in the study and then looked at each piece of information from varying stances, gradually narrowing the codes and synthesizing the data until themes and an overall essence of the phenomenon became apparent.

Teacher mindset covers the thoughts, feelings, and aspects of TMC as it pertains to the teachers' VS teaching experiences. The next theme, teacher presence, describes the participants' perceived value of having a teacher involved in virtual schooling of students. The third theme, integrating technology into instruction, describes some of the modes of TMC and uses employed by the teachers of VS. The fourth theme, technology issues, discusses the needs and issues surrounding TMC in VS environments as perceived by the participants. Each theme is discussed in length as well as how the participants' responses to the research questions relate to each theme. See Appendix G for initial codes and number of occurrences for each code through semi-structured interviews, online focus group, and artifacts.

Table 2

Description of Themes

Theme	Description
(1) Teacher Mindset	Thoughts, feelings, and aspects of TMC as it pertains to the teachers' VS experience
(2) Teacher Presence	Participants' perceived value of having a teacher involved in virtual schooling of students
(3) Integrating Technology into Instruction	Describes some of the modes of TMC and uses employed by the teachers of VS
(4) Technology Issues	Needs and issues surrounding TMC in VS environments as perceived by participants

Theme One: Teacher Mindset

Teacher mindset was identified as the overall attitude of teachers who use TMC to teach students in a VS environment. Eighteen initial codes were used in developing the teacher mindset theme (see Table 3). The participants' responses to semi-structured interview questions and online focus group questions exposed their overall perception of the experience of using

TMC and their attitude toward the technology and its use in virtual schooling. In response to questions posed in the semi-structured interviews and online focus group, all participants expressed how they perceive that VS has facilitated or hampered the education of high school students in Alabama.

All participants responded to questions with positive aspects regarding their experiences with TMC in VS environments. Likewise, all participants pointed out negative aspects of TMC in VS environments. All participants except Andie and John claimed they like teaching virtual school because it because it allows them to bring opportunities to their students that they would otherwise not be able to do. For instance, in referring to student learning about a major industry in Alabama via TMC, Susie stated in her semi-structured interview, "so not only do we have an opportunity in our face-to-face classrooms to improve it, we also have an opportunity as ACCESS teachers or as distance learning to improve opportunities of awareness for a bigger population." She went on to point out that there are classes available to students across Alabama that might not have been possible if it were not for VS, stating that "they may not have had an opportunity to take [various classes] and now are aware of potential career opportunities that they may have never had otherwise. That's another huge facet or opportunity through ACCESS." Andie, like Susie, claimed, "It makes me happy," but she qualified her statement by stating, "having said that, I do miss being in the classroom." In addition, artifacts such as pictures of online activities were used to show how students can work online and how online activities are engaging for the students.

Still, all participants were quick to point out the positive and negative aspects, such as Rosemary, who stated in her interview that,

"It's like a love-hate relationship. I love it when it works and when I know how to make it

work. I can't stand it when it doesn't work and I'm at a loss, which is why I love the

ACCESS tech department."

Her words were echoed by all other participants through interviews and the online focus group as

teachers discussed issues that they experienced with the technology side of teaching VS.

All participants perceived their communication with their students as being of utmost

importance. Michael exemplified this as he stated,

"That is essential. There has to be communication, otherwise there is no guarantee the

students will really get the most out of being an online student. I think it's because a lot of

times, there's sessions about online teaching, but in reality, there is way more

commitment…or there should be more commitment on the side of the teacher and the

student in order for this to be successful."

Ten participants (omitting Andie and John) went on to say that they were very willing to try

something new if they believed it would help their students understand the course content or to

maintain their students' interest in the course. Gary showed how VS teachers try new TMCs with

their students as he stated,

"I try to be creative. I don't become settled with just one thing. I try to use a variety of

things. I try to be creative and I think about what I do in my own class. With my students.

I will take what I am doing or I could go back and look at my technology portfolio. I

could always find stuff."

Two participants, however, such as Susie, preferred sticking with the TMCs that were

provided by the ACCESS platform because she believed students become overwhelmed with

"too many locations for them to go for information." Even when teachers stayed with the TMCs

provided by the ACCESS platform, although still expressing a positive attitude, some teachers expressed frustration about whether the students were doing as they were supposed to do. John said this concisely when, as he was referring to TMC, he stated, "I think it's real important; my frustration there is not knowing if they're actually doing the things they need to do to get my communications."

All participants displayed their mindset, too, as they discussed needs. When asked what their needs are related to TMC, half of the participants stated they would like additional professional development or some additional equipment. For instance, Valerie stated, "I don't personally need anything else, but maybe some training on a couple of things, like the web meetings and like that." Eleven participants also stated that their biggest need is having all TMC be universal between teachers and students. In discussing the reason this is a big issue to him, Michael stated, "that's because every school system is different. Some schools may have better equipment, some others may not have equipment that is/has those components... it would be great if we could have a standardized computer the students can use…"

Theme one, teacher mindset, shows how VS teacher participants experienced the various aspects of TMC in VS environments. Whether it was a desire to use as much technology as possible, or a desire to keep things simple for the students, the mindset of the teacher became evident as participants discussed their experiences with using TMC in the VS courses they taught. While 10 participants preferred to find TMCs that would aid their students, even if it meant using TMCs that were not included in the ACCESS platform, the other two participants, Andie and John, preferred to remain with the TMCs included in the platform in order to make it easier for them and their students. All participants' responses to questions were focused on what would work best for their students, even though how they determined what was best for the

students varied. Whether it was a desire to use as much technology as possible or a desire to keep things simple for the students, the mindset of the participants influenced their use or non-use of TMC's in the VS courses they taught.

Table 3

Codes Used in Developing Teacher Mindset Theme

Teacher Mindset	
Acceptable	Love-hate
Always available, always open	Positive results
Communication works well	Rewarding
Ease of grading	Safer than traditional school
Ease of use	The way of the future
Efficiency	Time saving/consuming
Enjoy	Try new things
Interactive	VS great
Love VS	VS not for everybody

Theme Two: Teacher Presence

The second theme identified was that teacher presence is important for student success in the VS process. While only seven of the initial codes were used in identifying this theme (see Table 4), participants' responses to semi-structured interview questions and online focus group questions clearly described the participants' thoughts and feelings pertaining to teacher presence. In response to questions posed in the semi-structured interviews and online focus group, all participants expressed that they perceive that VS has either facilitated or hampered the education

of high school students in Alabama. Responses that aided in identification of this theme showed that participants believe that most students would have great difficulty succeeding in VS environments if not for the teachers' presence.

All participants made comments as to the need for teacher presence in the VS environment regardless of the TMC that was being employed. The theme of teacher presence was supported in such areas as course support, environment, individualized attention, and rapport building. Teacher presence was described as the VS teachers being attentive to student needs, getting to know the students, and video-conferencing or using pictures with the students.

Susie exemplified giving her students support by giving them deadlines and the impression that she is always available. In her interview she stated,

> Now, I may not necessarily post every little assignment through my communication, but what I do is I put deadlines on my dates and then I put pacing zeros in, so those web-based students have a little bit more always available, always open, always on kind of perception to their communication. So, they can email me at 8:00 at night, and I've had students do that. Now do I really respond back to them at 8:00 at night? No, but I have been online and I've responded back.

In looking at teacher presence from a different angle by focusing on individualized attention, Gary stated, "Well, I think one of the things that's needed is, I think, that a little face time with the students, so they can kind of get to know who that instructor is." Of course, face time in a virtual environment typically involves video-conferencing equipment so that the student and teacher can see and hear each other. Rosemary described teacher presence in terms of support, individualized attention, and rapport building. Her goal is to ensure the students who participate

in her VS classes get the same personal touch that her traditional class students would receive. She emphasized this as she stated,

> Sometimes they'll put an extra period and the computer will grade it wrong…I want to give them a one-on-one personal touch that only a human can do, not a computer can do. I look at that and that's what I would do if we were face-to-face, and so I find myself making sure I do that online so that they can get the highest grade possible.

Likewise, in discussing the need for some personal attention/contact such as video-conferencing with students, Maria stated, "I think that, even though it's a virtual school, you still have that personal touch with students. That's important to know. That's what research says helps them along."

Andie and Michael both described teacher presence in terms of teacher voice. Andie stated in her interview that "there are some students who just want to hear my voice and we do have opportunities for that built into the curriculum." Michael, in discussing video-recordings emphasized that using more voice recordings was one of his goals. He stated,

> I want to use more of the voice recordings to give feedback, and also some video clips that I can download into the news page so they can actually relate directly to what they're learning. That is what I really, that's one of my goals. It's just to make the whole experience better, yeah.

Ultimately, all participants believed that having an adult, a teacher, actually involved in the VS students' courses was of paramount importance, but there were several ideas as to how to make that happen. Rosemary had the idea that there needs to be a way to directly link-in to a student to have student-to-teacher face time. In her words, Rosemary stated,

Well, I think it would be interesting ... And I don't even know how this would work, but I think it would be really cool to have some tool somewhere on the class, on the course site, where we just literally push the button and we're automatically on video with whoever ... You know, I pull up the student name and if they're on the computer at that time it pops up. My head pops up and I'm like, 'Hey, how you doing today?' That would just be over the top, I think. That would really help me with them. It really would.

In concurrence with Rosemary, Susie stated,

Let me tell you what's worked. When I text message the teacher, the facilitator, and I say, 'We need this by this date,' it usually happens. So, whether that teacher is writing it on the board like, 1965 called and they want their marker back, whatever, I think it's just that adult, somebody in authority saying, 'Do this now.' They're like, ding, we will do it… I think the technology has some authority, but ultimately, it's just a computer. There's no teacher saying, 'Do this now…'

The participants' views on teacher presence were very much in agreement with each other through the semi-structured interviews and the asynchronous online focus group. Julia reinforced this idea as she pointed out that "… a lot of kids just simply don't respond well to a situation where there is no live human being."

Participants repeatedly gave examples of technologies and tactics they have tried to help their VS students achieve, but all concur that ultimately, teacher presence is a must. Maria stated that she

…tried to communicate with them through attaching PowerPoint, and I don't even think they take the time to open it and look at it. Like I said, when I go and I'm actually talking to them while I'm showing them, it seems to work out a lot better.

Brian, too, mentioned teacher presence as a way of helping students. He said, "I have seen firsthand where lack of frequent TLC by an instructor to answer questions or responding promptly to student needs can negatively impact student learning and success."

The theme of teacher presence was supported by every study participant through interviews, artifacts, and focus group responses. Whether teacher presence was provided to the students in terms of course support, creation of an environment that leads one to feel as though a teacher is present, individualized student attention, or rapport building, the theme was repeated throughout the study. Teacher presence leads the students to believe that a teacher, an adult, is there providing attention and assistance to ensure student success.

Table 4

Codes Used in Developing Teacher Presence Theme

Teacher Presence
Course support
Environment
Individualized
Lack of teacher presence
Rapport
Teacher support/presence
Teacher's face/voice

Theme Three: Integrating Technology into Instruction

Integrating technology into instruction was identified as a theme as a result of participants describing their use of TMC in the process of instruction in VS environments. The

integrating technology into instruction theme included 65 initial codes (see Table 5). Through semi-structured interviews, artifacts, and the online focus group, participants described many technologies and how and why they perceive which is worthy of use in the VS classes they teach. Computer applications such as Celly, Remind, Screen Castify, and Class Chatter, along with discussion boards, dropbox, cell phones, video-conferencing, email, social media, and traditional telephones are only some of the TMC that were discussed by the participants. Andie and John used only the TMC included in their VS platform, but the other 10 participants were willing to go out and seek TMC that would help them better communicate with their students. Even Andie and John, however, claimed they would find a TMC from outside their VS platform is it was necessary for their students' success.

Ten participants appeared excited about the prospect of having new avenues to communicate with their students. For instance, when discussing his willingness to try new technologies in his VS classes, Michael replied,

Yes, absolutely, yes. Yes, I would be more than excited, yes. I mean, I like what I have, and I want to make it better. I'm obviously, I'm open to anything new that may show up in the future, you know?

Likewise, Justin claimed one of his greatest needs is to be able to communicate with his students. He stated that there are

different kind of apps they've come out with like the Class Chatter, Quizlet, and things like that where I can interact with them [students]. It's getting ... to me, it's gotten a whole lot better. As it's gone along they've come out with new things and changed this and that a little bit and it's gotten better.

He, like all other participants, has tried different TMCs to find what works best for his VS students. Even Julia, who claimed not to be very technologically inclined, stated that she would try a new TMC if she thought it might help her VS students.

Susie stated that she uses several TMCs with her VS students, and she believes that the video games included in her VS platform are a great idea. In her words, "people need to get on board. It's not the good old days where you just sit in a classroom and open up a book. It's got to be ...that bores the kids. They're bored with that." She believes that if the content within the class were more like social media, "fun, peppy, lighthearted, still content-related and state standard-related, but a little bit more," that the students would be more interested and would work harder. Michael also mentioned the importance of students not losing interest. He said, "if you have a student sending you a question about something and you don't respond till two or three days later, then the student's gonna lose interest or the motivation and then they're gonna move on." Both these participants echoed what all other participants described; teachers must be attentive to their students' needs and try to make VS fun so that their students will be successful.

Another reason participants chose certain TMC for use in their integrating technology into instruction was ease of use. For Andie and John, that was ease of use for the teacher, for two other participants, Maria and Michael, that was ease of use for the students, and for the remaining eight of the 12 participants, it was for ease of use for both the teacher and the students. For example, John stated that he uses the newsfeed and emails most frequently because both of those TMCs enhance "the chance of communicating with them [students]. Those are easy; I mean, it's pretty easy to send them an email. It's pretty easy to send a group email... and, well, everybody is going to see the newsfeed." Maria, however, prefers using an application called

Remind. Remind functions much like a text message without disclosing the teacher's cell phone number. According to Maria, Remind is

> great because these kids, they are going to see a text. You can email, you can do whatever, whether you use Canvas or Schoology, whatever, they're not gonna get into those platforms that often. But a text, right away, so it's easy to communicate as a group, and you can text an individual student without them knowing your number.

Rosemary, however, stated she likes the newsfeed because she can put her own personality into it. She went on to explain how she likes the newsfeed because all her posts remain there, making it easier for students to make-up missed work. In referring to her students, Rosemary stated,

> if you did absolutely nothing and you have a come-to-Jesus moment where you wake up and you say, Oh my gosh, I want to complete everything and pass this class, all you have to do is scroll down to the first day of class and every assignment that I gave is there.

All participants verbalized the importance of communicating with their students to facilitate student success and were forthcoming with how they know when a TMC is working with their students. Valerie knows that a TMC works well when she does not "…get too many emails with students asking questions…" Similarly, Christy knows that TMCs are working when she sees "positive results" from her students. Julia, however, struggled with how well TMCs work in integrating technology into instruction. After much thought she stated that TMC works well, "I guess when I get the right response, and it's going well, and they seem to be doing well," but she followed that up with "a lot of times it doesn't go very well." Whether a specific TMC works well or not was not the biggest issue, as 10 participants disclosed that they would search for a TMC that works. Michael shared the sentiments of all other participants when he stated, "that's the thing, the feedback needs to be immediate. You cannot wait. As soon as they submit

something, we need to send the feedback, because that's what keeps students - telling them that we care about their progress."

The theme of integrating technology into instruction was supported by every study participant through interviews, focus group responses, and artifacts. Through this theme, participants described many technologies they utilize in their VS instruction, that the technology is chosen depending on its capabilities, ease of use, ability to keep the learner's attention, and the speed with which it can reach the intended recipient. Integration of technology leads the teacher to choose technologies that work for the teacher and the student in accomplishing the task at hand in the most efficient and attention-grabbing manner as possible.

Table 5

Codes Used in Developing the Integrating Technology into Instruction Theme

Integrating Technology into Instruction		
ACCESS options only	Games	Screenshots
Announcements	Google	Skype
Apps	Group communication	Social media
Attention grabbing	Group setting	Standards (COS)
Avatars	iTunes U	Student interaction
Blog	Kahn Academy	Tests/quizzes
Cell phone	Kakao	Texting
Celly	Microsoft Word	Turn-it-in
Chalkboard	One-on-one communication	Tutoring
Chat capability	Open communication	Twitter
Class chatter	Peer collaboration	Upload
Daily communication	Phone call	UTube
Discussion	Phone number	Variety
Discussion boards	Photo	Video
Dropbox	Posting assignments	Video conferencing
Edmodo	Potential TMC's	Virtual field trips
Email	PowerPoint	Web-based/Video conferencing
Encouragement	Quizzlet	Webcam
Expectations	Recording	Web-portal
Facebook	Refer back to	WhatsApp
Face-to-face	Remind app	Written word
Feedback	Reminders	

Theme Four: Technology Issues

The final theme, technology issues, was identified as 43 of the initial codes showed that a huge aspect of the success of teachers and students alike is dependent upon the accessibility of

technologies, the ability to connect to various technologies, and other similar issues that impede student learning (see Table 6). Through artifacts, semi-structured interviews, and online focus group responses, all participants described at least one issue they deal with pertaining to technology. Technology issues addresses students' and teachers' ability to access equipment necessary for the VS class, issues with computers not all having the same capabilities, issues pertaining the timing of or within classes, and concerns that VS teachers have that arise because of technology.

Seven participants expressed that with the platform they use, there could be more productivity if there were an application for cell phones. Participants articulated that they could get work done with their virtual classes throughout the day as opposed to only when they are near a computer if there were a phone application. Rosemary summed it up as she stated,

> …a lot of the teachers who have been doing it for a really long time, we have probably perfected the ability to do ACCESS in the most unique and crazy times. We don't have a sit-down here, I'm going to do it. It's more of a five minutes here, 20 minutes there, one hour here. Okay, another five minutes here. When you have it, the ability to do it on your phone, it meets you where you are.

John, like Rosemary, talked about working with his virtual classes on his cell phone, but he stated, "I would like to be able to do that but can't do it." John cites his students as a reason for needing to be able to work VS classes via an application on his cell phone. According to John, "some of these students that I have do not have Internet access at home or have a computer at home, but they just about all have a smart phone." If students and teachers were to have an application they could download onto their cell phones, they would then be able to do their

virtual classes from home or elsewhere in the evenings and on weekends. Valerie, too, concurred with this thought as she stated,

> The other thing that I think would be important is that a lot of our students don't have computer access, Internet access at home. So, the communication is limited that way because, like, if a kid sends me an email or a question during let's say third period in the day, and I'm not able to respond to it until the evening, they're not going to get it until that next day, and that's even taking more time away from them.

Although there may be VS platforms that do have applications that teachers could use, the one used by these participants, to the best of their knowledge, does not possess that capability.

There are also issues with teachers and virtual students having the same equipment and programs. All participants except Christy explained that they often run into the issue of not being able to download a student's work because it is in a document that is unsupported by the teacher's computer. According to the participants, students, too, have issues with various parts of the virtual classes working on their computers. Rosemary's seemingly simple request was that the courses and their components "…work with every computer system because that's one of the issues. I have an arsenal of computers and each one works well with something else."

The timing of virtual courses was another a concern according to all participants, with the exception of Christy. The virtual students often take virtual classes during the day, which is the same time the VS teachers are working in their traditional classrooms. Valerie stated that VS would work better for her if it had,

> … different timing. It would be better if our students were not in school the same time I'm supposed to be teaching. Yeah, that can be a problem sometimes because they may need something pretty quickly to be able to finish an assignment, and I'm not always ... I get

emails, but I'm not always able to respond to them right away, depending on what my teaching responsibilities are that day, what's going on in class.

Julia also stated that there are issues with timing. She pointed out that she and the students have the same hours, but if there were some way to have office hours or "…a blended version of online and live virtual chat, that kind of thing," it would help the students by allowing her to have one-on-one, face-to-face communication with them.

Participants also discussed other issues they have with TMC. One such issue identified by three participants is that the VS students can find ways to cheat. Gary has found that students "…will use chat session to go behind and try to cheat on assignments," and Julia claimed that "they cheat like crazy." Because the student can work on their assignments anywhere, it is difficult for the teachers to monitor such behavior. Another issue described by four participants was student behavior. Just as in the traditional classroom, teachers must deal with behavior issues in VS courses, too. Gary pointed out that students,

…get off task because students have a tendency to begin…conversing on things that are not connected to what you're in the chat room to talk about. They can get out of hand. Chat rooms can get out of hand.

According to Brian and Michael, students also get off-task, and it can be difficult to get them back on track. Michael went even further and pointed out that students can get side-tracked with social media and other sites, and "…technology, when it's not used properly, then you can go the other way." Another issue described by five participants is that some students lack accessibility to various forms of technology or to the Internet itself. As such, when away from a traditional school, some students do not have the ability to do their VS coursework.

Technology issues were mentioned by every participant in the study. Some issues, such as the need for a cell phone application for the ACCESS platform, are for convenience purposes or speed of assisting students, while other issues, such as computers having differing capabilities are much larger problems that make it difficult to teach VS students.

Table 6

Codes Used in Developing the Technology Issues Theme

Technology Issues	
Accept/reject changes for students in a document	Labor intensive
ACCESS through phone	Logistical issues
Accessibility	More time
Accountability	Need
Accustomed to technology	Non-beneficial
Apparatus	Not rewarding
Availability	Online difficult for students
Boundaries	Professional development
Challenging	Reliability
Computer issues between schools/VS teachers	Scheduling conflicts
Contingent upon activity/student	Socio-economic
Dishonesty	Student behavior issues
Distractions	Student comfort level
Ethical concerns	Student desire to communicate
Facilitator	Student engagement
Feels too much like school	Student performance
Frustration	Teacher/student timing issues
Grading	Tech Savvy
Grading difficulty	Technology barrier
I prefer when the Internet's running great	Technology issues
In-document correction capabilities for teachers	Used incorrectly
Integration	

Central Question

Four themes developed from data that were gathered for the study. The themes revealed how virtual school teachers in Alabama described their experiences of teacher-to-student

technology-mediated communication in secondary virtual school environments. In the sections

that follow, the themes developed from the study were used to answer the five sub-questions of

the study. The central research question for this study was: How do virtual school teachers in

Alabama describe their experiences of teacher-to-student technology-mediated communication in

secondary virtual school environments?

Theme One, teacher mindset, revealed that most participants have a positive attitude

toward TMC in VS environments. Although some proclaim that they are not technology savvy,

most participants were willing to go out and try new technologies to better serve their students.

The most common perception pertaining to teacher mindset was efficiency, and the second most

common perception was ease of use. Participants do tend to look for TMCs that are easy to use

and efficient for the intended purpose. Efficiency was expressed in terms of "it does enable us to

work more efficiently," "efficiency, it has to be efficient," and "it has to be timely, something

that's almost immediate." Ease of use was described by the participants in terms of "first of all

it's the ease of use for the students," "streamlined technologies and ease of use," and "the ease of

use for myself and ease of use for the students." The VS teacher participants generally enjoy

teaching VS because they find it "very, very rewarding, both for the teacher and for the student,"

and they believe that TMC, overall, works well.

Theme Two, teacher presence, is vital to understanding how virtual school teachers in

Alabama describe their experiences of teacher-to-student technology-mediated communication in

secondary virtual school environments because it revealed that most VS teachers see themselves

as essential to their students' success in VS environments. The awareness that VS teachers are

needed for teacher support/presence and course support were the most common perceptions in

this theme. Participants described teacher presence in many ways such as "communication

between me as teacher and students is the, I would think, number one ingredient for student success," and "the last thing you want is for the only time you communicate with a student is when you have something bad to say." Some participants even described teacher presence in terms of creating rapport with the students. Maria's words, "I think that, even though it's a virtual school, you still have that personal touch with students - that's important to know," show the value she placed on creation of rapport with her students.

The third theme, integrating technology into instruction, was important in understanding participants' perceptions and experiences with using technology-mediated communication in secondary VS environments because it explained which TMC teachers prefer to use with their students in varying situations. Overwhelmingly, email was the TMC teachers perceived as being used the most, although there were mixed feelings about its usefulness. Some perceived that email is not a TMC of choice, whereas others believe it works better than any other TMC. Those who believe that email is the TMC of choice made statements such as Andie's, "I love email, I really do… text sometimes, …, but email is perfect for student-teacher interaction," while those who were not fond of using email made comments such as "if a kid sends me an email…, and I'm not able to respond to it until the evening, they're not going to get it until that next day, and that's even taking more time away from them." Those who believed email was not necessarily the TMC of choice were quick to point out, however, that if they could easily check their VS email via an application on their cell phones, it would be great. John was only one of many who stated that email through an app would be useful. He stated, "But, if there was some kind of app out there that, you know, like Facebook Messenger… Something that would ding, you know, hey someone's messaging you. One of your students has sent you this message." Regardless of whether participants perceived email to be a beneficial or non-beneficial TMC, all participants

believed that it was a TMC that must be utilized to help the students. Maria succinctly stated this idea when she said that the TMC she uses depends on "whichever way that I feel is going to get their attention, that's what I'm gonna use."

Participants reported trying many TMCs to reach their students, even outside of email. Video recordings, various applications, and the newsfeed are examples of some of the TMC teachers use. When they use specific applications depends on what task they are trying to accomplish. Teachers use varying TMCs for individual (one-on-one) communication, group communication, to post assignments, to address an overarching need, to give feedback, and much more. They describe using newsfeed postings because "it's quick" (Susie) and Screen Castify to leave brief video clips of teacher instruction (Maria). Teachers recognized that every task they do pertaining to VS involves TMC, and they adjust accordingly. The participants' shared perceptions show that they recognize that there are other TMCs available, but they admitted there are shortcomings in their knowledge of the TMC that professional development could help with. For instance, John stated, "it's familiarity, and it's not knowing what some of these later technologies are. If I knew what some of them were, …I'd probably be using. I don't just know about them."

Theme Four, technology issues, revealed issues surrounding TMC in VS environments. Although all participants' responses indicated that they have positive attitudes regarding teaching in VS environments, they did share perceptions about technology issues that they have noticed. Data showed that teacher/student timing issues and computer system issues were areas of greatest concern for the participants.

The participants' shared perception is that students would be better served if the timing of when they can feasibly work with their VS classes and when the students can work on those

same classes were similar. As it stands, many VS students work during the day, but the VS teachers work with their traditional school classes during the day. Valerie was able to sum-up the participants' shared perception regarding this as she stated,

> It would be better if our students were not in school the same time I'm supposed to be teaching. Yeah, that can be a problem sometimes, because they may need something pretty quickly to be able to finish an assignment, and I'm not always, I get emails, but I'm not always able to respond to them right away, depending on what my teaching responsibilities are that day, what's going on in class.

Participants also perceive that their ability to communicate via TMCs would work better if there were standardized computers and computer equipment between them and their students. According to Michael, "the problem is a lot of the times is that…we don't have a standardized computer or anything because every school system is different." His sentiment was echoed repeatedly among the other participants. Without standardized equipment and filters, students and teachers alike experience difficulties downloading classwork, sharing videos, and utilizing links.

Sub-Question One

The first sub-question for this study was: How does technology-mediated communication meet the needs of individual teachers? Theme Three, integrating technology into instruction, and Theme Four, technology issues, revealed that secondary VS teachers in Alabama perceive that the technology that is available and that they are aware of is sufficient to meet their needs, although there are a few technologies that the participants would like to have included in the platform they use. The participants in this study worked with Alabama's VS called ACCESS, and because of that, ACCESS provides a platform for the teachers to use that includes several

technologies such as email, news posting, a grading module, and several others. Although there were a few items the participants wished would work better or wished would be included in ACCESS, overall, most participants agreed that everything they need is provided to them within the program. For instance, Rosemary stated, "Well, I mean they have made it pretty easy in terms of, there's ... I think the ACCESS teacher working with the ACCESS program doesn't really need a whole lot because they've given you everything."

Participants expressed that they use the TMC that best suits both the teachers' and their students' needs, as some teachers chose to use a TMC such as video-conferencing, whereas others preferred email as a means of communicating with their students. For example, in stating that she would like some form of video-conferencing available through ACCESS, Julia stated, "I would really like a way to talk to them face-to-face. I'd like to be able to, say, Skype…," whereas Andie perceived that email works best with her students, as evidenced by her statement, "so, email is really the way that my students and I connect with each other, like one-on-one, more than any other way." It was evident that teachers chose their method of communication based on the technology that had worked in the past, the technology that they believed their students would respond to, and the technology that would best serve the task at hand. Most participants expressed that they would search for a technology to use if the technologies used in the ACCESS program did not serve their needs.

Theme Three addressed the one request that nearly all participants wanted, which was an application for their cell phones so that they could work with their VS students anytime and anyplace, and so their VS students could perform schoolwork from a cell phone. They perceive that having the ability to access all aspects of their virtual classes through their phones would

allow them to be more responsive to their students. John stated this most clearly as he stated that a phone app

> …would really be beneficial to me and I think it'd be beneficial to students. 'Cause a lot of, believe it or not, some of these students that I have do not have internet access at home or have a computer at home, but they just about all have a smart phone. They can pull up their assignments, you know, they could actually do an assignment on their phone.

Sub-Question Two

The second sub-question for this study was: How does technology-mediated communication lead to better work performance? Theme One, teacher mindset, and Theme Three, integrating technology into instruction, and Theme Four, technology issues, were all heavily addressed by the participants through this sub-question. Participants agreed that TMC was of utmost importance in increased work performance on both their part and the part of the students, although some participants did note some difficulties they experienced with TMC. In tackling the difficulties, teachers tried different tactics and shared how they make the TMC that is available work for their students.

The teachers' mindset drove them to find ways to help their students through integrating technology into instruction. For instance, Michael believed that his students were being given links to information that gave the students more information than was necessary, which, in turn, was confusing them. In response to his concern, Michael stated that "I was video recording myself, teaching some of the concepts. You know, the concepts that students were encountering throughout the units. That really helped because my instructions were targeting the content that the students are learning." Michael, as was discovered in Theme One, wanted to ensure his

students would be successful, and as was revealed in Theme Three, Michael searched for the best way to help his VS students achieve success. This was further emphasized by other participants such as Justin who believed that being able to communicate with his students using various TMC is what helps them to be successful. He stated,

> These different kinds of apps they've come out with like the Class Chatter, Quizlet, and things like that where I can interact with them…it's gotten a whole lot better as it's gone along; they've come out with new things and changed this and that a little bit and it's gotten better.

Participants had a very positive attitude toward TMC and how it helps them and their students. Gary pointed out that the students are 21st-century learners, and "it's the technology that they're interested in, it's what they want to do. It's not what you want them to do, it's what they want to do." This was echoed by most participants as they spoke of how they tried different kinds of TMC to determine which their students prefer. Participants also expressed how TMC allows them to serve their students at a rapid pace, although some do wish it were even faster. Several participants also speculated that they strive to find TMC that makes learning fun. Gary stated that TMC must "…be something that the kids like…so they'll be more engrossed in it."

As was revealed through Theme Four, technology issues, participants did find that TMC would work even better with a few changes. For instance, most participants want technologies that work on every computer so that work performance for students and teachers will increase. Rosemary clearly expressed her and the others' concerns as she stated, "I have an arsenal of computers and each one works well with something else."

Sub-Question Three

The third sub-question for this study asked: How do teachers describe characteristics of the tasks that must be performed? Participants' descriptions of the characteristics of tasks that must be performed in their VS classes were exposed in Theme Three, integrating technology into instruction, and Theme Four, technology issues. The characteristics of tasks that must be performed were described as being much the same as they are in a traditional classroom except TMC must be employed instead of face-to-face interaction. Since instructional information is included in the online courses, teachers explained that they help the students with the content of the courses, but most participants found themselves giving reminders and feedback for students, setting the tone for the online course, and finding ways to make the online process more user friendly and fun for their students.

In describing the tasks that he performs with his VS students, John stated, "I communicate with them basically what their assignments are, I communicate with them on feedback from those assignments, I communicate with them due dates…" This was mentioned by the other participants, as well. Maria, like several other participants, pointed out that "at the very beginning, it's really important to set the tone." Theme Four is evident in this, too, as participants stated this in terms of teacher expectations, Internet integrity, appropriate communication, and potential cheating. For instance, Rosemary stated, "I did find myself doing disciplinarian things if someone was cheating or speaking inappropriately…" Participants also stressed importance of catching the students attention and making the courses interesting for their students. Gary stated that he makes each task "… engaging because the whole purpose is to get them interested in what you're trying to do or what the lesson is asking them to do." Similarly, Valerie stated that she uses a lot of color to grab her students' attention. She stated,

"it's this age, they're in such a technology and visual world that ... the color just kind of brings them…"

Sub-Question Four

Sub-question Four for this study asked: How do teachers describe characteristics of the technology that are used? As discovered in Theme One, teacher mindset, and Theme Three, integrating technology into instruction, participants described characteristics of the technology that they use as streamlined, efficient, and easy to use. The participants revealed that there are technologies included in their VS platform that they do use, but even with those technologies, teachers pick and choose which technologies to use based on the characteristics they believe the technologies possess and the characteristics that suit the task at hand. They seek to use technology that works for them and their students without much ado.

Most participants stated that if they find a technology that works for them that their students will also use, they typically utilize that technology to integrate technology into instruction. There are three main characteristics that the participants claim the technologies they use possess – ease of use, efficient, and streamlined. For instance, Susie stated that "it goes back to ease of use; streamlined technologies and ease of use." Maria concisely described the main characteristic of technology that she looks for – "Efficiency, it has to be efficient." She went on to state that "It has to be something that's direct, to the point." Some participants claim that they are not tech savvy, such as Michael, who stated "The first characteristic and that I always look because I'm not tech savvy, is that they're user-friendly." Like Michael, Justin also looks for technologies that are user friendly, but his concern is his students' ability to use the technology. He stated, "first of all it's the ease of use for the students."

The consensus among the participants is that they will try different technologies in order to communicate with their students in an effective, efficient manner. Although there are go-to technologies the teachers prefer, they do, as Gary stated, "try the different technologies…" because they are not all the same. He, like other participants, wants to find ways to keep his students engaged, and changing the technology is one way of doing so, as long as the new technology meets the characteristics the participants require. The participants generally know to use a different technology when, as John stated, "…I am seeing students who aren't logging in or students that aren't doing anything for two, three, to four-day period. I know that I have to go with another method."

Sub-Question Five

The fifth sub-question for this study was: How do user characteristics impact the use of technology-mediated communication? As revealed via Theme One, teacher mindset, and Theme Two, teacher presence, VS teachers described how their own characteristics impacted their use of TMC. Theme One discovered that the characteristics of the user influenced the use of TMC in terms of whether the teachers were comfortable trying various TMCs or whether the participant believed the use of TMC is beneficial for their VS students. Theme Two also discovered how user characteristics influenced the use of TMC in that participants revealed that it was their own presence in a classroom that determined how often or how well a TMC was used.

The mindset of the teachers greatly impacted the use of TMC. Some teachers believed that today's students are technologically savvy so this is the way the way education should proceed. One example of this was Susie's comment that "if we're going to be effective in the 21st -century classroom, we've got to get onboard with some of these things because if not we're going to miss the boat and we're going to miss the boat as educators." Other participants

restated the same thought in a different way. Two participants believed that traditional

educational methods are more effective, but even then, the participants understand that today's

students have a need to use TMC. This is evidenced by Justin who stated "I see the advantage in

a technology. Kids are technology driven now, and so anything that you can use technology-wise

to communicate with them is going to engage them more so than say the traditional classroom."

The participants also vocalized that their own presence in the VS classroom made an

impact in the use of TMC. Driving this point home, Christy stated, "the biggest deal for them is

understanding that the person in authority is not live in the classroom with them." She and others

commented that the teacher must find ways to make their presence known, and it was always

through the use of TMC. Brian also identified an issue pertaining to presence in VS courses. He

stated that he does like TMC, "…but only to a limited degree. I have seen firsthand, where lack

of frequent TLC by an instructor to answer questions or respond promptly to student needs can

negatively impact student learning and success." Participants also discussed how they use TMC

to motivate their students. Rosemary specified that she finds a way to make them successful with

their first assignment so that they feel empowered. Likewise, Maria indicated she chooses her

words carefully in order to avoid negativity. She stated,

> I try to avoid negative words. I try to, when I communicate like that, try to stay away
>
> from any kind of negative words, and try to word it where you're saying the same thing,
>
> but not saying the word 'no' or 'don't.'

Summary

The purpose of this transcendental phenomenological study was to describe teacher

experiences of teacher-to-student technology-mediated communication (TMC) in secondary

virtual school (VS) environments in Alabama. In examining the experiences of 12 participants,

four key themes were established.   The experiences of the participants were shared throughout

the four key themes, which included teacher mindset, teacher presence, integrating technology

into instruction, and technology issues.

Throughout the study, participants shared similar experiences with trying various TMCs

with their VS students. Although some participants were more comfortable with technology than

others, most participants were willing to try different TMCs in an attempt to find something that

would work with their students. The attitude toward TMC in VS environments was positive,

even for those participants who do not consider themselves to be technologically savvy.

Participants shared similar experiences with each other in terms of needing to reassure their

students that a live teacher was present in the class to help them be successful. The teacher

presence varied from face-to-face video conferencing with students to simply making sure that

each student received positive feedback on assignments, but all participants were aware of the

value it possesses.

Integrating technology into instruction is another area that participants shared similar

experiences and perceptions. Teachers focused on the success of students in determining how

best to convey information to their VS students. Participants picked the TMC that they believed

would work best for each task that they were to perform, but the primary focus was on which

TMC would best serve their students. They looked at what technologies students like and dislike,

and they looked at how it would fit with the task. In particular, they searched for TMCs that were

easy to use, efficient, and user-friendly, Of course, through integrating technology into

instruction, teachers also experienced technology issues regarding TMC in VS environments.

Teachers shared the perception that they and their students do not always have the same

technology available to them, which they believed creates problems with communicating with

those students. Teachers also worried that other online teachers do not try hard enough to ensure student success. The participants believed it is the VS teachers' responsibility to motivate students and ensure they are engaged in the coursework.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this transcendental phenomenological study was to describe teacher experiences of teacher-to-student technology-mediated communication (TMC) in secondary virtual school (VS) environments in Alabama. This chapter presents a summary of the findings of the study followed by a discussion of the findings and implications as they pertain to related literature and theory. Theoretical, empirical, and practical implications of the study will then be discussed. Finally, this chapter will provide delimitations and limitations of the study and recommendations for future research.

Summary of Findings

The study took place within the ACCESS VS program in Alabama. Participants included 12 certified secondary teachers who had experienced the phenomenon communicating with students while teaching in VS environments. Through interviews, an asynchronous online focus group, and artifacts, participants shared their experiences of teaching in the VS environment. From the data, four major themes were developed that delineated the textural and structural descriptions of the lived experiences and perceptions of the participants. Those themes included: teacher mindset pertaining to the various aspects of VS; teacher presence, or the ability to make it seem as though the teacher is right there with the students; integrating technology into instruction, including how and why teachers choose teaching modes and techniques; and technology issues associated with VS students.

The central question driving this study asked: How do virtual school teachers in Alabama describe their experiences of teacher-to-student technology-mediated communication in secondary virtual school environments? Most participants in the study described their

experiences in a positive manner. Their shared experiences showed that they will do whatever it takes to help their VS students successfully complete their online courses. This included making sure the students know they, the teachers, are available to assist, changing the way they teach or the TMC's they use to better assist their students, and carefully thinking about what they see as obstacles for them and their students.

This study's first sub-question asked: How does technology-mediated communication meet the needs of individual teachers? Overall, participants agreed that TMC meets their needs in the VS environment by providing a means of communicating with their students. All participants had the TMCs that they prefer to use according to how well it suited their needs. Participants talked of some tasks for which there is either no TMC available, that they do not know exists, or that is not available in their VS platform.

The teachers use a wide variety of TMCs, from assorted applications to email to video-conferencing, and although most participants insisted they would search for a TMC that worked better if need be, they favored the TMCs with which they were familiar. All participants expressed that they use what they believe best serves their students and helps their students succeed. This included the need for an ACCESS application for their cell phones that would allow them to serve their students' needs anytime and anyplace. Such an application would also allow the students to do their VS work anytime and anyplace.

The second sub-question asked: How does technology-mediated communication lead to better work performance? The participants agreed that TMC allowed them and their students to increase work performance. Teachers explained how they searched for TMCs that work best for accomplishing varying tasks and that when one was insufficient, they would switch to a different TMC. Teachers also pointed out that they use TMCs that are the most efficient for each task,

although which TMC that happened to be varied greatly, even for the same or similar tasks. When one TMC was ineffective or less efficient than desired, the teachers, in what seemed like a second nature action, switched to a different TMC. Teachers' positive attitudes and desire to help their students succeed drove them to try various TMCs until one worked. That is not to say that there were not problems noted, as participants did state that there are issues with technology. The teachers often have technology that does not match what the students are using, and sometimes technology just fails to work as planned. Participants pointed out those issues, but also stated that they simply switched to a different TMC when necessary, and if applicable, notified their technology department that issues exist.

The third sub-question asked: How do teachers describe characteristics of the tasks that must be performed? Participants described characteristics of tasks that must be performed as similar to that of a traditional classroom except without the availability of daily, face-to-face contact. Since much of the course content is imbedded in the VS platform, the teachers stated that they must send reminders and feedback to students, help students understand the content, and set the tone for the course. The participants did express many ways in which they accomplish these tasks. Some teachers use email most often, whereas other participants use brightly colored, attention-catching newsfeeds or even video-conferencing. Participants agreed that in setting the tone for student participation and behavior, they must make their (the teachers') presence known throughout the course.

The fourth sub-question asked: How do teachers describe characteristics of the technology that are used? Overall, participants described the characteristics of technology that they use as being streamlined, efficient, and easy to use. In describing these characteristics, teachers first considered how the technology impacted their students and then how it impacted

themselves. The teachers pick the technology they use according to what task must be completed, as different technologies work for different tasks. The teachers intentionally use technology that lacks complexity, as the streamlined technologies are easier for them and their students to use. Teachers also use technologies that are efficient, as that serves to keep the integrating technology into instruction active and their students focused. If a technology takes too long to reach the student, the students lose interest and move on to other tasks.

The fifth and final sub-question asked: How do user characteristics impact the use of technology-mediated communication? Participants tended to describe themselves as tech-savvy or non-tech-savvy, and that category impacted their use of TMC. Teachers who considered themselves to be tech-savvy were readily willing to search for and try new technologies in an effort to work more effectively and efficiently. Teachers who considered themselves lacking in tech-savviness tended to use only the technologies that they were comfortable with or that were included in the ACCESS VS platform. All participants believed that today's students learn best with technology, and as such, were willing to experience a little discomfort by using technology to address their students' needs in a technological world. The participants' strong desire to help each student succeed drives them to step outside their own comfort zone by using technologies that meet their students' needs.

<div align="center">**Discussion**</div>

Research on communication methods that VS teachers use with their students is limited but is of great important to the instruction process. This research was developed to understand teachers lived experiences of teacher-to-student technology-mediated communication (TMC) in secondary virtual school (VS) environments. Through this study, I discovered that teachers determine which TMCs to use based on the tasks that must be performed and the ease of use for

themselves and their students. This finding supports Goodhue and Thompson's (1995) task-technology-fit (TTF) theory, and it serves as a basis for greater understanding of TMC in virtual school environments.

Theoretical

The degree to which a technology works for its intended task and the degree to which that technology matches its users' characteristics are important facets in understanding the lived experiences of teachers regarding teacher-to-student technology-mediated communication (TMC) in secondary virtual school (VS) environments. Theme One of this study, teacher mindset, included the characteristics of the teachers as they utilized TMCs. The study found that a teacher's thoughts and attitudes regarding each technology does influence whether specific technologies are utilized. If a teacher thought that a certain technology was not easy to use or was not efficient, it was believed that the technology would not serve its intended purpose in the VS environment. This follows Goodhue and Thompson's (1995) task-technology fit theory, which states that a technology must be a good fit for the person using the technology.

Theme Three, integrating technology into instruction and Theme Four, technology issues, were also evident as teachers in the study pointed out that some technologies do not work well because they are either too difficult to use, or they do not possess the correct capabilities for the intended task. For instance, when teachers want to give a quick response to a student in a virtual, face-to-face format, a video conferencing technology is needed, but an email technology would not suffice. This, too, fits with Goodhue and Thompson's (1995) task-technology fit theory, which states that for a technology to lead to better work performance, it must not only be used, but it must also be a good fit for the task for which it is being used. In this study, there were some technologies that the teachers would not use because the technology was believed to be too

difficult to use or not suited for the task at hand. This supports prior research that stated that prior utilization and perceptions of a method of communication can carry over to workplace (school) perception and utilization (Hung et al., 2006).

The study also found that if a technology was not easy to use, efficient, and streamlined for what the teachers and students needed, they would not use the technology. Again, this fits with Goodhue and Thompson's (1995) task-technology fit theory, as it shows that for a technology to be a good fit, it must be used.

Aiken et al. (2013) stated, "Choosing suitable communication technology for a given group, task, and environment can be a daunting task" (p. 4). This study corroborated that sentiment as some teachers in the study tended to use only technologies that were included in and available in their VS platform. Even with a limited amount of TMC choices, the teachers employed only the included technologies that they believed best suited the task to be performed and that they were comfortable with using. The study also found that while teachers were quite concerned with their own ability to use TMC and with which TMCs would work best, they were even more concerned with their students' abilities to use TMCs and with which would work best for them. Both scenarios further support Goodhue and Thompson's (1995) task-technology fit theory.

Empirical

Although no studies were located that qualitatively researched teacher experiences of teacher-to-student TMC in VS environments, there was research that closely related to his study. Previous research found that one advantage of virtual schooling is that teachers of online courses do not have to worry with the supervision of students, leaving them with more time to focus on communicating with their students (Borup et al., 2013a). This study, through Theme Two,

teacher presence, supported that research. This study found that VS teachers create a virtual teacher presence within the course by being attentive to student needs, getting to know the students, and video-conferencing or using pictures with the students. The teachers believed this makes their students more comfortable and willing to comply. This study also discovered that teachers believed that VS should be available to their students 24 hours a day and seven days per week from anyplace that has an Internet connection. This supports previous research that stated that an advantage of virtual schooling is that it offers students the opportunity to learn at times and places that are suitable for them (Kirby et al., 2010; Lewis, et al., 2014; Morgan, 2015; Oliver et al., 2009a; Pastore & Carr-Chellman, 2009; Roblyer, 1999; Russell, 2006; Strader et al., 2015; Toppin & Toppin, 2016; Wang & Decker, 2014). Participants of this study described, as was evident in Theme Three, integrating technology into instruction, a willingness to communicate during both during work and non-work hours in order to help their students whose VS hours did not match their own. Other advantages, such as the ability to take courses that would not otherwise be available (Oliver et al., 2009a; Toppin & Toppin, 2016) and providing a greater level of personalized instruction (Oliver et al., 2009a), were also corroborated by this study.

Previous research pointed out disadvantages of VSs. For instance, previous research noted that VS students have trouble focusing and maintaining the self-discipline required for online learning (Ingerham, 2012; Lewis et al., 2014), and they sometimes feel less motivated than in the traditional school setting (Kirby et al., 2010). While this was a topic of concern for the participants of this study, it was found that the teacher mindset and teacher presence along with the teacher's integrating technology into instruction were sufficient to keep that in check. So, although the concern was validated by the participants, this study did not find that to be a

true disadvantage as long as teachers possess a can-do mindset, create a feeling of teacher

presence for their students, and employ integrating technology into instructions that keep the

students engaged.

Another disadvantage noted in previous research was that students recovering lost credit

via VS are less motivated than more advanced students and therefore to ensure success, they

need additional supports that might not be available (Oliver et al., 2009a). This study concurred

with the findings of a lack of motivation by some VS students, but again, this study found that

the issue can be addressed with teacher presence and integrating technology into instruction.

However, this study did find a problem and concern in that that teachers need a technology that

is easy to use that will allow them to very rapidly click in to a student's web page so they can

give an immediate tutoring session when it is needed. Previous research and this study concurred

that some teachers believed online courses were more difficult than the same traditional courses

(Oliver et al., 2009a) and that this might be because VS teachers do not have the luxury of

nonverbal cues to help gauge when a student is struggling mentally or emotionally (Conn & Rue,

2011; Morgan, 2015; Russell, 2002). Also, in concurrence with Morgan (2015), this study found

that teachers do find academic dishonesty difficult to monitor, and the participants did see

cheating as fairly widespread.

Previous research found that there are five categories of VSs (Watson et al., 2004).

Athough this study did not involve all categories mentioned in prior research, it did focus on one

particular type of VS – a statewide supplemental program. This means that, as prior research

pointed out, the teachers in this study work for a supplemental program that offers online courses

to students enrolled in other schools (Watson et al., 2004). This was expressed in the technology

issues theme in that teachers often have to rely on coordination from the diploma-granting school when issues arise.

Data from this study found that teachers are very aware that today's students live in a technological world. Those included in the study did not necessarily agree that online teaching is the best route, but they did agree with Russell (2002) who stated that "…the overarching reason that warrants the introduction of virtual schooling is a reasonable belief that the student, or society, will benefit more from virtual schooling than the available conventional schooling" (p. 34). Also, like Wang and Decker (2014), this study found that underprivileged students are taking VS classes, and teachers have to be considerate of their lack of ability to work from home, but this study also agreed with Osborne et al. (2009b) that VSs contain students from rural areas where lower numbers of students prohibit offering a wide variety of courses in a traditional school environment.

Borup et al. (2013a) discussed communication in virtual environments, and data from this study concurred with that in terms of integrating technology into instruction. The time students spend communicating with their teacher has a direct positive impact on students' attitude toward the class, and teacher-to-student interaction includes motivating the student and helping them with the course content (Borup et al., 2013a). In addition, this study found, like Borokhovski et al. (2016), that technology is of utmost importance as is the ability of teachers and students to use it effectively. This study also paralleled previous research by Belair (2012a) that addressed teacher presence in that some students and teachers in VS environments experienced a sense of distance that can be corrected with appropriate communication. In addition, teacher presence and integrating technology into instruction themes from this study supported a study by Ingerham

(2012) that found that when a teacher is not available, the effectiveness of online learning is greatly lessened.

Data from the current study did not, however, support previous research that shows teachers may not see value in a quick response to a VS student (Dixson et al., 2016). Instead, this study showed that teachers strive to respond as rapidly as possible to maintain teacher presence, to keep students engaged, and to avoid hindering the students' progress. Participants were adamant that they had to respond to their students as quickly as possible, even more quickly than their supervisors required.

Findings from this study agreed with previous research that found it is the teacher's responsibility to determine which TMCs will work best for the teacher, the student, and the intended purpose (Carlson et al., 2012). The participants in this study absolutely believed it was part of their jobs to find TMC that worked for their students and the task. Likewise, this research concurred with Sipilä (2014) that regardless of the technology used, teachers must base communication decisions based on what is in the students' best interest. Utilization of creativity in communication such as emoticons and smiley faces is another way of creating presence in the online environment that prior research and this research agreed upon (York et al., 2007). This research and Beese (2014) agreed, too, that finding a solid, reliable TMC is important in VS environments.

Another area that prior research and this study fully agreed is that of rapport. The current study found that building rapport (Theme Two, teacher presence) is of great importance in the VS environment. Physical distance only increases the difficulty of building rapport because the students and teachers must find ways to get to know each other (Murphy & Rodriguez-Manzanares, 2012). This echoes earlier research that found that rapport between students and

teachers is important not only to students, but to teachers as well, and it is associated with greater learning outcomes, better attendance, greater focus, increased enthusiasm, and greater participation (Granitz et al., 2009). Participants in this study also stated that it helps with behavior issues in that it is easier to correct students or stop them from misbehaving in the first place.

This study can neither corroborate nor contradict the need for teacher preparation programs to address VS teaching strategies. It was found that teachers were given VS teaching positions without much training, but the study also showed that the teachers did whatever was necessary to learn how to teach in the environment they were assigned. At no point did this study find that teachers believed they were unqualified to teach VS resulting from a lack of preparedness from teacher preparation programs. Teachers did mention training that they would like to have since technology changes so rapidly. This could mean that any training a potential VS teacher were to experience pertaining to TMC would be outdated by the time those individuals were actually licensed to teach.

Implications

Results of this study of the lived experiences of secondary VS teachers' teacher-to-student TMC in secondary VS environments in Alabama could provide valuable theoretical, empirical, and practical implications. This information could be of value to educators, parents, VS students, teacher education programs, and the public.

Theoretical Implications

The results of this study validated the theoretical literature reviewed in Chapter Two. Task-technology fit theory explains the extent to which a technology meets individual needs and leads to better work performance (Goodhue & Thompson, 1995). According to TTF, for a technology to lead to better work performance, it must be used, be a good fit for the task for

which it is being used, and be a good fit for the persons using the technology (Goodhue & Thompson, 1995). Using previous research literature and participant interviews, Goodhue and Thompson's (1995) task-technology fit theory was further reinforced through this study. Teachers' experiences with technology and the communication process between VS teachers and their VS students were evaluated using TTF theory. Characteristics of the user, the task, and the technology all served to determine TTF.

Throughout the study, participants discussed their needs regarding technology in virtual school environments, sometimes where students were concerned and sometimes for themselves, but they always knew the task that was to be accomplished. Teachers look for qualities in a TMC that will allow them to give timely and effective feedback, but they also search for TMCs that are easy to use for themselves and their students. The teachers also discussed various forms of technology they have and have not used and why. Participants' experiences with what type of technology they utilized depended on the task they had to accomplish and their own thoughts and opinions of various technologies that were available to them. This finding concurred with previous research that stated that a user's perception of TMC effectiveness is determined by past perceptions of that medium and by how well known the TMC is at matching the task for which it is to be used (Hung et al., 2006). Even in this study, the perceptions the participants held about a communication method and its ability to complete a task were deciding factors in whether or not they used a technology.

This study adds to the previous body of literature in validating TTF theory's value in an educational setting. This is important information for educators, as it will help them to understand how to choose the best technology for a task. Likewise, parents and students will find this information important in picking the best technology to communicate with each other and

teachers. Teacher education programs can use this information as well to teach their students about online education, the value of having knowledge of several kinds of TMC, and how best to reach their future students. Finally, this information is important to the public because, although this research focused on an educational setting, other TTF research did not, so it can be deduced that TTF theory is valid in many or arguably all settings.

Empirical Implications

This study adds significantly to the empirical body of literature pertaining to communication VS environments in that it corroborates some and contradicts other previous research literature. It also adds to the current body of literature by giving voice to teachers' experiences of TMC in VS environments.

Previous literature showed the importance of communication in VS environments (Borokhovski et al., 2016; Borup et al., 2013a; Hawkins et al., 2013; Ingerham, 2012; Kerr, 2010-2011; Oliver et al., 2009a; Strader et al., 2015; Watson et al., 2010). This study corroborated those findings but also showed the importance that teachers place on using the best communication method possible to assist their students and the thought processes that go into choosing a TMC. By using a phenomenological approach and delving into teacher experiences of TMC in VS environments, this study uncovered useful information that does add to the existing body of literature. The idea that teachers utilize technology that they find easy to use is useful, but the study also found that the teachers will not use a technology they really like if the students do not or will not use it. Also, this study found that teachers will use technology to catch their students' attention, even if it means more work for the teacher. This implies that although the teachers have to find a technology they are comfortable with using that fits the task that is to be accomplished, they take it one step further and consider their students' wants and needs.

Practical Implications

Education in VS environments is rapidly changing the way K-12 education looks today

(Kennedy & Archambault, 2012; Watson et al., 2011). Since the first virtual school, Laurel

Springs, was founded in 1991 (Barbour, 2010; Kennedy & Archambault, 2012), the number of

virtual schools in the United States has continuously increased (Kim et al., 2015). Although

teachers and students are accustomed to communicating in traditional school environments,

doing so in virtual environments is different and requires a different mindset. Educators must

find ways to effectively communicate with students to help them succeed, and that interaction in

VS environments is significantly supported by technology (Borokhovski et al., 2016). This study

has practical implications for educators, parents, VS students, teacher education programs, and

the public because of the large numbers of students utilizing VS programs.

Educators will find this research to be of practical importance in their professional lives

as more and more students have the potential to become virtual students. Instead of trying to

muddle their way through the world of VS communication, educators will have knowledge of

how TMCs are selected and the important factors to consider. It is important that all educators

know the essence of teacher experiences within VS environments in order to better assist

students and to help themselves in that environment. Administrators, too, since they will be

serving VS students and teachers who work in a VS environment, will find this information

helpful. They will be able to help teachers and students address communication issues within the

school as a result of this study. This study found that teachers of VSs must go outside their

comfort zone to do what is best for the students, but it also found that there are some technology

issues that need to be addressed. Teachers should be prepared to try different technologies until

they find the ones that works for their students, and administrators should give teachers the

leeway to find those TMCs that best suit the teachers and students involved. Dictating to teachers how to communicate with VS students is unlikely to be effective.

There are also practical implications for parents and students of VSs. Due to the importance of teacher-to-student interaction in VS environments and the importance of communication, parents and students need to know the experiences of VS teachers, as that allows them to better understand what their own needs are. This is especially true since the study found that VS teachers base most of their communication decisions on students' needs. This indicated that teachers understand the findings of one study that showed that parents and students believed that students were more motivated by teacher-to-student communication than any other form of interaction (Borup et al., 2013b). Students should be prepared to let their VS teachers know what they want or need. This study showed that VS teachers are very responsive to their students' needs, but they cannot be responsive if they do not know what the needs are.

Although this study did not focus on the aspect of new teachers or even new online teachers, teacher licensure programs may still be impacted by its findings. Since related literature found that "students' improvement in outlook towards the content was strongly correlated with their reported quantity of learner-instructor interactions…" (Borup et al., 2013a, p. 163), this study will help colleges and universities by providing a foundation upon which to teach future educators best practices pertaining to communication for their future positions as VS teachers.

Finally, there are implications for the public, too, because students today will be part of the work force in the future. The general public can read this study and understand the VS teachers' thoughts, feelings, and experiences that surround their TMC choices, and this information can then be applied to areas outside secondary education. For instance, some

corporations and businesses have training modules for their employees. This study will help those companies and businesses better serve their employees if they utilize an online environment by giving them information to make informed decisions.

Delimitations and Limitations

This phenomenological study, by design, was limited to teachers from Alabama's ACCESS VS program. This was done so that teachers from one type of VS program could be studied. This will allow for future research similar to this to be conducted with a different type of VS program to see if similar findings result. The ACCESS program from which the participants were gathered is an example of a statewide supplemental program, and it cannot grant diplomas. Future research might include district level supplemental VS programs, single district cyberschools, multi-district cyberschools, or cyber charter schools. Participants from a differing type of VS program could produce results that are different from those in this study.

Participants for this study were required to be Alabama certified teachers with at least one year of VS teaching experience. The age of the participants was a limitation of the study. Although the ages varied from 40 years to 67 years, the lack of younger teachers limits input from those who may have grown-up with technology. The comfort level of someone who has known technology his whole life could make a difference in how he chooses a TMC to use. Also, younger participants might be more in touch with the wants and needs of secondary school students, which could also lead to different results. Also, the number of participants who participated in the asynchronous online focus group was also a limitation. Although each participant was given a ready-made log-in account and had agreed to participate, three did not.

Furthermore, the simple fact that most participants held two jobs limited their available time and served as a limitation. All but one participant involved had a full-time job in addition to

the VS teaching position. Although each participant volunteered to participate, there were time concerns with several participants that may or may not have impacted the study.

Recommendations for Future Research

Recommendations for future research include replicating the same study at a VS program from a different category than the ACCESS program. For example, ACCESS is a statewide supplemental program that is not a diploma-granting institution. The research could be replicated at a single district or multi-district cyberschool, both of which are diploma-granting organizations. Replicating this research in such an environment would provide additional information as to teacher experiences in VS environments. Another future research topic that needs to be explored is the student experiences of teacher-to-student TMC in VS environments. Researching the same topic from the students' point-of-view would help determine whether the teacher and students have the same or similar perceptions. This would serve the education industry well in determining how best to proceed with meeting both teacher and student needs in VS environments. It would also be beneficial to do a similar study with teachers grouped by age to determine if age is a factor in teacher experiences in VS environments. The VS teacher's age could potentially be a factor in determining teacher and student needs.

Future research might also include doing a similar study quantitively. It is even possible that a grounded theory approach could be studied. Task-technology fit theory worked well for addressing this research, but since the teachers always considered their students' perspectives, perhaps the creation of a new theory could be researched.

Summary

This study found that VS teachers work diligently to find TMC that meets their needs and the needs of their students. Participants described their experiences in a positive manner, and

their shared experiences exposed that they will go to great lengths to do whatever is necessary to help their VS students successfully complete their online courses. In doing so, the participants keep a positive attitude and do their best to motivate their students, as well. Participants also make sure that their VS students feel as though the teacher is there and available. This included making sure the students know they, the teachers, are available to assist. They do this in many ways. Some provide feedback daily with motivational comments, others make sure that grading is done rapidly, and yet others ensure students can ask questions and get quick responses. Most of the participants utilize all the tactics just mentioned. The teachers overwhelmingly agreed that they change the way they teach or the TMC's they use in order to better assist their students. One of the teacher's main concerns was figuring out how to help the students understand the course content. Teachers were creative in coming up with different ways to help their students through the use of TMCs. There were some issues that participants noted, but they were mostly due to technology failures or the students and teachers not having matching equipment. This created problems because teachers and students could not see or utilize some programs or equipment due to the differences. Participants were not, however, without suggestions on how to improve their practice.

An important take-away from this study is that VS students do best when their VS teachers are willing to try different technologies until they find the best fit for themselves and their students. It is also important that teachers maintain a positive attitude and encourage the same from their students. This can be aided with the illusion of teacher presence in the VS course. Virtual school teachers and administrators must also beware of potential technology problems related to broken links within the VS programs or hardware and software that is not accepted by both the student and teacher computers.

The overall essence of the participants' lived experiences of teacher-to-student TMC in VS environments in Alabama is that they will do whatever is best for their students, which was supported by the four major themes of teacher mindset, teacher presence, integrating technology into instruction, and technology issues. Participants discussed TMCs that work and those that do not, they discussed their needs and their students' needs, but overall, the essence of all participants was that they would do what was best for their students, even if it were uncomfortable or frustrating for them.

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APPENDIX A: PARTICIPANT RECRUITMENT DOCUMENT

September 17, 2017

Dear ACCESS Teacher:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to describe teacher experiences of teacher-to-student technology-mediated communication in secondary virtual school environments in Alabama. The research questions will focus on how virtual school teachers describe their experiences pertaining to communication needs, how communication technologies help you in your work, how you describe the communication technologies you use, and how user characteristics impact the use of communication technologies. I am writing to invite you to participate in my study.

If you are an Alabama certified secondary education teacher who has taught virtual school for at least one school year, you communicate with virtual school students through communication technologies, you are one of the main persons responsible for communicating with your virtual school students, and you are willing, I ask that you participate in this study. You will be asked to participate in an interview, to participate in an online focus group, and to submit relevant documents, which could include information such as policies and procedures, teacher-to-student contact logs (with student names omitted), pictures of technology-mediated communication taking place, information about websites or computer applications that are used, and other such information. It should take approximately 2 hours for you to complete the procedures listed. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential.

To participate in this study, please read the consent document that is attached to this letter, complete the consent form indicating that you would like to take part in the study, and scan and return it to sjashe@liberty.edu or mail it to Sherry Ashe, 1211 Juniper Dr., Auburn, AL 36830

Sincerely,

Sherry J. Ashe
Doctoral Candidate/Principal Researcher

APPENDIX B: IRB APPROVAL LETTER

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

September 25, 2017

Sherry J. Ashe
IRB Approval 3000.092517: A Phenomenological Study of Teacher-to-Student
TechnologyMediated Communication in Secondary Virtual School Environments

Dear Sherry J. Ashe,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,
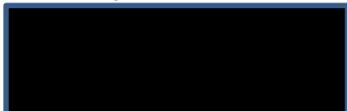
Administrative Chair of Institutional Research
The Graduate School

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APPENDIX C: CONSENT FORM

CONSENT FORM

A PHENOMENOLOGICAL STUDY OF TEACHER-TO-STUDENT TECHNOLOGY-
MEDIATED COMMUNICATION IN SECONDARY VIRTUAL SCHOOL ENVIRONMENTS
Sherry Janine Ashe
Liberty University
School of Education

You are invited to be in a research study of teacher experiences of teacher-to-student technology-mediated communication in secondary virtual school (VS) environments in Alabama. You were selected as a possible participant because you are an Alabama certified secondary education teachers who is over the age of 18 years and who has taught VS for at least one school year. It is also believed that you have experienced the phenomena of communicating with VS students through technology-mediated communication, and you are the main person or one of the main persons responsible for communicating with your virtual school students. Please read this form and ask any questions you may have before agreeing to be in the study.

Sherry Janine Ashe, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to describe teacher experiences of teacher-to-student technology-mediated communication in secondary virtual school environments in Alabama.

Procedures: If you agree to be in this study, I would ask you to do the following things:
1.   Participate in a semi-structured interview. This interview will take approximately 1 hour and will be audio recorded.
2.   Participate in an online asynchronous focus group. This will allow the researcher to ask for clarification of information from the interview or for the participant to give additional information that he or she may have thought of after the interview. It will begin with specific questions. This step should take 15 to 30 minutes overall.
3.   Participants will submit artifacts that they believe may be pertinent to the study. These artifacts can include anything pertaining to communication in virtual school environments such as contact logs, communication policies, etc. This step should take no greater than 15 to 30 minutes.

Risks and Benefits of Participation: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life. Participants should not expect to receive a direct benefit from taking part in this study.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Each participant will be assigned a pseudonym, and each interview will be held at a public location that is agreeable with the participant where others cannot easily overhear.
- All data will be maintained in either a locked room or on a computer that is password protected. Data may be used in future presentations pertaining to this study. After three years, all electronic records will be deleted
- Interviews will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.
- I cannot assure participants that other members of the online focus group will not share what was discussed with persons outside of the group. However, pseudonyms will be used for the online focus group.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, apart from focus group data, will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Contacts and Questions: The researcher conducting this study is Sherry Janine Ashe. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at (334) 357-0937 or sjashe@liberty.edu. You may also contact the researcher's faculty advisor, Dr. Carol Gillespie, at cagillespie2@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

<div align="right">

The Liberty University Institutional
Review Board has approved
this document for use from
9/25/2017 to 9/24/2018
Protocol # 3000.092517

</div>

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio record me as part of my participation in this study.

_____

Signature of Participant   Date

_____

Signature of Investigator   Date

APPENDIX D: SEMI-STRUCTURED INTERVIEW QUESTIONS

Semi-Structured Interview Questions

(1) Please describe your needs regarding technology-mediated communication.

(2) How do you know when a method of communication works well for you?

(3) How do you describe communication technologies that do not meet your needs?

(4) The purpose of technology-mediated communication is to increase work performance. What do you believe is needed for you to increase your work performance when interacting or attempting to interact with students?

(5) What characteristics could a technology offer that would help you to do your job better?

(6) How important is communication between you and your students in terms of student success?

(7) In your position, what tasks require that you communicate with or to your students?

(8) How do you describe the characteristics of each task that must be performed?

(9) What is it about each task that makes it easy to communicate with your students?

(10) What is it about each task that makes it difficult to communicate with your students?

(11) In your position, you utilize various technologies in communicating with your students. How do you know which technology to use?

(12) What are the characteristics of the technologies that you use that drive you to use them?

(13) What are your thoughts about technology-mediated communication?

(14) What are your feelings pertaining to technology-mediated communication?

(15) What is it about you that leads you to use specific kinds of technology-mediated communication?

(16)   What are some methods of technology-mediated communication you have considered

using that you have not tried yet, and do you intend to try them?

(17)   Which technology-mediated communication methods that you use or have used do you

prefer and why?

APPENDIX E: ASYNCRONOUS ONLINE FOCUS GROUP QUESTIONS

(1) Following your interview, what thoughts or reactions do you have pertaining to VS technology-mediated communication?

(2) In thinking back on your answers to the interview questions, is there anything you would like to add to your responses?

(3) Is there anything you wish the researcher would have asked but did not, and what might that be? What is your response to that or those questions?

(4) Is there anything that you would like the researcher to know, but the opportunity did not present itself to broach the subject?

APPENDIX F: APPROVAL TO USE ACCESS PARTICIPANTS
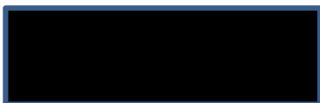
College of
Continuing Studies
ACCESS

September 29, 2017

Sherry J. Ashe
Doctoral Candidate
Liberty University

Dear Sherry J. Ashe:

After careful review of your research proposal entitled A PHENOMENOLOGICAL STUDY OF TEACHER-TO-STUDENT TECHNOLOGY-MEDIATED COMMUNICATION IN SECONDARY VIRTUAL SCHOOL ENVIRONMENTS, I have decided to grant you permission to conduct your study using ACCESS teachers from Region B.

Check the following boxes, as applicable:

☐ Data will be provided to the researcher stripped of any identifying information.

☒ I/We are requesting a copy of the results upon study completion and/or publication.

Sincerely,
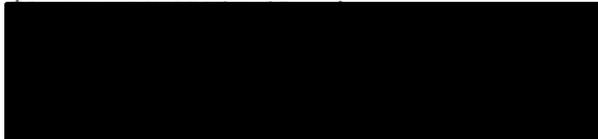
APPENDIX G: INITIAL CODES WITH NUMBER OF OCCURANCES AND SOURCE OF DATA IN WHICH IT WAS FOUND (INTERVIEWS, FOCUS GROUP, ARTIFACTS)

CODE	OCCURANCES	INT.	FG	ART.
Email	75	x		x
Feedback	74	x	x	x
Teacher/student timing issues	63	x		
Efficiency	62	x	x	
Teacher support/presence	61	x	x	x
Course support	53	x		x
Ease of Use	41	x		x
Apps	40	x		
Student interaction	40	x	x	
Tests/quizzes	38	x		
Student performance	36	x	x	
Face-to-face	29	x	x	
Student Engagement	28	x	x	
Non-beneficial	27	x	x	
Tech Savvy	25	x		
Computer issues between schools/VS teachers	25	x	x	
Teacher's face/voice	25	x	x	
Apparatus	24	x		

Virtual field trips	24	x	
Communication works well	23	x	x
Love VS	23	x	x
Turn-it-in	21	x	
Challenging	21	x	x
The way of the future	21	x	x
Accessibility	20	x	
Group communication	20	x	
Refer back to	20	x	
Try new things	20	x	x
In-document correction capabilities for teachers	19	x	
Phone number	19	x	
Posting assignments	19	x	
Video Conferencing	19	x	
Daily communication	18	x	
Ease of grading	17	x	
Online difficult for students	17	x	x
Always available, always open...	16	x	
Grading	16	x	
Discussion	15	x	
Environment	15	x	
Difficult for students	15	x	x

Ethical concerns	15	x	x	
Student comfort level	15	x	x	
Encouragement	14	x		
Potential TMC's	14	x		
Dropbox	14	x		x
Remind App	14	x	x	x
Need	14	x	x	
ACCESS through phone	13	x		
Lack of teacher presence	13	x		
Texting	13	x		
Discussion boards	13	x		x
Google	13	x	x	
Cell phone	12	x		
Facebook	12	x		
Facilitator	12	x		
Webcam	12	x		
Positive results	12	x	x	
Student desire to communicate	12	x	x	
Rewarding	12	x	x	
ACCESS options only	11	x		
Logistical issues	11	x		
Quizzlet	11	x		
Reminders	11	x		

Boundaries	10	x		
Grading difficulty	10	x		
Itunes U	10	x		
Technology issues	10	x	x	
Accustomed to technology	10	x	x	
Dishonesty	9	x		
Phone call	9	x		
Social media	9	x		
Technology barrier	9	x		
Announcements	9	x		x
Chat capability	8	x		
Expectations	8	x		
Frustration	8	x		
Socio-economic	8	x		
Time saving/consuming	8	x	x	
Photo	7	x		
Video	7	x		
Castify	6	x		
Love-hate	6	x		
Open communication	6	x		
Student behavior issues	6	x		
Used incorrectly	6	x		
Availability	6	x	x	

VS not for everybody	6	x	x	
Variety	6	x	x	
Attention grabbing	5	x		
Contingent upon activity/student	5	x		
Enjoy	5	x		
Professional Development	5	x		
WhatsApp	5	x		
Interactive	5	x	x	
Standards (COS)	5	x	x	
VS great	5	x	x	
Acceptable	4	x		
Celly	4	x		
Chalkboard	4	x		
Kahn Academy	4	x		
More time	4	x		
One-on-one communication	4	x		
Screenshots	4	x		
Skype	4	x		
Upload	4	x		
Web-portal	4	x		
Integration	4	x	x	
Class Chatter	3	x		
Powerpoint	3	x		

Web-based| Video Conferencing	3	x	x	
Accountability	3	x	x	
News posting	3	x		x
Avatars	2	x		
Distractions	2	x		
Edmodo	2	x		
Feels too much like school	2	x		
Games	2	x		
Kakao	2	x		
Not rewarding	2	x		
Peer collaboration	2	x		
Rapport	2	x		
Recording	2	x		
Reliability	2	x		
Twitter	2	x		
Written word	2	x		
Accept/reject changes for students in a document	1	x		
Blog	1	x		
Group setting	1	x		
I prefer when the internet's running gre	1	x		
Individualized	1	x		
Labor intensive	1	x		

Microsoft Word	1	x		
Safer than traditional school	1	x		
Scheduling conflicts	1	x		
Tutoring	1	x		
UTube	1	x		

APPENDIX H: NARROWED CODES WITH NUMBER OF OCCURANCES AND

SOURCE OF DATA IN WHICH IT WAS FOUND (INTERVIEWS, FOCUS GROUP,

ARTIFACTS)

TEACHER MINDSET	OCCURANCES	INT.	FG	ART.
Acceptable	4	x		
Always available, always open...	16	x		
Communication works well	23	x	x	
Ease of grading	17	x		
Ease of Use	41	x		x
efficiency	62	x	x	
Enjoy	5	x		
Interactive	5	x	x	
Love VS	23	x	x	
Love-hate	6	x		
Positive results	12	x	x	
Rewarding	12	x	x	
Safer than traditional school	1	x		
The way of the future	21	x	x	
Time saving/consuming	8	x	x	
Try new things	20	x	x	
VS great	5	x	x	
VS not for everybody	6	x	x	
TEACHER PRESENCE	**OCCURANCES**	**INT.**	**FG**	**ART.**
Course support	53	x		x
Environment	15	x		
Individualized	1	x		
Lack of teacher presence	13	x		
Rapport	2	x		
Teacher support/presence	61	x	x	x
Teacher's face/voice	25	x	x	
INTEGRATING TECHNOLOGY INTO INSTRUCTION	**OCCURANCES**	**INT.**	**FG**	**ART.**
ACCESS options only	11	x		
Announcements	9	x		x
Apps	40	x		
Attention grabbing	5	x		
Avatars	2	x		

Blog	1	x		
Cell phone	12	x		
Celly	4	x		
Chalkboard	4	x		
Chat capability	8	x		
Class Chatter	3	x		
Daily communication	18	x		
Discussion	15	x		
Discussion boards	13	x		x
Dropbox	14	x		x
Edmodo	2	x		
Email	75	x		x
Encouragement	14	x		
Expectations	8	x		
Facebook	12	x		
Face-to-face	29	x	x	
Feedback	74	x	x	x
Games	2	x		
Google	13	x	x	
Group communication	20	x		
Group setting	1	x		
Itunes U	10	x		
Kahn Academy	4	x		
Kakao	2	x		
Microsoft Word	1	x		
One-on-one communication	4	x		
Open communication	6	x		
Peer collaboration	2	x		
Phone call	9	x		
Phone number	19	x		
Photo	7	x		
Posting assignments	19	x		
Potential TMC's	14	x		
Powerpoint	3	x		
Quizzlet	11	x		
Recording	2	x		
Refer back to	20	x		
Remind App	14	x	x	x
Reminders	11	x		
Screenshots	4	x		

Skype	4	x		
Social media	9	x		
Standards (COS)	5	x	x	
Student interaction	40	x	x	
Tests/quizzes	38	x		
Texting	13	x		
Turn-it-in	21	x		
Tutoring	1	x		
Twitter	2	x		
Upload	4	x		
UTube	1	x		
Variety	6	x	x	
Video	7	x		
Video Conferencing	19	x		
Virtual field trips	24	x		
Web-based| Video Conferencing	3	x	x	
Webcam	12	x		
Web-portal	4	x		
WhatsApp	5	x		
Written word	2	x		
TECHNOLOGY ISSUES	**OCCURANCES**	**INT.**	**FG**	**ART.**
Accept/reject changes for students in a document	1	x		
ACCESS through phone	13	x		
Accessibility	20	x		
Accountability	3	x	x	
Accustomed to technology	10	x	x	
Apparatus	24	x		
Availability	6	x	x	
Boundaries	10	x		
Challenging	21	x	x	
Computer issues between schools/VS teachers	25	x	x	
Contingent upon activity/student	5	x		
Dishonesty	9	x		
Distractions	2	x		
Ethical concerns	15	x	x	
Facilitator	12	x		
Feels too much like school	2	x		
Frustration	8	x		
Grading	16	x		

Grading difficulty	10	x		
I prefer when the internet's running gre	1	x		
In-document correction capabilities for teachers	19	x		
Integration	4	x	x	
Labor intensive	1	x		
Logistical issues	11	x		
More time	4	x		
Need	14	x	x	
Non-beneficial	27	x	x	
Not rewarding	2	x		
Online difficult for students	17	x	x	
Professional Development	5	x		
Reliability	2	x		
Scheduling conflicts	1	x		
Socio-economic	8	x		
Student behavior issues	6	x		
Student comfort level	15	x	x	
Student desire to communicate	12	x	x	
Student Engagement	28	x	x	
Student performance	36	x	x	
Teacher/student timing issues	63	x		
Tech Savvy	25	x		
Technology barrier	9	x		
Technology issues	10	x	x	
Used incorrectly	6	x		