Measuring Meaningful Parent-School Interactions through the use of Telecommunications Technology Intervention

by

Kathleen M. Poe

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Kathleen M. Poe, Student Date

Approvals:

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Dr. Jane Beese, Dissertation Advisor Date

_____

Dr. Charles Vergon, Committee Member Date

_____

Dr. Kathleen Aspiranti, Committee Member Date

_____

Dr. Xin Liang, Committee Member Date

_____

Dr. Salvatore A. Sanders, Dean of Graduate Studies Date

Abstract

A parent/guardian has a significant influence on the educational success of their student. School administrators who recognize and prioritize the home and school partnership effectively use those relationships to support student learning. The federal Individuals with Disabilities Education Act of 2004 mandates a framework for parent/guardian involvement for children with disabilities. Parents/guardians are members of the student educational team and must be included in eligibility, placement, and services decisions. Current technology advancements in education may provide an opportunity for schools to strengthen the role of parent/guardians as IEP team members by connecting home and school in a virtual relationship. Using an exploratory single case study methodology, the researcher examines current telecommunications technology to understand the parent/guardian perspective on how technology can be used to engage them in the educational process. This study also includes an examination of the qualities of parent involvement and what telecommunications technology intervention can offer to the parent and school relationship.

*Keywords:*telepractice, telecommunications technology, parent/guardian and school partnership, parent/guardian coaching, IEP teams

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CHAPTER I

Introduction and Background

Improving student outcomes in school organizations is an educational and political priority in the United States (Jordan, Orozco, & Averett, 2001; Nepo, 2017). When compared to their non-disabled peers, students with disabilities are not meeting expected proficiency standards in reading, graduation rates, and workforce matriculation (Annie E. Casey Foundation, 2017; Ohio Department of Education, 2017; U.S. Department of Education, 2017).

Students who qualify for special education programs must be afforded specialized services and supports to achieve regular education learning expectations. The Individuals with Disabilities Education Act (IDEA, 2004) requires school districts to evaluate students suspected of having a disability, and if eligible, the student is entitled to receive a Free, Appropriate Public Education (FAPE) at no cost to the family. An Individualized Education Plan (IEP) is developed collaboratively between school personnel and parents/guardians (IEP team) indicating frequency, duration, and scope of special education and/or related services. Parent/guardian participation is an integral part of IDEA (2004), and their involvement is expected to occur throughout the eligibility, evaluation, program development, and the placement process (Burke, 2013; Burke & Sandman, 2015; Samuels, 2017; U.S. Department of Education, 2004).

While the structure of special education law stipulates parent/guardian involvement, families continue to feel less involved in the IEP decision-making process (Katsiyannis & Ward, 1992; Stoner & Angell, 2006; Tucker & Swartz, 2013). Participation on the IEP team is perceived to be limiting by some families, marked by infrequent communication between home and school, not feeling knowledgeable about

their child's disability, and not being aware of services available (Angell, Stoner, & Shelden, 2009; Tucker & Swartz, 2013). It is important for school personnel to understand the parent/guardian perspective in the development of the IEP goals and objectives (Tucker & Swartz, 2013).

When parents are more meaningfully involved in the learning process, student attitudes and learning outcomes improve (Becker & Epstein, 1982; Epstein, 1986; Epstein, 1995; Epstein & Jansorn, 2004). Understanding the language used in schools and what happens during school instruction encourages parents to raise expectations for student success (Clinton, Hattie, & Dixon, 2007). Strong home and school partnerships garner parent/guardian confidence and result in positive feelings about their students' education and lead to greater learner success (Clinton et al., 2007; Hamren & Quigley, 2012). In order for leadership to make substantial gains in student achievement, schools need to engage parents/guardians into the learning experiences of their students (Forsyth, Barnes, & Adams, 2006; Gonzalez-DeHass, Hart, & Risely, 1995; Hattie, 2012; Izzo, Weissberg, Kasprow, & Fendrich, 1999).

For students with disabilities, school leaders hold an essential role in the special education processes and can nurture a school culture of collaboration, innovation, and high expectations (DiPaola & Walther-Thomas, 2003). Principals must demonstrate an understanding of the strategies and practices that meet the unique learning needs of students with disabilities (Clinton et al., 2007; DiPaola & Walther-Thomas, 2003) and partner with parents/guardians in understanding student goals to improve learning outcomes (Goor, Schwenn, & Boyer, 1997; Tucker & Swartz, 2013). School leaders must also be committed to supporting innovations that will benefit students with disabilities

(Adams, 2013; Cavanaugh, 1999; Goor et al., 1997). Technology hardware and software can be effective tools in delivering special education services for IEP teams. Small-scale technology innovations that are intentional can be especially impactful within a school setting (Means, 1998).

Technology's place in education has been solidified through federal and state legislation and is expected to be integrated into all parts of school operations (Fletcher, 2004; The No Child Left Behind Act (NCLB), 2001). However, school leaders must continue to examine the quality of its integration and how it can be used to connect educators, students, and families in seamless learning experiences (del Camo, Negro, & Nunez, 2012; November, 2001). Technology has the potential to enhance the relationship between parent/guardian and school personnel (November, 2001), between the teacher and the student (Mitchell, Wohleb, & Sinner, 2016; November, 2001), as well as between the parent/guardian and the student (DeGennaro, 2010). There is evidence that telecommunications technology has the potential to bridge school and home in a way that would foster parent/guardian engagement and result in student success.

Telecommunications technology has been used in professional fields to connect individuals in real-time interactions for productive communication exchanges. This practice, referred to as telehealth, telemedicine, or telepractice, is an established strategy for assessment, consultation, and treatment in the medical profession. Medical personnel interfacing with clients across a distance has proven to be cost effective, timely, collaborative, flexible, and sustainable (Coleman, Frymark, Franceschini, &Theoodorus, 2015; Cooper & Neal, 2015; Mashimima & Doarn, 2008; McCue, Fairman, & Pramuka, 2010). The telepractice model holds similar potential in the school setting as a tool to

connect IEP teams with families as they work together to support student learning (American Speech-Language-Hearing Association (ASHA), 2017; Brennan & Barker, 2008; Denton, 2003; Houston, Stredler-Brown, & Alverson, 2012; Kramer, Kinn, & Mishkind, 2015; Mashima & Doarn, 2008).

Telecommunications technology allows for timely, frequent, and reciprocal communication between IEP school team members and parents/guardians. It provides a platform for continuous, transparent, and documented communication about school progress. It also allows families to view instructional techniques through live teleconferencing or archived videos developed by IEP team professionals that model strategies for carryover into the home. Role release from a therapist to parent/guardian builds family capacity for ongoing understanding and support. Coaching parents/guardians to provide intervention within the home bolsters student success through direct applicability and generalizability of the skills being addressed (Dunst, Bruder, Trivette, & Hamby, 2001; Hamren & Quigley, 2012; McCue et al., 2010). As a result, parent/guardian self-efficacy increases the more parents understand and are involved in their student's learning (Clinton et al., 2007; Hoover-Dempsey & Sandler, 1997).

The quality of parent/guardian engagement in school activities and roles is fostered by the intentional efforts of schools to involve families in meaningful ways (Doctoroff & Arnold, 2017; Epstein, 1986; Green, Walker, Harmren, & Quigley, 2012; Hoover-Dempsey & Sandler, 2007; Yotyodying & Wild, 2016; Tran, 2014; Varlas, 2015). There is evidence that telecommunications technology can be an effective special education intervention (Coleman et al., 2015; Davis, Hopkins, & Abrahams, 2012;

Edwards, Stredler-Brown, & Houston, 2012; Gabel et al., 2011; Grogan-Johnson et al., 2013; Mashimima & Doarn, 2008; Richardson, 2012) and holds potential for increased family involvement in the IEP process. However, a gap exists in the literature regarding the parent/guardian perspective on their engagement and role on the IEP team using telecommunications technology. This study will investigate the use of telecommunications technology and its ability to strengthen the home and school partnership to student achievement.

Conceptual Framework

There is evidence that meaningful parent involvement in school learning impacts student success. Two researchers in particular, John Hattie and Joyce Epstein, have contributed to the literature in this area. John Hattie completed a fifteen-year meta-analysis study of over 50,000 research articles that involved 240 million students to determine what interventions most impact student learning. His study identifies 138 influences in the areas of home, student, curricula, teacher, and teaching strategies and their effect-size on academic success. He provides compelling evidence to suggest that home environment and parent involvement are significant factors in student learning (Clinton et al., 2007; Hattie, 2009). It is this reciprocal relationship between home and school, and the role of parent/guardian in the learning processes, that influences student performance (Becker & Epstein, 1982; Epstein, 1986; Epstein, 1995; Epstein & Jansorn, 2004; Forsyth et al., 2006; Gonzalez-DeHass, Willems, & Holbein, 2005; Hart & Risely, 1995; Clinton et al., 2007; Lucas, 2010).

It is important to distinguish the type and nature of parent/guardian involvement and the intentional actions of the school to engage them in their student's learning

(Jordan et al., 2001; Lucas, 2010). Joyce Epstein's foundational work identifies six levels of parent involvement and describes the nature of parent/guardian actions within the school structure and its influence in student learning (Epstein 1995; Epstein & Jansorn, 2004; Jordan, et al., 2001). The six levels of parent/guardian involvement are: 1) parenting, 2) communicating, 3) volunteering, 4) learning at home, 5) decision-making, and 6) collaborating with the community (Epstein 1995; Epstein & Jansorn, 2004). Epstein's framework provides a continuum of specific ways parent/guardians are involved in the school program, from traditional roles with homework completion and attendance at school events to being equal decision-makers regarding their child's education.

While all levels of parent/guardian involvement have merit in the appropriate circumstance, the term "parent/guardian engagement" more accurately represents a level of participation desired on the IEP team. "Engagement" describes an active parent/guardian role with a personal commitment to school participation, while "involvement" might imply parent/guardian response to school-initiated participation (Lucas, 2010). Examples of parent engagement in the IEP process include recognizing the strengths and needs of the student, establishing home routines, setting high expectations for student attitude and progress, discussing school learning experiences with their student, applying learning techniques and strategies from school to carryover in the home setting, and interacting on an ongoing basis with the members of the IEP team.

Epstein's framework is significant because it not only describes levels of engagement, but also directs schools on ways to accomplish this (Epstein 1995; Epstein & Jansorn, 2004). Schools need to be intentional in planning for ways to engage

parents/guardians as partners in fostering student readiness, attitude, motivation, and progress (Epstein et al., 2002; Tran, 2014; Varlas, 2015). School leaders have a significant role in building a strong home partnership and must recognize their influence in creating conditions of efficacy, invitation, and role development for parent/guardian involvement (Hoover-Dempsey & Sandler, 1997). For effective IEP teams, the role of the parent must be viewed as a purposeful, relevant, and a central one in the home and school relationship (Adams, Forsyth, & Mitchell, 2009).

Epstein's framework provides explicit actions to create reciprocal partnerships between school, home, and communities (Salinas et al., 1999). Telecommunications technology is one strategy that may impact the give-and-take of the parent/guardian and school partnership. Telecommunications technology can include a software platform that offers parents intentional actions for meaningful engagement within the IEP team. Software platforms may include a dashboard feature that links two parties through posted videos and documents, shared comments on discussion boards, and opportunities for video conferences. Using remote guidance and modeling from IEP professionals, families can also replicate techniques, increase practice opportunities, and facilitate the transfer of skills into the home environment (Meadan, Snodgrass, Meyer, & Fisher, 2016; Wainer & Ingersoll, 2015; Vismara et al., 2013). The telecommunications technology guides mutual and meaningful engagement amongst the IEP team members, offering great potential for the enhanced role of the parent/guardian.

Statement of the Problem

Student progress for students with disabilities is a significant problem in public education in the United States. There are 6.6 million students, or 13% of all students

enrolled in public school, receiving special education services. In the 2016 Annual Report to Congress on the implementation of IDEA, only 42% of students with disabilities graduated with a high school diploma in 2013 (U.S. Department of Education, 2017). In Ohio, the 2015-16 State Report Card reports over 230 out of 608 school districts received a letter grade of D or F for student growth in the students with disabilities subgroup. In the areas of English Language Arts and Mathematics, 526 districts did not meet the gap-closing benchmarks for subgroup populations, including children with disabilities (Ohio Department of Education, 2017). Additionally, in the most recently released report from the U.S. Department of Education, Ohio is one of 34 states receiving a "Needs Assistance" designation due to an over-reliance on alternate assessments and modified graduation requirements. Students receiving special education services are not progressing at the pace of their peers, noted by higher dropout percentages.

Parent/guardian involvement is linked to student learning. The U.S. Department of Education's report "Strong Families, Strong Schools" reports that thirty years of research on family involvement has affirmed the significant role of families in school success (1994). However, schools need a purposeful plan to identify ways and involve parents/guardians to partner with schools to contribute to a student's readiness, attitude, motivation, progress (Epstein et al., 2002). Considering the performance of students with disabilities, leveraging the relationship with families could alter the current performance trends (Harmren & Quigley, 2012).

Previous research has supported the use of telecommunications technology as an effective replacement for side-by-side school-based therapy for children with disabilities (Grogan-Johnson et al., 2013). However, the literature is limited regarding the

telecommunications technology as a strategy to strengthen the partnership between home and school and to expand the capacity of families in supporting the success of their child. The current study addresses the gap in the existing literature regarding the use of telecommunications technology as a tool to strengthen family engagement with school teams and augment services provided through the IEP. To plan for future technology expenditures and related professional development in distance technology, it will be useful for school leaders to know if a telecommunications technology is a viable tool for future IEP teams.

Research Questions

Increasing student growth for students with disabilities by engaging parents/guardians more authentically in the education of their child may be dependent on other factors worth examining. Telecommunications technology may be appropriately poised to help connect with families, but other issues may interfere with the potential success of the program. Additional research questions that will be considered in the study are:

1. In what ways do the attitudes of district personnel, current practices, and district/school culture support the use of telecommunications technology?
2. In what way has telecommunications technology influenced parent/guardian involvement in their student's learning?
3. In what way has telecommunications technology impacted the parent/guardian role on the IEP team?

Definition of Terms

The constructs of telecommunications technology, the home-school partnership, parent/guardian engagement, and the structure of special education will be incorporated throughout this study.

Individualized Education Plan (IEP). The Individualized Education Plan is a tool for school personnel and parent/guardians to use to collaborate and share an understanding of the needs of a student, establish learning outcomes, and identify services and supports to educationally support the student. The required components of an IEP and the expectations for school and parent/guardian involvement are legislatively outlined in IDEA (2004). Team members have various roles and influences (Pinkus, 2005; Ruppar & Gaffney, 2011), but the IEP intent and collaborative process have a capacity to meaningfully guide student success (Hartmann, 2016).

IEP team. The participants on an IEP team include parents/guardians and school personnel who have educational interest in a student who has qualified for special education services. Team members may include, but are not limited to, a special education teacher, a speech and language pathologist (SLP), an occupational therapist (OT), a school psychologist, a special education administrator, and a building principal. Strong communication and trust are important features of the IEP team dynamics. Team members are required to establish goals, provide services, monitor progress, and attend, at a minimum, an annual review of the IEP. The legal requirements establish and guide the activities of an IEP team, but the team dynamics, such as roles, responsibilities, power distribution, and communication exchanges are powerful influences in the decision-making process (Pinkus, 2005; Ruppar & Gaffney, 2011). Everyday practices such as meetings, calls, casual conversations, and emails can build trust between school

personnel. Parents/guardians are not often included in these informal conversations and instructional decision-making (Hartmann, 2016; Weaver & Ouye, 2015). School administrators who recognize and prioritize the home and school partnership effectively use the IEP team relationships to support student learning.

Intervention strategies. The IEP includes goals and objectives and strategies that will be used by the IEP team to meet the established benchmarks. Interventions are typically implemented by trained special education professionals and are individualized based on the student need. The unique learning needs are identified through testing conducted by the IEP team members in the academic, language, motor, and behavioral domains. Interventions may include research-based programs, specialized methods for instruction, technology software, and specific supplies and materials.

Telecommunications technology. Telecommunication occurs when the exchange of information between communication participants includes the use of technology. Telecommunication can include the transmission of messages, words, writings, images and sounds, or information of any nature by wire, radio, optical, or other electromagnetic systems.

The service-delivery model using telecommunications technology is referred to as telepractice, telemedicine, telerehabilitation, or telehealth (Denton, 2003). Telepractice is derived from the Greek root word "tele" means distant or remote. When applied to a professional field, it is defined as providing practice over a distance (Houston et al., 2012). Telepractice utilizes two-way telecommunications technology to minimize conventional challenges such as location, time, and budget constraints to increase access to quality interventions. It is also referred to as telehealth, telemedicine, or

telerehabilitation in related professional fields (Houston et al., 2012). Though well established in the medical and mental health communities, recent studies have validated the application of telepractice in the special educational field (Davis et al., 2012; Coleman, Fryman, Franceschini, & Theodoros, 2015; Edwards et al., 2012; Gabel et al., 2013; Grogan-Johnson et al., 2011; Mashimima & Doarn, 2008; Richardson, 2012).

Telepractice requires the use of two-way communication equipment and a secure platform for virtual exchanges between the participants, such as school personnel and families. Telepractice delivery can be synchronous, asynchronous, or a combination of the two for a hybrid model (ASHA, 2005). Synchronous therapy is real-time, interactive therapy that parallels a traditional side-by-side experience. Asynchronous telepractice is stored data or videos that can be viewed by the therapist at a later time. A growing number of professional organizations, including the American Occupational Therapy Association and the American Speech-Language-Hearing Association (ASHA) support the use of telepractice as a sound method of service-delivery (Edwards et al., 2012). Telecommunications technology enhances school-based services by virtually connecting providers and families. An important aspect of telepractice in a school program is the adherence to the federal and state regulatory requirements for special education programs, professional licensure, student records, and data protection. Schools developing virtual intervention programs will need to ensure legal parameters are understood and addressed (Denton, 2003; Drum & Littleton, 2014; Kramer et al., 2015).

Parent/Guardian engagement. With respect to school and home partnerships, parent/guardian involvement and engagement describe the types of activities that meaningfully support their student's education. The term engagement, versus

involvement, describes a more personal and active relationship with the school (Lucas, 2010). In order to encourage stronger parent/guardian engagement, schools must be intentional in their efforts to involve them (Tran, 2014; Varlas, 2015). According to Epstein, parent/guardians are not sufficiently involved to impact student success. Her well-known framework of involvement in schools is described through six levels of parent/guardian engagement, which includes communicating, volunteering, learning at home, decision-making and collaborating with community. Each level represents activities and strategies in which school leaders can promote parent/guardian engagement (Epstein, 1995; Epstein & Jansorn, 2004).

Parent coaching. A coaching model implies that parent/guardian receive explicit guidance from school personnel regarding specific techniques to improve student skill acquisition and applicability in the natural or home setting (Meadan et al., 2016; Vismara et al., 2013; Wainer & Ingersoll, 2015). Natural settings are defined as the home setting or represent daily routines where skills learned can be generalized to enhance functional communication, self regulation, independence, and social skills in situations beyond the school setting (Dunst et al., 2001; Hamren & Quigley, 2012; McCue et al., 2010). The school professional provides parent/guardian coaching through telecommunications technology by modeling specific intervention techniques (Harmren & Quigley, 2012) and providing families with feedback and encouragement (DeGennaro, 2010; Vismara et al., 2013). Parents/guardians can be active and invaluable partners when using telecommunications technology by assuming the role of a teacher with the guidance and support of a school team. Educational professionals are recognizing the benefits of virtual coaching to increase family capacity in meeting the educational needs of a student

(Guðmundsdóttir, Sigurðardóttir, & Ala'i-Rosales, 2017; Meadan et al., 2016; Vismara et al., 2013; Wainer & Ingersoll, 2015).

Virtual Intervention Project (VIP). In 2016, the Educational Service Center of Cuyahoga County (ESC-CC) was awarded a five-year innovation grant through the Ohio Department of Education to explore telecommunications technology as an intervention designed to work with families to meet the needs of students with disabilities. The title of the program is the Virtual Intervention Project (VIP). The goal of the grant is to connect parents/guardians with school personnel to reinforce IEP goals and skills in the home setting for increased student success. The grant offers the school district software licensing and technology training to utilize the two-way telecommunications platform Teleroo. This trademarked software virtually connects school teams with families. In addition to the technology, the ESC-CC hired a core team of professionals, including a speech therapist, psychologist, and behavior specialist, to support the district with the development of telecommunications technology as a special education service. Personalized technology training for the family and school personnel was provided, and families received appropriate technology devices, if needed. The Teleroo platform offers families and school personnel access to engage in real-time communication, access to a video library of modeling strategies, and the ability to document student progress (Kids Uncomplicated, 2016). With families and school teams as users, VIP offered the opportunity for collaborative discussions and transparent and efficient communication between home and school. School teams and families identified the most appropriate school goals through the IEP process for home reinforcement using telecommunications technology.

Teleroo. The Teleroo Gateway is a trademarked, secure, password-protected web-based telecommunications technology platform where families and school teams can view and post videos and documents, share comments on discussion boards, and participate in video conferences. It's the hub for many of the activities of the Virtual Intervention Project (VIP). Each parent in VIP, along with the school IEP team, have access to a password-protected dashboard where they can interact with each other. The Teleroo dashboard has the following sections: Home (most recent activities and IEP team member information); Connect (link to video conferencing); Boards (discussions with team members); Media (search posted videos); and Upload (upload videos/pictures). Teleroo is password protected and can be viewed using any mobile device (Kids Uncomplicated 2016).

Case Study Design

A single-case study is a single subject evaluation method (Merriam & Tisdell, 2016), with embedded units of analysis as a method of data collection (Yin, 2014). The selection of an exploratory single-case study design to examine the parent/guardian and school partnership and the impact of telecommunications technology to further leverage the parent/guardian role in student success is substantiated by the qualities of the case study design and the phenomenon of interest. Qualities included in this case study are: (a) it is a critical case; (b) it is exploratory; (c) it involves a contemporary, real-life context; (d) it will use multiple data sources; and (e) it will include thick descriptions in the data analysis.

First, as a critical case (Yazan, 2015; Yin, 2014), the use of telecommunications in the educational realm shows early evidence of effectiveness as a special education

intervention (Crutchley & Campbell 2010; Gabel et al., 2013; Grogan-Johnson et al., 2011; Grogan-Johnson et al., 2013; Theodoros, 2011; Vismara et al., 2013), yet the parent/guardian perspective in using a virtual platform is unexplored in the literature. This case study design will provide the researcher with an opportunity to explore the parent/guardian view of school involvement and the impact of telecommunications technology from the parent/guardian experience and perspective (Yin, 2014).

Second, though some social scientists believe that the exploratory case study design is intended to generate hypothesis or build a theory for further inquiry (Yin, 2014), a case study methodology can provide sufficient analytical generalizability rather than statistical generalizability (Flyvbjerg, 2006; Willis, 2013). According to Stake's definition, this study is an intrinsic case with the research driven by a desire to know more about a particular case (Stake, 1995). The case study design will allow the core of the analysis to be focused on discovering the parent/guardian when using telecommunications technology, rather than validating a pre-determined hypothesis (Boblin, Ireland, Kilpatrick, & Robertson, 2013; Yazan, 2015).

Third, considering current technology development, and centering on the complexities of human relationships and dynamics, this study is a real-life, contemporary situation that is supported by the case study design (Soy, 1997; Yazan, 2015; Yin, 2014). This exploratory case study is intrinsically bounded by the school district and IEP structure and will include a comprehensive, holistic analysis of a social and programmatic phenomenon with the focus on meaningful, real experience and intentionality of parent/guardian behavior (Giori, 1997; Merriam, 1998; Merriam & Tisdell, 2016; Yin, 2014).

Fourth, an advantage of an exploratory single case study design is the systematic and intense manner in which one topic is examined through a variety of data sources (Merriam, 2009; Soy, 1997; Stake, 1995; Yin, 2014). Multiple data sources, such as records and artifact review, semi-structured interviews, and semi-structured focus group interviews, are included in the study. Tightly aligned procedures are used for analyzing, including categorizing, coding, and pattern matching, and with member checking to ensure study validity of participant responses.

Fifth, the findings will be thorough and include rich, descriptive language to ensure the perspectives of the individuals are captured, and a thorough, in-depth examination of the real life context will be reflected in the data collection process (Merriam, 1998; Merriam, 2009; Merriam & Associates, 2002; Yin, 2014).

Sampling and Selection

The selection of participants is a convenience sample of those families who are already participating in the Virtual Intervention Project (VIP) program. The ESC-CC identified criteria for family participation include: (a) student must qualify for special education services under IDEA and (b) the parent/guardian must agree to participate in the VIP pilot demonstration. A final approval of the participants is granted by the ESC-CC core team and determined through a recommendation by the school district and IEP goals that align with telecommunications technology application (Kids Uncomplicated, 2016). A parent survey is completed as part of the enrollment process.

The unit of analysis in this exploratory single-case study design includes the parent/guardian of a student with a disability and personnel included on the student's IEP team, which may include, but is not limited to: the building principal, special education

administrator, special education teacher, speech therapist, and occupational therapist, if appropriate. The units of analysis provide an in-depth, holistic examination of the home-to-school dynamic and the changing role of the parent when a two-way telecommunication platform is introduced.

The parents/guardians who participated in the exploratory case study investigation are from those who have already enrolled in VIP program. Prior to inviting parents/guardians to participate in the case study, an IEP team meeting was held (or previously held) with each family to review the purpose of the VIP, to describe the telecommunications technology model, and to provide parent/guardian training in using the Teleroo software platform. After VIP was initiated, parents/guardians received an invitation letter from the researcher regarding the case study and a request to participate. Parents/guardians communicated their interest in participating by contacting the researcher using the contact information provided in the invitation. Families chose which parent or legal guardian would participate in the interview if more than one parent or guardian was available. All families invited had an equal opportunity to participate. The researcher did not receive any information on the age or gender of the participants.

The focus group participants included the school IEP team members who work with the participating families. These participants included the principal or assistant principal, special education director, interventionist, speech and language therapist, and/or occupational therapist. Once a parent/guardian was selected to participate, each team member was invited by a letter from the researcher. They agreed to participate using the contact information provided on the invitation.

Procedures

The VIP parents/guardians who responded to the invitation from the researcher and volunteered to participate in the exploratory case study, along with their respective school teams, constitute a unit of analysis and are identified as a focus of inquiry within a real-world context where the researcher examines, describes, and evaluates complex issues (Harrison, Birks, Franklin, & Mills, 2017; Soy, 1997). The system for study is bound by district, program, and special education framework and explores connected systems of home and school within the context (Harrison et al., 2017). Multiple data sources, such as records and artifact review, semi-structured interviews, and semi-structured focus group interviews, are included in the study to investigate the unique application of telecommunications technology to strengthen the home and school partnership.

Data Collection

The data collection consists of records and artifacts review and semi-structured interviews to study the subjective nature and nuances of how a district and family build a trusting and collaborative partnership (Giorgi, 1997). A systematic method for collecting and categorizing the evidence was used in order for the information to be accessed and examined throughout the data collection process (Yin, 2014). Rich descriptions are used to ensure the perspectives of the individuals are captured, and a thorough, in-depth examination of the real life context has been reflected in the data collection process (Merriam, 1998; Merriam, 2009; Merriam & Associates, 2002; Yin, 2014).

In person, semi-structured interviews were conducted with each parent/guardian participant. The interview period, including rapport-building, reviewing the informed consent form, and answering questions about the study, lasted no more than 90 minutes.

Interview questions aligned with the researcher's questions were constructed using existing surveys and constructs in the literature, including parent/guardian involvement in student learning and family-inclusionary school culture. Field notes and digital recordings were used to ensure accuracy during later analysis. No questions in any part of the study involved student data, student information, or student records. The names of all participants have been changed in all reported documents to protect the confidentiality of each participant.

In-person, semi-structured focus group interviews were conducted with the school IEP team associated with the parent/guardian participants. The interview period, including rapport-building, reviewing the informed consent form, and answering questions about the study, lasted no more than 90 minutes. Interview questions aligned with the researcher's questions were constructed using existing surveys and constructs in the literature, including parent/guardian involvement in student learning and family-inclusionary school culture. Field notes were used to record responses and ensure accuracy during later analysis. No questions in any part of the study involved student data, student information, or student records. The names of all participants have been changed in all reported documents to protect the confidentiality of each participant.

A documents review was used to gather important background information on the district and the district's ability to support telecommunications technology intervention. Publicly available documents were reviewed by the researcher including, but not limited to, the school website, the District Profile, State Report Card, Board of Education policies, and the collective bargaining agreement. Artifacts include a parent survey and related notes from the VIP team and information distributed to parents/guardians and IEP

team regarding the Virtual Intervention Project (VIP), including technology training materials. A documents review enhanced the internal validity of the study by providing a thorough examination of the programmatic context of the study.

Data Analysis

Tightly aligned procedures were used for analyzing the data. These procedures included categorizing, coding, and pattern-matching the information from the data sources. Databases were used to organize the findings and create a chain of evidence (Yin 2014). Parent interviews were audio-recorded, and focus group responses were hand-written using a template aligned with the research questions along with field notes. Participants were offered opportunities for clarification and member checking, ensuring accuracy in their responses (Merriam & Tisdell, 2016). The current study findings will provide rich, descriptive language to ensure participants' perspectives are accurately captured (Merriam, 1998; Merriam, 2009; Merriam & Associates, 2002; Yin, 2014).

The data was examined from a part-to-whole process to best understand the specific district and family characteristics that support use of telecommunications technology intervention. A constructivist, or part-to-whole, philosophical orientation (Merriam & Tisdell, 2016) focuses on the parent/guardian perspective and guides the case study as to how the interaction of key leaders, teachers, and parent/guardians impact the implementation of telecommunications technology intervention (Merriam & Tisdell, 2016). The parent/guardian is essentially a co-investigator in the value of virtual intervention and its impact on their role in their child's learning process. The researcher is central to the data collection process and underwent a process of data analysis that used participant experiences to make meaning of telecommunications technology as a tool to

strengthen the parent/guardian relationship with the school (Merriam, 1998; Merriam & Associates, 2002; Merriam & Tisdell, 2016; Yazan, 2015). The findings from the document and artifacts, the focus group interviews, and the parent/guardian interviews were reported in generalities only, without reference to family or student characteristics to ensure confidentiality of the individuals involved. Reporting of the findings was described in generalities to ensure that the identity of the participants is protected.

Significance of the Study

This study is significant because it uniquely examines the use of telecommunications as a strategy to increase parent/guardian engagement as members of their student's special education team. The required components of an IEP and the high expectations for parent/guardian involvement are legislatively outlined in IDEA (2004). However, there is an imbalance of power and influence between home and school, and families are not in a position to determine how to increase their role in their child's education (Ruppar & Gaffney, 2011). They can feel marginalized in the process and can perceive that their input and participation is secondary to the school team (Pinkus, 2005; Rupper & Gaffney, 2011; Weaver & Ouye, 2015).

The U.S. Department of Education summarized 30 years of research on family involvement in the document "Strong Families, Strong Schools" and affirmed the significant role of families in school success (U.S. Department of Education, 1994). However, schools need purposeful plans to involve parents/guardians as partners in influencing a student's learning readiness, attitude, motivation, and progress (Epstein et al., 2002). There is a growing body of research on the validity of virtual intervention with students with disabilities (Crutchley & Campbell, 2010; Gabel et al., 2013; Grogan-

Johnson et al., 2011; Grogan-Johnson et al., 2013; Theodoros, 2011;Vismara et al., 2013). However, there is limited focus on the potential impact of telecommunications technology on the family's capacity to increase student progress. Rapid development of secure software platforms for two-way communication offers an opportunity for educational teams, parents/guardians included, to collaborate, consult, share, and archive evidence of interventions and progress in both real time or with stored data.

School meetings for students with disabilities typically focus on the student and the school structure for services and placement. Inviting parent/guardians into the telecommunications technology platform can shift the discussions to include the home setting and parent/guardian perspective. This study will increase understanding of the parent/guardian impact on student success within a largely unexplored strategy. The case study methodology is a low-risk approach for parents/guardians and school teams but may yield important findings.

The findings in this study may be significant for district leaders in terms of allocation of resources, professional development planning, and fostering a culture of parent/guardian involvement in student learning. Administrators need evidence or justification to introduce or expand instructional programs, for both fiscal stewardship and instructional fidelity. While this exploratory study may not confirm the specific impact of telecommunications technology on parent/guardian involvement on the IEP team, the study will build an explanation about the phenomenon and present ideas to for examination (Yin, 2014).

Assumptions and Limitations of the Study

There are a number of topical assumptions that can be made about this study. First, the parent/guardian is considered the first teacher of their children (Lucas, 2010). Second, the natural environment for a child is the home setting (Meadan et al., 2016; Vismara et al., 2013; Wainer & Ingersoll, 2015). Third, telecommunications technology as a replacement of or supplement to side-by-side therapy can be an equivalent service (Davis et al., 2012; Coleman et al., 2015; Edwards et al., 2012; Gabel et al., 2013; Grogan-Johnson et al., 2011; Mashimima & Doarn, 2008; Richardson, 2012). Fourth, the requirements for telecommunications technology will be available (Kids Uncomplicated, 2016). Fifth, legal parameters regarding student records and telecommunications technology will be resolved (Denton, 2003; Drum & Littleton, 2014; Kramer et al., 2015).

The most significant limitation of this single case study design is the limited number of units of analysis, though use of telecommunications technology as a strategy for parent/guardian engagement could be replicated with other district families. However, a family willing to participate in a case study may not be representative of all families with special education involvement. Inviting all parents/guardians in the district who areare enrolled in the VIP program reduces researcher bias, though the parents/guardians who volunteer to participate in the case study may have a stronger affiliation to the school team, either positive or negative, that may influence their response to an additional intervention. Additionally, the researcher, by nature of an interest in parent/guardian engagement, may have a bias towards the participants and inadvertently influence the responses or attitude through the study. Other individuals involved, such as the IEP team

members and district administrators, may be unintentionally influenced by the researcher and inflate positive responses of parent/guardian engagement and school culture.

Summary

This study examines the parent/guardian perspective on the use of telecommunications technology as a strategy to strengthen the home-school partnership and increase the performance of students with disabilities. The review of the literature supports three themes that substantiate the exploratory single case study inquiry of telecommunications technology intervention as a relevant and contemporary topic for consideration. These themes include: 1) the significance of parent/guardian involvement in student learning, 2) the structure of special education for parent engagement, and 3) telecommunications technology as an evolving intervention for IEP teams.

The first theme in the literature review examines the parent/guardian as a child's first teacher and the positive impact of parent/guardian on student success (Epstein, 1995; Epstein & Jansorn, 2004; Forsyth et al., 2006; Hart & Risely, 1995). Students benefit when parents/guardians are actively engaged in the learning process (Flores de Apodaca, Gentling, Steinhaus, & Rosenberg, 2015; Hattie, 2012; Lucas, 2010; Clinton et al., 2007; Topor, Keane, Shelton, & Calkins, 2010). Schools engaging families in specific and meaningful ways is most impactful (Hoover-Dempsey & Sandler, 1997). According to Epstein, parents/guardians are not sufficiently involved in schools to impact student success. Schools need a purposeful plan to identify ways and involve parent/guardians to partner with schools and to help contribute to their child's readiness, attitude, motivation, and progress (Epstein et al., 2002).

The second theme in the literature examines the structure of special education and parent/guardian participation on the IEP team. The legal requirements establish and guide the activities of an IEP team, but the team dynamics, such as roles, responsibilities, power distribution, and communication exchanges, are powerful influences in the decision-making process (Pinkus, 2005; Ruppar & Gaffney, 2011). As IEP members, the participation level of parent/guardian varies, often depending on their perception of the school's interest in involving them (Blackman & Mahon, 2016; Hoover-Dempsey & Sandler, 1997; Green, Walker, Hoover-Dempsey, & Sandler, 2007). However, the IEP process has great potential for parent/guardian involvement for student success. It is a powerful tool for school and home to collaborate about student goals, identify student strengths and needs, and determine strategies to improve achievement. Team members have various roles and influences (Pinkus, 2005; Ruppar& Gaffney, 2011), but the IEP intent and collaborative process have a capacity to meaningfully guide student success (Hartmann, 2016).

The third theme identifies how telecommunications technology can offer a unique, specialized strategy to support students with disabilities (ASHA, 2017; Brennan & Barker, 2008; Denton, 2003; Houston et al., 2012; Kramer et al., 2015; Nepo, 2017). The application of telecommunications technology principles is still in the early stages, though it has shown promise as an effective special education intervention (Crutchley & Campbell, 2010; Gabel et al., 2013; Grogan-Johnson et al., 2011; Grogan-Johnson et al., 2013; Theodoros 2011; Vismara et al., 2013).

The literature identifies telecommunications technology as a viable intervention for students with disabilities. Telecommunications technology can be used as a

supplement or replacement for traditional side-by-side intervention, but should more broadly be explored as a tool to connect school personnel with parents/guardians to facilitate IEP team collaboration. The gap that exists in the literature is the parent/guardian perspective on the ability of a telecommunications technology to strengthen their role on the IEP team. The selection of an exploratory single case study design, with multiple data sources and procedures for collecting and analyzing the data, provides a structure for investing this phenomenon.

CHAPTER II

This chapter begins with a review of the literature. It is followed by a theoretical framework based on the work of Joyce Epstein's six levels of parent/guardian involvement: communicating, volunteering, learning at home, decision-making, and collaborating with the community (Epstein, 1995), which will establish a foundation for interactions between parents/guardians and schools. To determine if telecommunications technology will provide parents/guardians enhanced interactions with school, a review of the literature is necessary in the areas of administrator/principal leadership in special education, technology in education, history of telepractice, application of telepractice in professional fields, parent/guardian coaching using technology, ethical and legal issues in use of telepractice, special education requirements for parent/guardian participation, the role of the Individualized Education Plan (IEP) team, the perspectives of IEP team participants, and parent/guardian coaching in special education programming. The chapter concludes with a summary of the literature.

Introduction

With the advancement of computer hardware and the increasing availability of software applications, school districts can benefit from expanding technology applications. Use of technology for classroom instruction and activities is well established across the country (National Center for Educational Statistics, 2017). In 2017, over 95% of high school students used technology for schoolwork, and 70% of parents/guardians believe technology is significant to their child's success (National Center for Educational Statistics, 2017). Technology has the potential to enhance the relationship between parents/guardians and school personnel (November, 2001), between

the teacher and the student (Mitchell et al., 2016; November, 2001), as well as between the parent/guardian and the student (DeGennaro, 2010).

Technology is beneficial as an educational resource (Cavanaugh, 1999). For the child with special needs, achieving success often requires districts to find more creative ways through specialized services and targeted strategies to ensure student progress (Nepo, 2017). Limitations of personnel, time, home support, funding, and teacher skills are factors that can impede a district's ability to provide students with unique and individualized interventions that could potentially close learning gaps. However, with the continued advancement of technology, school administrators and educators are able to supplant and/or extend more traditional instructional methods with efficient, expert, real-time, and wrap-around services for children with disabilities (Kids Uncomplicated, 2016; Lopez, Kreider, & Coffman, 2005).

Telepractice, modeled by the use of telehealth in the medical field, is newer in its expansion as a tool to connect parents/guardians with school IEP teams. Telepractice, using telecommunications technology, is a virtual service-delivery model for intervention, assessments, and consultation, but can be used for students with disabilities in conjunction with special education services provided in a school setting (ASHA, 2005; Brennan & Barker, 2008; Denton, 2003; Houston et al., 2012; Kramer et al., 2015). Telepractice allows for flexibility of services, a sufficient availability of therapists, and the opportunity to transfer student skills learned at school into the natural setting (Harmren & Quigley, 2012; Meadan et al., 2016; Guðmundsdóttir et al., 2017; Theodoros, 2011; Vismara et al., 2013; Wainer & Ingersoll, 2015). The use of telecommunication technologies connects families and children with school personnel,

creating a seamless school-to-home application of skill development. With parent/guardian coaching, the telepractice model could potentially shorten the period of time and/or frequency that a child requires specialized instruction through an IEP (U.S. Department of Education, 2004). An IEP is a mandated, team-developed document that describes the goals, services, and other conditions necessary for a student with disabilities to access regular education curriculum (U.S. Department of Education, 2004).

Legal parameters can impact the use of telepractice as an extension of the school special education program (U.S. Department of Education, 2004). Federal law regarding student educational records, the Family Educational Rights and Privacy Act (FERPA), the electronic transmission of personal health records, the Health Insurance Portability and Accountability Act (HIPAA), data sharing, and professional licensing for clinicians require examination prior to implementation of a telepractice intervention. Student educational and health records, special education services, and electronic transmission of data, are all inherent in a school telepractice model and prompt close examination of the federal laws that protect each of these areas.

Beyond legislative compliance for parent/guardian involvement (U.S. Department of Education, 2004), building parent/guardian capacity as a partner in the learning process can also enhance student outcomes (Harmren & Quigley 2012; Tran, 2014). It is well documented that student success can be boosted by parent/guardian involvement (Becker & Epstein, 1982; Epstein, 1986; Epstein, 1995; Epstein & Jansorn, 2004). The telepractice model, when used between home and school, is dependent on the parent/guardian's ability to reinforce learning in the home by embedding the intervention(s) in existing routines. The parent/guardian's active role in their student's

education can strengthen the parent/guardian's ability to provide input, make decisions, and collaborate as equal partners with the school team. In a telepractice model the parent/guardian role is integral to the success of the telepractice model for positive student outcomes (Kids Uncomplicated, 2016).

Theoretical Framework: Parent and School Partnerships for Student Success

Student success is positively impacted by the reciprocal relationship between home and school and the role of parent/guardian in the learning process (Forsyth et al., 2005; Hart & Risely, 1995; Gonzalez-DeHass et al., 2005). A frequently cited theoretical framework used in examining the nature of parent/guardian participation in schools and how student outcomes are impacted is Joyce Epstein's six levels of parent/guardian involvement. The six levels are: (1) parenting; (2) communicating; (3) volunteering; (4) learning at home; (5) decision-making; and (6) collaborating with the community (Epstein, 1995; Epstein & Jansorn, 2004). This framework describes a continuum of ways parents/guardians can be involved in the school program, ranging from traditional roles with homework completion and attendance at school events, to being equal decision-makers regarding their child's education (Epstein & Jansorn, 2004).

Epstein's levels of parent engagement describe the various ways parents can be involved in school activities and student learning and the challenges associated with each level of involvement. She also identifies how the level of involvement impacts students, parents, and teachers. The first level of involvement is *parenting,* or working to create a home environment that supports learning. Support activities associated with this level can include education workshops on adult literacy, programs that support family health and nutrition, and communication on parent suggestions. The challenge associated with this

level of involvement is to ensure all families receive the information and opportunities. The student benefits from parents modeling the values associated with respect for education and educators. Parents gain understanding and confidence regarding child development, learn strategies for parenting, and can learn that they can more effectively respond to student concerns and gain comfort in communicating with the school through frequent contact. Teachers benefit from this level of involvement by gaining awareness about family backgrounds and the goals of each family.

A second level of parent involvement is *communicating* between home and school about student progress and school programs. Activities associated with this level include parent and teacher conferences, a system for school work to be sent between home and school, digital or hard copy announcements and memos, phone calls, or in-person meetings. The challenge of communicating can be in the quality of the information being shared with home and ensuring a system for two-way communication between home and school. Students benefit from this level by understanding the school rules, their progress in the curriculum, and their role in relaying information between school and home. Teachers benefit from this level of involvement because it allows them to understand the family views on student success and school programs.

A third level of involvement is *volunteering* as a way to recruit parent support. Actions that parents take associated with this level include assisting in the classroom or in the school, participating in group communication with other parents of students in the classroom or school, and volunteering to assist with safety monitoring or planning school events. The challenges with this level include the school being able to offer flexible volunteer times to accommodate parent work schedules and ensuring that recruiting

efforts reach all parents. The benefits for students include extra adult support in the classroom and an awareness of the contributions made by parent volunteers in support of the school. Teachers benefit from volunteers by being able to include more parents in school activities and having volunteers available to them to assist in the classroom.

A fourth level of parent involvement is *learning at home* and the role of parents in assisting with curriculum-based when students are not in school. Students benefit from this level of involvement through extra help and increased progress in schoolwork. Their attitude about school can improve, and they may recognize the teacher and parent partnership that exists on their behalf. Teachers gain a respect for the parameters of the student's home life and the parent's time or ability to support homework. The more the teacher understands the support a parent can offer, the greater the quality of the home assignment.

Decision-making is the next level of parent involvement and includes actions that support parent leadership. Some of the activities associated with this level include active involvement in PTO, advisory organizations, and committees. Parents work as partners with the school and provide input as part of their involvement. Awareness of school policy and operations is a parent benefit of this involvement. Working with other parents and developing an ownership in the school is also associated with this level of involvement. The student benefits from this involvement if policies or practices are changed through parent groups. Teachers will recognize the equal relationship of parents when serving jointly on teams or committees.

A final level of involvement is *collaborating with the community*. This level connects schools with community resources to strengthen family support and school

programs. Parents benefit from the information and services available through community organizations. Challenges of this level include aligning the goals of a school with the goals of a community service, as well as ensuring all families understand the opportunities available through this collaboration. Students benefit from services and extra-curricular activities that are offered through school and community partnerships. Educators can enrich school experiences by accessing community resources or volunteers. Once aware of community services, teachers can also refer families to additional support.

The six levels of involvement described by Epstein can exist concurrently and/or shift over time or by situation. The commonality of the levels is the opportunity for families to be involved with the school in a planned and intentional manner (Epstein, 1995; Epstein & Jansorn, 2004).

In John Hattie's groundbreaking statistical analysis work (2009), he identified 138 contributors to student success and ranked them on their effect size. His fifteen-year meta-analysis study included 50,000 articles that involved over 240 million students. His findings support the notion that all interventions have the potential to have some positive impact on student success. However, he determined the effect size of .40 was the "hinge point" for key effectiveness of a specified intervention. Hattie's six categories of influences include: the student, the home, the school, the teacher, the curricula, and instructional strategies. In particular, his research corroborates the research of Epstein and underscores the significance of parent/guardian impact on student achievement when parents/guardians are actively involved in school activities. Home effects, such as the environment (.57) and parental involvement (.51) were found to be of strong influence

(Hattie, 2009). Parent involvement can include setting goals, asking questions, displaying enthusiasm for learning, encouraging good study habits, and learning new things. Student achievement is measured by higher grades, more homework completed, better attendance, positive attitudes, higher graduation/post secondary enrollment, and greater life satisfaction (Clinton et al., 2007; Hattie, 2012). When parents are more meaningfully involved in the learning process, student attitudes and learning outcomes improve (Epstein, 1995; Epstein & Jansorn, 2004; Clinton et al., 2007; Hattie, 2009)

One study conducted by Hattie and his colleagues, the Flaxmire Project, examines three interventions implemented in five schools that were designed to improve the home and school relationship. The interventions included a homework-support program before or after school, the provision of a computer to be used in the home, and the hiring of a home and school liaison. Changes were noted by the third year in parent support and student performance. The logic model for the project linked a technology-based intervention to increased family participation and collaboration. The short-term outcome of more parent/guardian involvement supported the long-term outcome of student achievement (Clinton et al., 2007).

As a school-home learning activity, homework is an authentic and traditional opportunity to involve parent/guardians. For students with special needs, homework can be effective, but also challenging without mutual understanding between teachers and parent/guardians on its purpose and expectations (Flores de Apodaca et al., 2015). Teachers do not always know how to maximize this type of involvement but recognize it is an effective strategy to impact student success (Becker & Epstein, 1982). Parents/guardians of students with disabilities value teacher direction on how to assist

with home assignments, clear communication from teachers, and hands-on assignments for whole family engagement (Kay, Fitzgerald, Paradee, & Mellencamp, 1994). The sense of self-efficacy of a parent/guardian in the learning process is strengthened when parents/guardians truly understand their role and ability to impact their child's school success (Hoover-Dempsey & Sandler, 1997). Schools need to recognize their influence in creating conditions of efficacy, invitation-, and role-development for parent/guardian involvement (Hoover-Dempsey & Sandler, 1997).

Families need support in managing the learning carryover at home and look to professionals to provide structure and monitoring (Habbouse et al., 2001). Home-based involvement can be shaped by parent/guardian acceptance of a disability, socio-economic background, as well as family expectations, and schools need to be sensitive to these realities (Yotyodying & Wild, 2016). Parent/guardian involvement is influenced by the family belief system, their perception of the teacher's desire to have them involved, and life-context variables that are external to school issues. How parent/guardians define their role, how a teacher invites them into the learning process, and events in their personal life impact levels of involvement (Green et al., 2007; Hoover-Dempsey & Sandler, 1977). Integrating the efforts of schools and families through partnership to work toward common goals for student learning can maximize academic outcomes. However, it is important that the role of the parent/guardian is not viewed as an incidental one, but valued as a purposeful and central one in home and school relationships (Adams et al., 2009).

School culture often reflects one of two philosophies. The school personnel intentionally function separately from families as the experts in the educational setting

with parent/guardian being experts in the home, or school personnel emphasize a cooperative partnership with families (Epstein, 1986). The ultimate purpose for all types of parent/guardian involvement is increased student success, and that parent/guardian participation through home activities is influential in academic achievement (Olympia, Sheridan, & Jenson, 1994). High-quality parent/guardian and teacher interactions also improve student performance (Izzo et al., 1999). In order to encourage stronger family partnerships, schools must be intentional in their efforts to involve them (Tran, 2014; Varlas, 2015) in order to increase confidence and positive feelings towards the school (Epstein, 1986; Green et al., 2007). Without families having a clear understanding of their role and influence on their student's education, there can be an imbalance of power between home and school (Ruppar & Gaffney, 2011). The success of telepractice intervention is dependent on a strong school-home partnership and a recognition that the parent/guardian is a powerful determinant of student success (Flores de Apodaca et al., 2015; Hattie, 2012; Hattie, 2009; Lucas, 2010; Clinton et al., 2007; Topor et al., 2010).

Review of the Literature

Leadership, Special Education, and Parent Partnerships

School culture is the social system that shapes the way individuals work and learn in an organization (Schlechty, 1997) and is influenced by the actions and interactions of the leader (Kowalski, 2000; Wallace Foundation, 2011). Effective communication skills of the principal are necessary for managing human relations and leading conflict resolution (Kowalski, 2000). A principal is vital in the special education process (DiPaola & Walther-Thomas, 2002). A school principal who values diversity and inclusion is vital to the special education process, by providing leadership for the programs. Beyond

prioritizing a culture of acceptance for all students, principals must understand the legal requirements for children with disabilities and support this obligation in actions, faculty expectations, and allocation of resources. One of the foundations of special education law is the expectation that parents/guardians are included as members of a school team and have decision-making rights (U.S. Department of Education, 2004). Principals need to model and expect school personnel to engage in two-way communication with parents/guardians (DiPaola & Walther-Thomas, 2002; Kowalski, 2000), and meaningfully involve them in special education planning for their child (Goor et al., 1997). As building leader, a principal helps define the purpose of the parent/guardian partnership, implement accountability measures, and balance the power between team members (Pinkus, 2005).

For school leaders committed to creating a culture of academic success for all students, Epstein suggests creating a team of stakeholders (action team partnerships) or seeking external support, such as the National Network of Partnership Schools, to guide development of community and family partnerships with schools (Epstein & Jansorn, 2004; Sanders, Sheldon, & Epstein, 2005). External support may include school surveys, such as the Measure of School, Family, and Community Partnerships, to evaluate if a school environment supports meaningful parent/guardian partnerships and to identify suggestions that can improve school culture (Salinas et al., 1999). Additional tools, such as the Organizational Climate Index (OCI) (Hoy, 2002), can be used to audit the culture and the preparedness of the leadership and personnel of a school to meet the needs of the students and families. Both instruments examine the readiness of school personnel to welcome and integrate parents/guardians into school operations and culture.

Effective principals believe all students can learn, all students belong equally in the school community, all educators are responsible for and capable of providing instruction to a wide range of learners, and that the principal holds a sense of accountability for every student's education (DiPaola & Walther-Thomas, 2002; Goor et al., 1997; Wallace Foundation, 2011). School administrators must demonstrate instructional leadership and develop an understanding of the individualized strategies and practices that meet the unique learning needs of children with disabilities (DiPaola & Walther-Thomas, 2002). Technology can be an effective tool in delivering special education services, and principals must be committed to supporting innovations that will benefit children with disabilities (Goor et al., 1997).

Technology in Education

Technology has secured a place in classrooms and has made an impact on how students learn and teachers instruct (del Camo et al., 2012; November, 2001). Advances in digital tools and online learning resources have required teachers to remain up-to-date on technology skills and expand their understanding of technology integration (Fabry & Higgs, 1997; Mitchell et al., 2016). Education's movement from use of a chalkboard in the late nineteenth century to the use of multimedia presentation and networks for research and learning in the twenty-first century has been dramatic (del Camo et al., 2012). Classroom instruction has changed in the last 100 years with the introduction of mimeographs, instructional television, the overhead projector, handheld calculators, desktop personal computers, the Internet, the interactive whiteboard, YouTube, personal response tools, tablets, and the iPad (Kharbach, 2014; Study.com, 2017).

There are a number of classroom teaching tools that have been replaced over time. Interactive whiteboards have replaced chalkboards. Document cameras that display both flat and dimensional objects have replaced the overhead and opaque projector. Televisions and video projectors that were once limited to movies and documentaries now allow for distance learning. Software, such as Microsoft Word and Powerpoint, has eliminated the electronic typewriter and slide projectors. Network resources with real-time information have eliminated much of the need for encyclopedias and other printed reference materials (Kharbach, 2014). Advances in technology call teachers to facilitate, rather than control, student learning (Mitchell et al., 2016; November, 2001). Student engagement has been shown to increase by moving from static sources of information provided by chalkboards and videos toward interactive, two-way communication using whiteboards and personal response devices (del Camoet al., 2012).

The introduction of MySpace in 2004, the launch of Facebook in 2004, then Twitter in 2007 established technology as a tool for human interaction through a virtual forum (Purdue University, 2017). Educators have introduced these platforms to communicate with students and/or groups of students to interact and collaborate with each other. Students today have been raised in a digital culture and expect schools to function in a similar manner (Mitchell et al., 2016). Technology offers students critical lifelong work skills that increase their flexibility as learners and create importance interdependence on others for success (November, 2001). Using individual devices and telecommunications software programs and platforms, individuals can share resources, dialogue in real or suspended time, create documents together and expand the capacity for group learning (Cavanaugh, 1999; Dudding, 2009). If distance-learning strategies are

developed appropriately by the teacher, the momentum toward a virtual classroom opens opportunities for flexible schedules, equity opportunity, and interactions with multiple levels of participants (Cavanaugh, 1999). Traditional instruction paired with telecommunications technology can supplement, augment, and enhance the learning experience in a cost-effective, yet meaningful way for the students (Cavanaugh, 1999).

Technology devices and software can link students, teachers, and families. School technology plans can guide the organization in their technology hardware purchases and in the integration of technology in classroom instruction and student learning (Cavanaugh, 1999; Fabry & Higgs, 1997; November, 2001). Schools can effectively integrate technology with small-scale efforts rather than large-scale technology reform, which can lack focus and purposeful outcomes (Means, 1998). The success of technology integration in the classroom is influenced by a teacher's attitude about technology use, the consistent availability of devices and internet access, and the level of technology training and technical support provided by the school (Fabry & Higgs, 1997; Means, 1998; Mitchell et al., 2016). When linking educators to one another, the expectation is that they will collaborate to share curriculum and resources and to develop consistent ways of providing feedback to students. Organizational structure must support knowledge and information as available and fluid between teachers, departments, grades, and parent/guardians (Fabry & Higgs, 1997; November, 2001). Linking families with school personnel through technology connects parents/guardians to the learning process as well. Schools should support this by ensuring families can borrow school devices and receive necessary training (November, 2001). Using technology to leverage learning, motivation and inquiry for student agency and prepare them for twenty-first century employment are

the successful outcomes of technology integration. (Fabry & Higgs, 1997; November, 2001).

Technology's place in education was solidified through federal and state legislation and is expected to be integrated into all parts of school operations (Fletcher, 2004). The No Child Left Behind Act (NCLB) and the more recent Every Student Succeeds Act (ESSA) address technology goals for student literacy and technology integration within the curriculum. This federal law also stipulates the application of research-based instructional strategies to meet the unique needs of all learners, including economically disadvantaged students, English Language Learners, minority populations, and students with disabilities (Nepo, 2017). The Ohio Department of Education added Technology Learning Standards for K-12 public schools in March 2017 (Ohio Department of Education, 2017). However, the presence and impact of technology in schools is not accurately defined by the availability of innovative devices and hardware, but how technology is used to connect educators, students, and families in seamless learning experiences (November, 2001).

Telepractice: Historical Perspective and Current Development

The Greek root word *tele* means distant or remote. When applied to the medical field, it is defined as providing practice over a distance (Houston et al., 2012). The use of telephone technology for patient health services and other patient care, often in remote locations, has been in existence since the early 1900s (Houston et al., 2012). This form of telehealth allowed doctors to crudely read electrocardiograms and consult with patients and other medical personnel over distances. Radios were used in the same period when doctors were advising emergency treatment to soldiers during times of war. In the 1950s

and 1960s, mental health facilities began using closed-circuit television to collaborate with hospitals on specific patient care. When the space program advanced with the use of telecommunications and the development of satellite technology, options for virtual services increased (Houston et al., 2012).

While the application of telemedicine was advancing, the cost of equipment was prohibitive. Over the last forty years, affordability of hardware components, development of user-friendly software, and improved broadband connectivity made the use of telepractice more practical. Access to services increased, therapist shortage was remediated, cost savings were realized through efficiencies of service, and the client progress enhanced through coordinated and flexible care. (Houston et al., 2012).

Application of Virtual Intervention in Professional Fields

The use of live, interactive video conferencing for treatment, assessment, and consultation is an established practice in various medical and health fields. Professionals interfacing with individuals across a distance have proven to be cost effective, timely, collaborative, flexible, and sustainable (Coleman et al., 2015; Cooper & Neal, 2014; Mashimima & Doarn, 2008; McCue et al., 2010). There are a number of professional organizations that support the growth of telepractice in the medical and health fields. The American Telemedicine Association, the International Society for Telemedicine, and the Association of Telehealth Service Providers are several examples (Dudding, 2009). The service-delivery model using telecommunications technology is referred to as telepractice, telemedicine, telerehabilitation, or telehealth (Denton, 2003). Telerehabilitation can also include clinical therapies such as occupational therapy, physical therapy, speech-language therapy, neuropsychology, and vocational services

(Brennan & Barker, 2008). In the mental health practice, it can be referred to as telemental health or telebehavioral health (Kramer et al., 2015).

In the speech and language practice, The American Speech-Language-Hearing Association identifies three types of delivery: synchronous, asynchronous, and hybrid. (ASHA, 2005). Synchronous therapy is real-time, interactive therapy that parallels a traditional side-by-side experience. An advantage of this approach is its cost effectiveness due to elimination of travel time and efficiency in creating schedules. With adequate bandwidth, it provides greater accessibility to those individuals in remote geographical locations (Dudding, 2009). Asynchronous telepractice is stored data or videos that can be viewed by the therapist at a later time. The advantages of this type include additional time to review progress or access treatment strategies for modeling and duplication. A hybrid delivery includes both face-to-face and distance intervention.

The use of telecommunications technology in professional fields has prompted the development of standards of practice and provider responsibilities that include sensitivity to cultural barriers, maintaining appropriate documentation, confidentiality of records, selection of students/families, and collaboration with other professionals (ASHA, 2005). The success of telepractice is dependent on the skill of the individual and the quality of the remote relationship established between therapist and student/family.

There are a limited, but growing, number of studies demonstrating that telepractice invention for students with disabilities results in similar student school success as traditional face-to-face therapy. Several studies evaluated the effectiveness of telepractice for speech and language services, such as communication, fluency, and voice

disorders. Telepractice can also be used to treat deficits in speaking, understanding, reading, writing, and swallowing (Mashima & Doarn, 2008; Theodoros, 2011).

Several research studies conducted by Grogan-Johnson support the effectiveness of a telepractice model for speech and language disorders. In one study the progress of 71 school-age students who qualified with a disability in the area of speech and language was monitored using a standardized assessment. The findings showed that the students progressed with telepractice services similarly to the success expected using side-by-side therapy (Gabel et al., 2013). In a similar study, using a pre- and post-articulation assessment, speech therapy was provided either by live interactive videoconferencing, or side-by-side intervention. It was shown that there was no significant difference between service models with respect to student progress (Grogan-Johnson et al., 2011). Further research by Grogan-Johnson indicates the progress of fourteen school-age students with sound disorders who received virtual services during the summer was similar to the expected progress of side-by-side therapy (Grogan-Johnson et al., 2013).

For other speech and language disorders, specifically for young children with hearing loss, telepractice intervention was also found to be promising. A study of fourteen students from seven schools who lived in a geographically remote area received special education-related therapy using a telepractice program. The therapy received proved to be equivalent to services available in more metropolitan areas (Richardson, 2012).

Telepractice technology as a special education intervention is gaining attention but is a new field of study and requires additional research (Edwards et al., 2012). There are fewer studies available using telepractice services for students who qualify for

services other than speech and language. However, in research by Vismara, McCormick, Young, Nadhan, & Monlux (2013), eight families with children identified as autistic used two-way video conferencing and a telepractice model over a twelve-week period. Weekly virtual intervention sessions, ongoing parent coaching, and a software platform that included message boards, photos, and a resource library supported the telehealth module. Student improvements were noted and parent satisfaction was rated high in their increased ability to help their child learn new skills in the home (Vismara et al., 2013). Research by Ashburner, Vickerstaff, Beetge, & Cooper (2016) used semi-structured interviews with four families in a rural area whose children with autism received early intervention through a telepractice program in the home setting. The parent coaching and training model focused on the transfer of learned skills into home routines. A progress comparison was made between children receiving virtual intervention and face-to-face services. The findings suggest that telepractice should supplement face-to-face services due to the inconsistent quality and challenges associated with the technology (Ashburner et al., 2016).

Research by Davis, Hopkins, and Abrahams (2012) found the telepractice model to be a low cost, accessible, and reliable form of services. The feedback of 300 families indicated that telepractice intervention was effective for student services and family workshops. Although families preferred that virtual programming be supplemented by face-to-face contact, providing therapy in the natural, home environments supported authentic transfer of skills (Davis et al., 2012). An additional study examined user satisfaction with twenty-three participants, including teachers, parents, and administrators who completed a Likert-scale survey. Findings indicate that though there was satisfaction

with side-by-side therapy, the telepractice model shows potential as an effective service model (Crutchley & Campbell, 2010).

With the quality of services being validated in the literature, it is expected that use of telepractice will continue to expand and link students with not only speech and language therapy, but occupational therapy, physical therapy, and special education teachers for the purposes of intervention, consultation, or assessment. The telepractice model holds potential in the school setting as a tool to connect IEP teams with families as they work together to support student learning (ASHA, 2005; Brennan & Barker, 2008; Denton, 2003; Houston et al., 2012; Kramer et al., 2015; Mashima & Doarn, 2008).

In order for the virtual interventions to be successful, the technology and applications of digital videoconferencing (DVC) must be thoughtfully considered. The three categories of video conferencing are desktop, group conferencing, and broadcast conferencing. Group conferencing DVC is most applicable to the telepractice model because it allows for real-time interaction between participants (Dudding, 2009). The correct technology hardware can enhance the quality and dependability of the telepractice model. The software products are critical for usability by the provider and student/family, but software considerations are also critical in ensuring safe and legal transmission of data. The student outcomes using telepractice support can be further realized with the continued advancement of affordable technology, software innovations, high-quality secure platforms and broadband accessibility.

Technology training. Technical support and training needs to be available for both the family and the professionals for telepractice to be successful (ASHA, 2005; Ashburner, Vickerstaff et al., 2016; Brennan & Barker, 2008; Meadon et al., 2016;

Theodoros, 2011). Telecommunications technology will develop and improve over time, and providers must be committed to ongoing professional development (Neely, Rispoli, Gerow, & Hong, 2016). Services delivered remotely require professionals to consider factors beyond the therapeutic intervention provided. Professional services delivered via technology require users to understand the distance-technology features, adapt to the nuances of virtual communication that differ from side-by-side therapy, and recognize that implementation in the home environment rather than the school environment may impact parent comfort level (ASHA, 2005; Brennan & Barker, 2008; Guðmundsdóttir et al., 2017). Ongoing communication, technical assistance, and professional training between the school teams, families, and other users will safeguard the future potential of this service delivery model.

Hardware varieties. Video communication equipment used in telepractice for real-time interaction includes personal videophones and videoconferencing hardware. Video-conferencing tools such as cameras, microphones, display monitors, recording devices, laptops, and smartphones are used (ASHA, 2005; Dudding, 2009). A typical set-up for a synchronous telepractice program include videoconferencing equipment at the hub or location of the therapist, a flat-panel monitor, a stereo sound audio system for sound amplification with a high quality microphone, and a document camera. An enhancement of the interaction could be accomplished through high definition (HD) feature, where the camera can zoom in all directions, and a picture-in-picture option (Crutchley & Campbell, 2010; Dudding, 2009). Visual clarity allows for more precise modeling and more targeted intervention.

Software and program varieties. The software platforms vary between programs but common features include secure web-based programs with real-time interaction capabilities and custom features such as dashboards, touch screens, and text chats (Hopkins, Keefe & Bruno, 2012; Mashima & Doarn, 2008). A combination of in-person and distance technology is a hallmark of effective service delivery (Hopkins et al., 2012).

Improvements have been made in technology devices, software features, and broadband connectivity, however, telepractice can still present barriers to implementation (Houston et al., 2012; Theodoros, 2011). Confidentiality of student records is paramount to the feasibility of telepractice as a service model; therefore, the necessary web-conferencing model must be software-based to ensure encryption. Public domain web conferencing does not provide the necessary levels of security for IEP services (ASHA, 2005; Kramer et al., 2015). Other security options such as passwords, use of a private network, and hardware and software firewalls should be evaluated when purchasing a software application.

Additionally, it is important to select hardware and connectivity options to provide for the confidentiality of the school/health record. Important security options include encryption of data in transit and at rest and certification of a secure link between the server and browser (Kids Uncomplicated, 2016). These confidentiality requirements are outlined in state and federal law and are equal to the requirements for traditional side-by-side therapy (U.S. Department of Education, 1974; 2013). Informed consent from the parent/guardian outlining the protocol and equipment unique to telepractice therapy as opposed to school-based therapy is recommended (ASHA, 2005). Examples of

operational telepractice providers, such as PresenceLearning, TinyEYE, Kids Uncomplicated, and others have addressed the legal implications of telepractice. They use everyday technology such as cameras, smartphones, computers and tablets, but with specially designed, secure software applications such as dashboards, touch screens, and text chats (Richardson, 2012; Ryan, 2015).

Ethical and Legal Issues in the Use of Telepractice

The telepractice model allows for greater availability and flexibility of professional medical, mental health, and school-related intervention. However, the effective and expanding application of virtual services have increased regulatory requirements including licensure, security, privacy, and cost reimbursement (Davis, 2014; McCue et al., 2010). Professional organizations in the field, such as the Ohio Psychological Association, the National Board for Certified Counselors, and the Division of Psychotherapy of APA have developed guidelines for technology-based services. Professional development in technology use and its implications for clients—obtaining informed consent for telepsychology services, adhering to confidentiality requirements and ensuring security, and the disposal of data—has been developed to guide professionals in the legalities of virtual intervention (Cooper & Neal, 2014).

Therapist considerations. One of the values of a telepractice model is the ability to service or supplant therapeutic services remotely. The attitude of a therapist and their perspective on the legitimacy of the telepractice service model can be a deterrent to its growth in mainstream practices (Theodoros, 2011). Despite the obvious efficiency and accessibility, some clinicians are uncertain of its quality and the impact on the relationship with the student/family. The varying technology skill levels of users,

informed-consent procedures, collaborations with other professionals, and limited feedback (such as body language and eye contact) are weaknesses identified by some professionals (Cooper & Neal, 2014; Mashima & Doarn, 2008; Otte, Bangerter, Britsch, &Wüthrich, 2014). Some therapists may regard side-by-side intervention as the best-practice model and will need further evidence and exposure to virtual intervention to adjust their professional opinion (Theodoros, 2011).

The shortage of qualified therapists in some areas can be remediated through virtual treatment models. In the United States, there are six million children who receive special education services (U.S. Department of Education, 2016). The combination of a growing population of identified students and a limited number of therapists to fill the open positions has resulted in a professional shortage in some areas. By 2020, there will be a shortage of almost 15,000 school psychologists in the U.S., and 49 states reported a shortage of special education teachers/related service personnel for 2013-2014. Rural areas and high-poverty districts face the greatest shortages (Crutchley & Campbell, 2010; Ryan, 2015; The National Coalition on Personnel Shortages in Special Education and Related Services, 2014). The telepractice model can mitigate therapist shortages by removing travel time, increasing caseloads and flexibility for therapists by allowing part-time hours and working from home (Mashima & Doarn, 2008; Ryan, 2015).

Telepractice has no geographic boundaries and potentially all services may be delivered virtually. While across-state services and licensing has minimal effect currently on traditional face-to-face intervention and local IEP teams, it is worth noting that a large expansion of telepractice could pose problems if out-of-state experts are part of a professional telepractice team for families. Licensing in the United States is regulated by

state boundaries. While the expansion of telepractice services could increase caseload efficiencies and potentially avert the therapist shortage problem faced by school districts, identifying qualified professionals and licensing requirements can be prohibitive. The state where the student resides determines licensing requirements. Out-of state vacations, moves, or college attendance are examples of licensing conflicts that could negate the flexibility of the professional to provide telepractice service (ASHA, 2005; Houston et al., 2012; Theodoros, 2011; Denton, 2003; Coleman et al., 2015). Professional organizations such as the Federation of State Medical Boards, the Association of State and Provincial Psychology Boards, and the National Council of State Boards of Nursing have identified the need for greater versatility in licensing for telepractice purposes (Kramer et al., 2015).

Student/Parent considerations. As telepractice continues to develop as a viable service for remote locations, as a solution to mitigate the shortage of available therapists, and as a strategy to supplement side-by-side therapy, telepractice services are shaped by the human user. Age, education, type of disability, treatment space, technology, and technology training are factors in determining the appropriateness of virtual intervention (Brennan & Barker, 2008). As technology and software advances, the development of telecommunication dashboards may standardize and improve the overall telepractice software systems for more user-friendly access (Brennan & Barker, 2008).

The American Speech-Language and Hearing Association has developed guidelines for the selection of individuals or families who might benefit the most from this service-delivery model (ASHA, 2005). The school or therapist needs to consider physical, cognitive, behavioral, and communication characteristics and student support

resources (Mashima & Doarn, 2008). Physical characteristics might include tolerance for sitting, visual acuity, and hearing ability to interact in a telepractice session. Cognitive and behavioral issues that could interfere with virtual intervention include attention span and understanding of directions. Speech intelligibility, cultural variables, and auditory comprehension weaknesses could compromise the effectiveness of telepractice therapy. Availability of technology, access to internet, and the ability of the user to troubleshoot technology glitches are examples of other barriers in the successful use of telepractice. However, the growing population of technology-savvy students and their families could minimize future technology barriers that might exist today (Ryan, 2015).

The environment or proposed location of the telepractice must also be considered to maximize the effect of the intervention. Attention to comfort of the environment, privacy, limited distractions, and safety require considerations that are unique to a telepractice service. While homes are often the setting for telepractice, schools can also be the location of services. In this situation, the therapist is in a remote location but can address the needs of many students sequentially or in a small group session (Grogan-Johnson et al., 2011).

By design, the use of distance technology can create professional boundary issues that require consideration (Drum & Littleton, 2014). A positive feature of telepractice is its flexibility in frequency, time, and location. However, that flexibility is somewhat unregulated and may create unanticipated boundary issues between parent/guardian and therapist (Drum & Littleton, 2014). For instance, the flexibility of service can foster more casual and synchronous interactions between student/family and therapist (ASHA, 2005). More casual dress, non-office settings, and background noises can all contribute to a less-

than-desirable professional relationship. In asynchronous telepractice, the professional relationship can be comprised by the timing and frequency of the communications and responses. Multiple communication exchanges in short periods of time, throughout the day, can insinuate a more casual relationship. Additionally, the use of language, emoticons, and punctuation could also create a tone more representative of a friendship. Using technology more often associated with social and personal relationships, such as video conferencing and instant-chat (potential for communications occurring at all times of day), may jeopardize boundaries more easily than in traditional face-to-face sessions (Drum & Littleton, 2014). These are challenges not typically associated with traditional, school-based therapy.

Legislative considerations. Clarification of the clinical boundaries of telepractice sessions may include professional conduct, time and frequency of service, location/environment of service, length of sessions, and payment if applicable (Drum & Littleton, 2014). Most critical however, may be the confidentiality requirements of data transmission that are unique to the telepractice model (Denton, 2003; Kramer et al., 2015). Public law stipulates that health care providers must safeguard electronic transmission of Personal Health Information (PHI) and client data (Cohn &Watzlaf, 2011; U.S. Department of Education, 2013); fines have increased for violations of health record confidentiality (Kramer et al., 2015). Organizations can benefit from commercially produced HIPAA compliance checklists to ensure software platforms meet confidentiality and privacy requirements features as many students with disabilities have health information/diagnoses that might be relevant to school interventions (U.S. Department of Education, 2013).

Student records. The Family Educational Rights and Privacy Act (FERPA), also known as the Buckley Amendment, protects the educational records of students until they reach the age of 18 (U.S. Department of Education, 2015). Student records maintained by schools are considered an educational record. This may include information recorded through handwriting, print, computer media, video or audiotape, film, microfilm, and microfiche (National Center for Educational Statistics (NCES), n.d.). Therefore, electronic telepractice records would be protected under this law. Although FERPA does require the release of identifiable information to some organizations such as the State Department of Education, written permission is required before self-identifying information is released to a third party. Information such as gender, age, ethnicity, test scores, and disciplinary actions are examples of protected records. General directory information may also be released without permission, though schools are obligated to inform parents/guardians of this disclosure (U.S. Department of Education, 2015; National Center for Educational Statistics, n.d.).

Reimbursement. The federal Medicaid program for low-income families manages reimbursement allowances at the state level. Medicaid funding is of fiscal interest to a school district. School districts access Medicaid funding for eligible children with disabilities to supplement the limited funding available for special education services. While telepractice has been accepted by some states as reimbursable, many states are reviewing telepractice as an allied health service and Medicaid program eligibility (Coleman et al., 2015; Theodoros, 2011). If a therapist is not paid directly by a school district, and private pay is required, many health insurers now include telepractice in their coverage (ASHA, 2005).

Risk management. Risks associated with student services or supervision must be considered when developing a telepractice model. Telepractice, when delivered in an unsupervised setting, such as the student's home, presents risks that also must be addressed. Risks such as the competency of the provider and confidentiality can be issues, and careful construction of the professional contract should be emphasized to protect educational data and services (Davis, 2014). Although not typical for school services, exposure to the home setting may also reveal family emergencies. Depending on the type of therapy, such as behavioral or emotional, a professional may be witness to a situation that might require emergency service. It would be appropriate for schools or agencies to create a safety plan or emergency protocol for virtual services (Kramer et al., 2015).

Social justice considerations. Telepractice can be also examined through an equity perspective. There are 6.6 million students, or 13 percent of all students enrolled in public school, receiving special education services. In the 2016 Annual Report to Congress on the implementation of IDEA only 42 percent of students with disabilities graduated with a high school diploma in 2013 (U.S. Department of Education, 2016). In Ohio, on the 2015-16 State Report Card, over 230 out of 608 school districts received a letter grade of D or F for student growth in the "students with disabilities" subgroup. In this same report card, in the areas of English Language Arts and Mathematics, 526 districts did not meet the gap-closing benchmarks for subgroup populations, including children with disabilities (Ohio Department of Education, 2017). There is potential for telepractice intervention to boost the performance and growth for students with disabilities.

A Harvard University project, Redesigning Education to Restore Opportunity (Education Redesign Lab, n.d.), examined the impact of standards-based reforms on student success. Established learning expectations had a positive impact; however, the project noted learning gaps in subgroup populations, including students with disabilities and economically disadvantaged. Without purposeful educational support beyond the school day, the gap for some students will not close (Superville, 2016). Virtual intervention can create a more personal connection between home and school and be enhanced through the selection of a therapist who understands the culture and language for a more trusting relationship (Canadian Association of Speech-Language and Audiologists, 2006; Davis, 2014).

In 2015, only 54% to 75% of students ages 5-18 had access to internet at home (National Center for Educational Statistics, 2017). The Federal Communication Commission recently voted on a subsidy program, Lifeline Beyond, to provide broadband access and phone service for low-income families. (Kang, 2016). Poorer and rural school districts face discrepant technology resources compared to wealthier districts (Dolan, 2016; Fabry & Higgs, 1997). Telepractice providers must consider the skill set of economically disadvantaged families who have not had the benefit of technology access in their daily lives. Families may need assistance with not only the function of technology devices, but they may need assistance with the practices of technology (Dolan, 2016; International Literacy Association, 2017). The emphasis on technology training may not only be necessary between the school team and parent/guardian, but also between the parent/guardian and student (DeGennaro, 2010; Dolan, 2016).

The ESSA (U.S. Department of Education, 2015) uses funding incentives to support students with disabilities. An additional legislation, the Technology-Related Assistance for Individuals with Disabilities Act in 1998, earmarked funds specifically for special-education programs. Congress defined technology in the Act and embedded parameters directly into IDEA language that clearly communicates the broad requirement to incorporate any technology or related service that would improve the capabilities of a student (U.S. Department of Education, 2004; Nepo, 2017).

Effectiveness of a Telepractice Service Delivery Model

The introduction of telepractice in the field of special education has produced promising results for individuals with disabilities (Davis et al., 2012; Coleman et al., 2015; Edwards et al., 2012; Gabel et al., 2013; Grogan-Johnson et al., 2011; Mashimima & Doarn, 2008; Richardson, 2012). A growing number of professional organizations, including the American Occupational Therapy Association and the American Speech-Language-Hearing Association have supported the use of telepractice as a sound method of service delivery (Edwards et al., 2012). Additionally, the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) has formally recognized the use of telecommunications for services delivered across a geographic distance. Their rationale for increased support for telepractice includes advances in technology, ease of communication and collaboration, capacity for providers using a multidisciplinary approach to services, coaching parents/guardians for increased modeling and carryover of skills, and the associated efficiencies of distance and cost. Travel, weather, and family schedules can disrupt services, therefore telepractice allows for more frequent access to therapy (CASLPA, 2006).

Limited, but promising, evidence exists of successful school speech-language assessments (Waite, Cahill, Theodores, Bussuttin, & Russell, 2006) and services through distance technology (Crutchley & Campbell, 2010; Gabel et al., 2013; Grogan-Johnson et al., 2011; Grogan-Johnson et al., 2013; Theodoros, 2011; Vismara et al., 2013). A combination of distance services and side-by-side services might be most effective (Hopkins, Keefe, & Bruno, 2012; Vismara et al., 2013), though in-person therapeutic interaction may be more challenging for occupational and physical therapy services (Theodoros, 2011).

Services provided across distance with or without traditional face-to face therapy can occur in a therapeutic, school, or home setting. Learning experiences that are conducted in a natural environment increase student interest and outcomes (Dunst, Bruder, Trivette, Hamby, Raab, & McLean, 2001; Hamren & Quigley, 2012) with parents/guardians being most satisfied when new skills can be applied to home routines (Vismara et al., 2013).

Technology-related challenges identified by school teams as interfering with the success of the telepractice model include login errors, difficulty in uploading videos, and downloading documents. Parent/guardian issues are related to concerns in posting baseline videos and negative student responses to being videotaped (Kids Uncomplicated, 2016). Strategies to mitigate the challenges include cloud-based video sites, a more streamlined dashboard with greater navigation ease, live links to access resources, a login prompt, a searchable video library, a helpline for technology troubleshooting, and software improvements to allow for larger files (Kids Uncomplicated, 2016). Increased coaching support for families on targeted technology training and individualized support

for parents/guardians on specific techniques and strategies for home carryover were also considered to improve the telepractice experience and outcomes (Kids Uncomplicated, 2016; Theodoros, 2011).

Parent Coaching using Technology

While the discussion regarding telepractice use has centered around access, time, cost, and comparability to side-by-side service, telepractice as a strategy to increase the quality of the partnership between home and school can yield significant academic outcomes for students with disabilities. The U.S. Department of Education's 1994 report "Strong Families, Strong Schools" reported that 30 years of research on family involvement affirm the significant role of families in school success (1994). However, parents/guardians are not involved sufficiently to impact student success (Epstein et al., 2002). Schools need a purposeful plan to involve parents/guardians in their child's readiness, attitude, motivation, and progress. (Epstein et al., 2002). Considering the challenges associated with closing the academic gaps for students with disabilities, leveraging the relationship with families could positively alter the current performance trends (Harmren & Quigley, 2012).

Parents/guardians can be active and invaluable partners in the telepractice model for students. Therapists are recognizing the benefits of replacing or supplementing traditional side-by-side therapy with virtual intervention as a strategy to increase family capacity in meeting the educational needs of their child. The telepractice model has the potential to increase student skills by modifying parent/guardian behavior through teaching in-home intervention techniques (Meadan, Snodgrass, Meyer & Fisher, 2016; Guðmundsdóttir et al., 2017; Vismara et al., 2013; Wainer & Ingersoll, 2015). Using

remote guidance and modeling from therapists, families can replicate techniques, increase practice opportunities, and facilitate the transfer of skills into the home environment. The school therapist or educator may provide direct service, assessment, or parent/guardian coaching by modeling specific intervention techniques. (Harmren & Quigley, 2012).

In a study that examined the use of telecommunication technology with three parent/guardians of infants and toddlers in their home, the telepractice model was successful in coaching parent/guardians in communication techniques. The coaching model used proved effective and included an observation of the parent/guardian implementing the strategy with the student and post-observation feedback to the parent/guardian on adjustments to the techniques used (Meadan et al., 2016). Learning experiences that are conducted in a natural environment increase student interest and outcomes (Dunst et al., 2001; Hamren & Quigley, 2012). Role release from a therapist to parent/guardian builds family capacity for ongoing intervention (Kids Uncomplicated, 2016). Guiding families to provide intervention within the home bolsters student success through direct applicability and generalizability of the skills being addressed (Dunst et al., 2001; Hamren & Quigley, 2012; McCue et al., 2010). Skills with real-world application and that have personal meaning to the individual lead to deeper and more complex learning (Schlechty, 2011).

Access to high-speed internet, familiarity with technology, motivation, and time to participate are potential barriers to a parent/guardian-coaching model (Meadan et al., 2016; Guðmundsdóttir et al., 2017). If barriers to its success cannot be adequately resolved, telepractice would be more effective as a supplement to direct services due to

the inconsistent quality and challenges associated with the telecommunications technology (Ashburner, Vickerstaff, Beetge, & Copley, 2016).

Special Education Requirements for Parent Partnerships

The rights of students with disabilities, and their parents/guardians, are protected in numerous ways by the federal law (U.S. Department of Education, 2004), with additional stipulations that regulations diminishing parent/guardian involvement in the IEP and eligibility process may not be altered (Samuels, 2017). As a decision-making partner with the schools, parent/guardian will continue to be required to consent to evaluations, placement, and services (Burke & Sandman, 2015).

The law requires school districts to evaluate students suspected of having a disability for eligibility in one of thirteen established categories. If a student is found eligible, they are entitled to receive a free, appropriate public education (FAPE) at no cost to the family. An Individualized Education Plan (IEP) is developed indicating frequency, duration, and scope of special education and/or related services. Students are also entitled to receive educational services and supports in the least restrictive environment (LRE). Parent/guardian participation is an integral part of IDEA and is expected to occur throughout the eligibility, evaluation, program development, and placement process. The IEP process is designed to have parents/guardians present and active members of the IEP team (Burke, 2013; U.S Department of Education, 2004).

The law does not include expectations for parents/guardians to be involved in policy or programmatic decision-making, and therefore, the parent/guardian role may at times be viewed more as compliance versus active involvement in their child's school experience (Harry, Allen, & McLaughlin, 1995; Tucker & Swartz, 2013). Barriers to

parent/guardian involvement include a perceived power imbalance between schools and families, not being fully aware of their rights, and feelings of incompetency regarding school-related matters for their child (Burke, 2013). To increase understanding about special education terminology, there is parent/guardian support for legislators providing more explicit language in describing services and support in the IEP (Burke & Sandman, 2015). Some families do not feel they are truly part of the decision-making process for their student (Katsiyannis & Ward, 1992; Stoner & Angell, 2006; Tucker & Swartz, 2013) and their rights as parents/guardians have not been fully communicated to them (Katsiyannis & Ward, 1992). In these situations, it is not uncommon for parents/guardians to seek outside support from advocacy organizations to ensure their rights in the IEP process are protected (Burke, 2013).

Parents/guardians have substantial legal recourse when they perceive their rights have been negated as a team member in decision-making for their student with a disability. Decision-making disagreements related to denial of FAPE and parent/guardian participation are most the adjudicated special education complaints, and rulings are often in favor of the parent/guardian (as opposed to procedural complaints, which typically favor the school district) (Zirkel, 2007). The courts have affirmed the expectation of parent/guardian involvement in decision-making for children with disabilities in a recent Supreme Court case where the standard of educational benefit for students with disabilities was addressed. The Supreme Court ruled in favor of the parent/guardian and advocated for educational programs that were "substantially equal to the opportunities afforded children without disabilities". (Endrew F. v. Douglas County School District, 2017). This case underscores the legal rights of parents/guardians and the expectation that

families and schools work together to develop rigorous IEPs for students with disabilities. With respect to parent/guardian-school trust, and costly litigation for disagreements, it is most critical for districts to invest in positive relationships with families (Zirkel & Hetrick, 2017).

The Individualized Education Plan (IEP) Team

The Individualized Education Plan (IEP) is a tool for school and home to collectively determine the needs of a student, establish learning outcomes, and identify services that will support the student in the learning process. The required components of an IEP and the expectations for school and parent/guardian involvement are legislatively outlined in IDEA (2004). Team members have various roles and influences (Pinkus, 2005; Ruppar & Gaffney, 2011), but the IEP intent and collaborative process have a capacity to meaningfully guide student success (Hartmann, 2016).

There are a number of challenges inherent in IEP team design that may compromise the quality of interactions and effectiveness of the IEP process. For example, the required participants in an IEP meeting can result in an unwieldy team, which can make consensus-building difficult to accomplish. Additionally, annual turnover of team members can interfere with student transitions from grade to grade or to new programs (Ruppar & Gaffney, 2011). Teacher attitudes, beliefs, or experiences influence how IEP services should be delivered or how goals are prioritized (Hartmann, 2016). Team members can also assume various roles and hold varying levels of influence in the decision-making.

Hartmann's (2016) research examined team communication and interactions of two elementary IEP teams over the course of the year. Hartmann identifies four levels of

meeting participants and uses these levels to clarify the dynamics and functionality of IEP teams. The levels include (a) core members who are key members of the team; (b) integrated members who attend and participate; (c) intermittent members, who attend meetings occasionally and have a limited role, and: (d) disconnected team members, who are present but not engaged. Her findings suggest that the most impactful IEP collaboration occurs outside of the annual meeting, in more informal, focused, and ongoing conversations with core team members. Everyday practices such as meetings, calls, casual conversations, and emails can build trust between school personnel. Team division can occur when parents/guardians, administrators, and therapists are not included in these informal conversations and in instructional decision-making (Hartmann, 2016; Weaver & Ouye, 2015).

Some external characteristics of an IEP meeting can support the cohesiveness of the process and trust between participants. Sharing an agenda in advance; selecting a facilitator; implementing a turn-taking protocol; selecting a space with sufficient space, seating, and lighting; and attempting to limit the size of the participant team may create a more inclusive team meeting (Ruppar & Gaffney, 2011; Weaver & Ouye, 2015). The legal requirements establish and guide the activities of an IEP team, but the team dynamics, such as roles, responsibilities, power distribution, and communication exchanges, are powerful influences in the decision-making process (Pinkus, 2005; Ruppar & Gaffney, 2011).

Perceptions of Parents Regarding Participation on IEP teams

There is a need for educators to involve parents/guardians as partners in the IEP process. Overt levels of partnering include attending meetings, communication through

notes and phone calls from the special education teacher, and being informed of student progress. Research by Spann, Kohler, & Soenksen (2003) examines the perceptions of parents regarding their role on the IEP team. Phone interviews, using a fifteen-question protocol, were conducted with 45 midwestern families with school age children with autism. The findings revealed that the parent/guardians perceived that the school was not addressing the most important needs of the students. Working closely with the IEP team allows all parties to share priorities for student goals (Hartmann, 2016; Ruppar & Gaffney, 2011; Spann et al., 2003).

Parents/guardians perceive that their role is not significant and their input secondary to the school team when IEP meetings are scheduled at times more convenient to school personnel than parents, when IEPs are written before the meeting, and when educational jargon is used during IEP discussions (Pinkus, 2005; Rupper & Gaffney, 2011; Weaver & Ouye, 2015). Sensitivity to family and cultural values, building trust between home and school with a relationship approach, and empathy toward raising a child with disabilities are proactive suggestions for relationship-building between all team members (Weaver & Ouye, 2015).

Parent/guardian involvement is explicit in the law (U.S. Department of Education, 2004) when referring to mandated meetings, written consent for services and eligibility, and measures of parent/guardian involvement such as homework help and attending school events. Examples of more subtle influences of parent/guardian involvement are reflected in the communication, relationships, and expectations shared between home and school (Flores de Apodaca et al., 2015; Jeynes, 2010; Topor et al., 2010; Yotyodying & Wild, 2016). Schools benefit from involved parents/guardian who have an understanding

of their student's needs and a strong relationship with their student. Parent/guardian involvement is one way to influence student motivation, confidence, and persistence in the learning process (Gonzalez-DeHass et. al, 2005). Schools may increase parent/guardian involvement with efforts in creating a welcoming environment that values the role of parent/guardian in the school to raise the achievement of all students. This can be accomplished through communication and expectations between home and school. Teachers can create a welcoming culture by emphasizing parent/guardian involvement in ways beyond helping with academic work (Jeynes, 2010).

Perceptions of School Personnel Regarding Parent Participation on IEP teams

Parent/guardian participation as an IEP team member may vary based upon their belief system regarding school involvement and their perception of the school's interest in having them participate (Blackman & Mahon, 2016; Green et al., 2007; Hoover-Dempsey & Sandler, 1997). Often, educators believe the home-to-school partnership is important, but schools in general do not actively develop this relationship (Becker & Epstein, 1982; Bezdek, Summers, & Turnbull, 2010). Professionals may not recognize the ideal level of parent engagement or what actions are needed to accomplish this involvement. At times, professionals may blame the family or student issue for lack of parent/guardian involvement (Bezdek et al., 2010). School practices can encourage or discourage parent/guardian involvement, but external factors can also hinder a parent/guardian commitment to the IEP process. Issues outside of school, such as lack of homework support, the level of parent/guardian education and skills, the parent/guardian's emotional ability to cope with their student's disability, financial situations, and work schedules can interfere with a strong home and school connection

(Blackman & Mahon, 2016; Green et al., 2007; Hoover-Dempsey & Sandler, 1997). By investing in the relationship with families, schools can build trusting and collaborative teams. Examples are training teachers in strategies for working with parents/guardians and developing awareness of unique challenges faced by families with a student who has a disability (Tucker & Swartz, 2013).

Supporting parents/guardians in their efforts at home to help prioritize learning may call for schools to connect families to community-based organizations. Such organizations can become a resource for families as they empower parents/guardians to support student learning and coordinate efforts between home and school (Lopez, Kreider, & Coffman, 2005; Sanders et al., 2005). In any type of parent/guardian-school-community partnership, coordinated efforts on behalf of student learning must be intentional, planned, and sustained for meaningful collaboration (Epstein & Jansorn, 2004; Tran, 2014; Varlas, 2015). When parents/guardians and professionals work to understand and respect each other's perspective, IEP teams can move toward greater trust, mutual support, and student achievement.

Parent Trust and Team Dynamics in Special Education

The legal requirements establish and guide the activities of an IEP team, but the team dynamics, such as roles, responsibilities, power distribution, and communication exchanges, are powerful influences in the decision-making process (Pinkus, 2005; Ruppar & Gaffney, 2011). Parents/guardians and educators often do not understand each other's goals and expectations for involvement (Sanders et al., 2005). Collective trust is the context in which school initiatives are marked by mutual honesty, transparency, and reliability amongst stakeholders and plays a critical role in the advancement of school

and home cooperation. Low levels of relational trust between home and school can negatively impact academic effectiveness and has the potential to damage instructional initiatives designed for student improvements (Adams 2013; Adams, Forsyth & Mitchell, 2009; Forsyth et al., 2006). Frequent opportunities and expectations to interact cultivate trust. Trust can connect isolated efforts of home and school into a partnership where each is dependent on each other, with expectations and responsibilities mutually understood (Adams et al., 2009). If the school culture prioritizes academic achievement, trust, and collaboration between parent/guardian and school personnel, they will work in support of each other for a shared purpose (Adams & Forsyth, 2006; Adams et al., 2009; Hoy, 2012; Sweetland & Hoy, 2000).

Trust and collaboration are facets of a healthy and sustainable school-parent/guardian relationship and represent the quality of the interactions over time between both entities. Professional competence, communication, commitment, equality, and trust are present in collaborative partnerships between home and school (Turnbull, Turnbull, & Kyzar, n.d.). Parent/guardian IEP concerns, such as lack of inclusion opportunities, increased learning gaps, and negative labeling of their child, contribute to feelings of disconnection on the school team. Timeline violations for meeting notices, time limits on scheduled meetings, use of educational jargon, and overemphasis on documents rather than communication can also impact parent/guardian trust (Harry, Allen, & McLaughlin, 1995; Tucker & Swartz, 2013). Perceived barriers to trusting relationships between home and school include: having insufficient opportunities to provide input into their student's IEP, intermittent communication, lack of caring by the educators, lack of knowledge about their child's disability, limited services availability,

and school climate (Angell et al., 2009; Tucker & Swartz, 2013). Finalizing drafts of IEPs prior to the scheduled meeting, devaluation of outside expert information, and not understanding the importance of family life and values when developing IEP goals can also interfere with trust-building (Tucker & Swartz, 2013).

Parents/guardians see their roles fluctuate on the IEP team, depending on the level of trust in school personnel. Trust is influenced by parent/guardian perception of teacher competency, school priorities, teacher follow-through on promises, and expression of caring about their child's success (Angell et al., 2009; Mueller & Buckley, 2014; Stoner & Angell, 2006). Research by Stoner & Angell (2006) identifies four roles parents assume in the IEP process. Depending on the level of trust, parents/guardians can see themselves as a negotiator, a monitor, a supporter, or an advocate. As a negotiator, the parent/guardian works for a specific outcome by being prepared to justify their requests and using trusted individuals to advise them in this role. As a monitor, the parent/guardian uses IEP meetings, conferences, volunteer time in the classroom, communication notebooks, and changes in their child's behavior to make certain of program quality. As a supporter, the parent/guardian offers encouragement to the teacher through attendance at events or follow-through techniques at home. As an advocate, the parent/guardian participates in outside political or organizational efforts on behalf of other families or related causes (Stoner & Angell, 2006). Parent/guardian involvement is dynamic and roles co-exist and change depending on relationships with the team and the situation being addressed. Collaborative efforts and the manner in which team disagreements are managed are impacted by the relationship held between the parent/guardian and the school personnel. A restructuring of the IEP process to create a

more problem-solving approach might resolve parent/guardian and school conflicts in a collaborative manner (Mueller & Buckley, 2014).

Parent Coaching in Special Education Techniques

Students benefit when parents/guardians are actively engaged in the learning process (Flores de Apodaca et al., 2015; Hattie, 2012; Lucas, 2010; Clinton et al., 2007; Topor et al., 2010). Coaching parents/guardians in ways to become engaged in student learning include a focus on their capabilities (skills and knowledge), connections (networks), cognition (beliefs, values), and efficacy (Patrikakou, Weissberg, Redding, & Walberg, 2005). Using research-based strategies introduced by the school team, the coaching model guides parents/guardians to specifically assist their student with targeting and transferring learned skills into their natural setting (Harmren & Quigley, 2012). The role of the parent in student success requires not only student engagement in a meaningful task, but is dependent on the ability of a parent/guardian to stimulate that engagement (Doctoroff & Arnold, 2017).

Telepractice is a useful tool in parent/guardian coaching for student learning in the home environment (Dunst et al., 2001; Hamren & Quigley, 2012; Meadan et al., 2016; Guðmundsdóttir et al., 2017; Wainer & Ingersoll, 2015). The quality, however, of the telepractice model is incumbent upon the parent/guardian's skill level in implementing interventions modeled by the school team. With parent/guardian understanding of their role and the technique modeled, telepractice outcomes could represent equal or greater progress for the student in comparison to in-person services (Ashburner et al., 2016).

Summary

Parents/guardians are critical educational partners in the academic success of their student (Flores de Apodaca et al., 2015; Hattie, 2012; Izzo et al., 1999; Lucas, 2010; Clinton et al., 2007; Topor et al., 2010). In order to encourage stronger family partnerships and garner parent/guardian confidence and positive feelings about their child's education, schools must be intentional in their efforts to involve them (Epstein, 1986; Green et al., 2007; Tran, 2014; Varlas, 2015).

Principals hold an essential role in special education processes and can nurture a school culture of collaboration, innovation, and high expectations for students with disabilities (DiPaola & Walther-Thomas, 2002). Trusting relationships can merge isolated efforts of home and school into a unified partnership where each is dependent on each other with expectations and responsibilities mutually understood (Adams et al., 2009). When school culture reflects academic achievement, trust, and collaboration between parent/guardian and school personnel, all will work in support of each other for a shared purpose (Adams & Forsyth, 2006; Adams et al., 2009; Hoy, 2012; Sweetland & Hoy, 2000).

The IEP process provides a solid legal and functional framework for meaningful parent/guardian involvement and partnership with school personnel. The required components of an IEP and the expectations for school and parent/guardian involvement are legislatively outlined in IDEA (U.S. Department of Education, 2004). Team members have various roles and influences (Pinkus, 2005; Ruppar & Gaffney, 2011), but the IEP intent and collaborative process have a capacity to meaningfully guide student success (Hartmann, 2016). It is imperative that school leaders see the importance of partnering

with families, thereby creating structures that foster authentic parent/guardian engagement (Yotyodying & Wild, 2016; Doctoroff & Arnold, 2017).

The application of telepractice principles in education is still in the early stages, though it has shown promise as an effective intervention for students with disabilities (Grogan-Johnson et al., 2013; Gabel et al., 2013; Vismara et al., 2013; Theodoros, 2011; Grogan-Johnson et al., 2011; Crutchley & Campbell, 2010). Distance technology also provides efficiencies in services, allowing for multidisciplinary collaboration, ongoing communications, and increases flexibility in scheduling (Harmren & Quigley, 2012; Meadan et al., 2016; Guðmundsdóttir et al., 2017; Theodoros, 2011; Vismara et al., 2013; Wainer & Ingersoll, 2015).

The literature identifies parents as a significant influence on student success. School leaders have an important role in creating a culture of parent involvement and innovation. For students with disabilities, there is a need to identify innovative strategies to increase academic achievement, and there is early evidence that telecommunications technology may be effective in doing so. Telepractice can connect home and school and guide parent/guardian coaching for student learning (Dunst et al., 2001; Hamren & Quigley, 2012; Meadan et al., 2016; Guðmundsdóttir et al., 2017; Wainer & Ingersoll, 2015). A gap that exists in the literature, however, is the parent/guardian perspective on the use of telecommunications technology to strengthen the home and school partnership and their role on the IEP team.

CHAPTER III

Methodology

This chapter identifies the major components included in this qualitative study: design of the study, the procedures for data collection, analysis of the data, and the limitations of the study.

Research Purpose

The purpose of the research is to study the levels of parent/guardian engagement in the use of telecommunication technology between home and school. The research examines the perception of parent/guardians and school personnel on school and family partnerships, characteristics of the school culture that nurture levels of parent/guardian involvement, and how a shared software platform can influence the parent/guardian perception of engagement as an IEP team member. There is evidence in the literature that supports the educational use of telecommunications technology for student success (Crutchley & Campbell, 2010; Gabel et al., 2013; Grogan-Johnson et al., 2011; Grogan-Johnson et al., 2013; Theodoros, 2011; Vismara et al., 2013). However, there is a gap in the literature in terms of examining the parent/guardian perspective on the use of virtual intervention and how this connection affects the level of parent/guardian involvement on the IEP team.

The unit of analysis will include the parents/guardians of a student with a disability and school personnel involved with their student through the IEP process. The unit of analysis will use telecommunications technology to connect the school team and parents/guardians using a secure software platform to exchange ideas, demonstrate coaching techniques, monitor the progress of a child, brainstorm intervention strategies, and archive interactions between home and school to improve their role on the IEP team.

Research Questions

The research investigates telecommunications technology intervention as a strategy to enhance the quality of engagement between school teams and families to improve outcomes for children with disabilities. Increasing growth for students with disabilities by engaging parents/guardians more authentically in their child's education may be dependent on other factors worth examining. The virtual intervention technology and strategies may be appropriately poised to help connect with families, but this research aims to investigate other issues that may interfere with the potential success of the program. It would be useful for school personnel to understand the limitations and potential success of a telepractice model that could be implemented in special education programs to strengthen the school and home partnerships.

Using the literature review to study current trends in technology, the deficit performance trends in special education, and the value of parent/guardian involvement in student success, important questions for parents/guardians and school teams emerged. The research questions identified in this study were aligned with Joyce Epstein's six levels of parent involvement (Epstein 1995; Epstein & Jansorn, 2004; Table 1)

Table 1

Alignment of levels of parent involvement to the research questions

	Question 1	Question 2	Question 3
Parenting		X	X
Communicating	X	X	X
Volunteering	X		
Learning at Home		X	X
Decision making			X
Collaborating			X

The research questions include:

1. In what ways do the attitudes of district personnel, current practices, and district/school culture support the use of telecommunications technology?
2. How does telecommunications technology influence parent/guardian involvement as members of the IEP team?
3. What is the parent/guardian perception regarding their role on the IEP team using telecommunications technology?

Considering the research questions identified, the following concepts will be investigated.

Concept 1. The first variable for investigation is the connection between a district profile and the commitment to involve parents/guardians in school experiences. Examining school resources, practices, parent/guardian communications, leadership

accessibility, and school activities that involve parent/guardians are some of the elements to be explored with questions addressed to parents/guardians and to focus group participants.

Concept 2. The second variable for investigation is the current relationship between home and school and the nature of parent/guardian involvement as members of an IEP team. Questions posed to parents/guardians and focus-group participants will address the perceived role of the parent/guardian as team members, the current levels of parent/guardian input and participation, and potential uses of technology for enhanced home and school interactions and communication.

Concept 3. The third variable for investigation is the value and feasibility of using telecommunications technology to strengthen the partnership between school and home for increased student success. Investigating the technological and logistical considerations necessary for home and school, the role differences when using a virtual platform, and telecommunication strategies that increase student progress will be embedded topics in the interview questions.

Case Study Design

The advantage of a case study design is the systematic and intense manner in which one topic is examined through a variety of data sources, such as documents, records, and interviews (Merriam 2009; Soy, 1997; Stake, 1995; Yin, 2014). A unit of analysis is identified as a focus of inquiry within its real-world context. The researcher examines, describes and evaluates complex issues within this unit of analysis (Harrison, Birks, Franklin, & Mills, 2017; Soy; 1997). The system for study is bounded by time,

space, and activity and explores connected systems with the context (Harrison, Birks, Franklin, & Mills, 2017; Yin, 2014).

The case study offers a way of studying complex social units in understanding a phenomenon. While not intending to negate the value of large, quantitative population studies, Flyvbjerg notes that there are five criticisms about case research that he refutes. In support of case study research, he states (a) contextual or practical knowledge is more valuable than universal, theoretical, or distant knowledge in the study of human affairs; (b) generalizations, findings, and contributions to scientific inquiry can be made from a single case; (c) while case studies may be most effective in generating theories, critical case studies can be useful in validating a hypothesis; (d) researcher bias and subjectivity can exist in both quantitative and qualitative research structure; and (e) summarizing challenges in case study research is not a result of the methodology used, but sometimes the qualities of the phenomenon being studied (Flyvbjerg, 2006).

Other characteristics of a case study design include a constructivist or discovery approach where the researcher actively and thoroughly explores an experience, often in an educational field, and builds a knowledge of the topic (Harrison et al., 2017; Stake 1995). Inductively, findings are aligned with themes, categories, or concepts to build perspective and understanding (Merriam, 1995; Merriam 2009; Merriam & Associates, 2002; Stake, 1995; Yazan 2015; Yin, 2014).

Rationale for a Case Study Design

The case study design provides opportunity to examine a real-life situation and results in a rich and holistic inquiry of a phenomenon. Through the researcher's narrative, others can learn vicariously through the case study inquiry (Flyvbjerg, 2006; Stake,

1995). Insights gleaned from the case study can be meaningfully applied by the reader to other contexts for greater understanding, to generate interest in further study, to inform policy, or to improve practices, often in the educational field (Merriam & Tisdell, 2016). It is the interest in a real-life situation, not the research methodology selected, that is most emphasized by a case study approach (Stake, 1995). An exploratory single case study design is an appropriate methodology to examine the real-life IEP team process, the relationship between home and school, and the use of telecommunications technology as a tool to strengthen that partnership.

Additional rationale for the design can be attributed to some of the features of this case study. It can be described as (a) critical; (b) unusual; and c) longitudinal (Zin, 2014). This case study is a critical one with limited examination in the literature. This case study represents an unusual case because of its focus on an unexplored process with implications for existing traditional school structure and home and school relationships. Multiple data sources will be used and examined in an authentic family and home partnership context. The case study design also allows for longitudinal study of the same case at subsequent points of time.

Research Design

The selection of a case study design to examine the parent/guardian and school partnership, and the impact of technology to further leverage the parent/guardian role in student success, is substantiated by the qualities or the case study design and the phenomenon of interest. Qualities included in this case study are: (a) it is a critical case; (b) it involves a contemporary, real-life context; (c) it is exploratory; and (d) it uses multiple data sources.

The introduction of telecommunications in the educational realm is growing in interest. (Crutchley & Campbell, 2010; Gabel et al., 2013; Grogan-Johnson et al., 2011; Grogan-Johnson et al., 2013; Theodoros, 2011; Vismara et al., 2013). As a critical case (Yazan, 2015; Yin, 2014), the study of the parent/guardian perspective and educational impact of increased parent/guardian involvement using telecommunications technology is limited in the literature.

Considering current technology, and centering on the complexities of human relationships and dynamics, this study is a real-life, contemporary situation that is supported by the case study design (Soy, 1997;Yazan, 2015; Yin, 2014). This case study is intrinsically bounded by the school district and through the IEP structure and includes a comprehensive, holistic analysis of a social and programmatic phenomenon with the focus on meaningful, real experience, and intentionality of parent/guardian behavior (Giori, 1997; Merriam 1998; Merriam & Tisdell 2016; Yin, 2014). This case study design provides the researcher with an opportunity to closely examine the parent/guardian view of school involvement and the impact of telecommunications technology from the parent/guardian experience and perspective (Yin, 2014).

Units of analysis provide an in-depth, holistic examination of the home-to-school dynamic when a two-way telecommunication platform is introduced. Using a single case study design that is bounded by the district and the IEP process eliminates the potential to introduce other variables of comparison that could interfere with the focus of this exploratory study (Yin, 2014). Telecommunications technology and the VIP program are new to the region and participation is limited to six districts. If the study was a multiple case design and extended beyond the examination a single district, variables such as:

demographics, technology availability, culture of parent involvement, expertise of school personnel, and overall finances would need to be considered. Variables such as age of the student, type of disability, or technology skills of the parent/guardian may also become factors of interest when using a multiple case study design, With the current gap in the literature on the impact of telecommunication technology on the home and school partnership, it is important to consider the basic phenomenon prior to examining the qualitative differences between school districts based upon other variables.

Some social scientists believe that the exploratory case study design is intended to generate hypothesis or build a theory for further inquiry (Yin, 2014). A case study methodology can also provide sufficient analytical generalizability rather than statistical generalizability (Flyvbjerg, 2006; Willis, 2013). The study of the parent/guardian perspective regarding their role in a telecommunications model has merit. According to Stake's definition, a study can be categorized as an intrinsic case with the research driven by a desire to know more about the particular case (Stake, 1995). This case study design allows the focus of the analysis to be on uncovering the case elements of the parent/guardian perspective and their role on the IEP team when utilizing telecommunications technology, rather than validating a hypothesis (Boblin, Ireland, Kilpatrick, & Robertson, 2013; Yazan, 2015). This research is an exploratory case study design with findings specific to the district.

The sources of evidence in this case study use documents, archived records, and semi-structured parent/guardian and focus group interviews to gather data. The multiple methods of data collection are intended to categorize and code variables that may enhance or impede the quality of the parent/guardian-school partnership. The six levels of

parent/guardian involvement are used to guide the identification of categories from the semi-structured interviews. These levels include: communicating, volunteering, learning at home, decision-making, and collaborating with the community (Epstein & Jansorn, 2004).

Questions are designed to gather both information and opinions. Hypothetical and interpretive questions are asked rather than leading or multiple-choice questions (Merriam & Tisdell, 2016). Parent/guardian interview questions have been developed from the research questions and constructs in the literature, including a school climate survey developed by Patrick Forsyth and Curt Adams focused on parent/guardian perspective school climate, attitudes, and conditions (Hoy, Smith, & Sweetland, 2002). Focus group questions have been developed from the research questions and constructs in the literature, including a school climate survey and The Measure of School, Family, and Community Partnerships survey, which is based on Epstein's framework of six levels of parent/guardian involvement (Salinas, Epstein, Sanders, Davis, & Douglas, 1999) and center on school actions that contribute to various level of parent/guardian involvement.

The validity of a case study, and its ability to be repeated with similar results, is measured by the internal validity, external validity, and reliability of the research design (Stake, 1995; Soy, 1997; Yin, 2014). Tightly aligned procedures are used for analyzing, including categorizing, coding, and pattern-matching the information from interviews; audio recording parent/guardian responses; detailed field notes for focus group responses; and a member-checking process to ensure the responses match the true beliefs of the participants (Merriman & Tisdell, 2016). The findings are specific only to the participating district, however, this study may prompt interest in further examination of

the phenomenon (Yanzan, 2015; Yin, 2014). Examining the parent/guardian perspective on the use of telecommunications technology and its impact on the role of the parent/guardian in the school and home partnership will provide information that is valuable to similar school situations.

Sampling and Selection

In 2016, the Educational Service Center of Cuyahoga County (ESC-CC) was awarded a five-year innovation grant through the Ohio Department of Education to explore telepractice as an intervention designed to work with families to meet the needs of students with disabilities. The title of the program is Virtual Intervention Project (VIP). The goal of the grant is to connect parents/guardians with school personnel using telecommunications technology for increased student success. With families and school teams as users, VIP provides an opportunity for collaborative discussions and transparent and efficient communication between home and school. School teams and families identify the most appropriate school goals through the IEP process for home reinforcement using telepractice intervention (Kids Uncomplicated, 2016). The grant also offers the school district software licensing and technology training to utilize the two-way telecommunications platform, called Teleroo. Personalized technology training for the family and school personnel is provided, and families receive appropriate technology devices if needed.

The Teleroo Gateway is a trademarked, secure, password-protected, web-based telecommunications technology platform where families and school teams can view and post videos and documents, share comments on discussion boards, and participate in video conferences. It's the hub for many of the activities of the Virtual Intervention

Project (VIP). Each parent/guardian in VIP, along with the school IEP team, have access to a password-protected dashboard where they can interact with each other. The Teleroo dashboard has the following tabs: Home (most recent activities and IEP team member information), Connect (link to video conferencing), Boards (discussions with team members), Media (search posted videos) and Upload (upload videos/pictures). Teleroo can be viewed using any mobile device (Kids Uncomplicated, 2016).

To reduce researcher bias, the selection of participants is a convenience sample from those who are already participating in the VIP program and also enrolled in the district. The ECS-CC selection criteria for family participation include: (a) children must qualify for special education services under IDEA; (b) the parent/guardian must agree to participate in the pilot demonstration; and (c) the district finalizes the recommendation (Kids Uncomplicated, 2016). The District is permitted to offer the VIP program to up to ten interested families. The families who volunteered for participation in the case study investigation are a sample of those who previously volunteered to participate in VIP.

Prior to inviting parent/guardian volunteers to participate in the study, an IEP team meeting was held (or previously held) with each family to review the purpose of the VIP, to describe virtual intervention, and introduce/train the parent/guardians in using the Teleroo platform. After VIP had been initiated, participating parents/guardians received an invitation letter from the researcher regarding the case study and a request to participate (Appendix B). Parents/guardians communicated their interest in participating by contacting the researcher using the contact information provided in the invitation. Each parent who volunteered by responding to the letter was offered the opportunity to be interviewed. The focus group participants are the school IEP team members that work

with the participating families. Once a parent/guardian agreed to participate, each team member was invited by a hand-delivered letter from the researcher to participate. They agreed to participate using the contact information in the letter (Appendix C). Each unit of analysis allows for an in-depth, holistic examination of the home-to-school dynamic and the changing role of the parent when a two-way telecommunication platform is introduced.

Procedures

Examining the unique application of telecommunications technology to build family capacity and strengthen the home-and-school partnership is supported by the case study design. The VIP is intended to support the success of a child with disabilities, though the focus of the case study design is singularly on parent/guardian perspective and school culture as it relates to parent/guardian involvement. Student records and/or student participation are not included in any part of this case study, and the data collected only reflects the student IEP needs and experiences from the parent/guardian perspective. The anonymity of the parent/guardian and the connection to a specific student is protected through the data collection of separate units of analysis, and through findings that are reported in generalities.

Each unit of analysis includes one family/parent of a student with a disability who has agreed to participate in the Virtual Intervention Program (VIP). Also included in this unit of analysis is the building principal, the special education director, and key members of the school interdisciplinary team. This school team may consist of the intervention specialist, a regular education teacher, and the speech pathologist.

The researcher had the permission of the parent/guardian, teachers, and school administrators to participate in the case study (Appendix A), (Appendix B), (Appendix C), (Appendix H), (Appendix I). Using the experience and feedback from the families who volunteered to participate in the study and respective school team members, the findings are specific only to the district. The findings provide evidence to district leaders for pursuing further exploration of this resource.

Data Collection

Multiple sources of evidence are considered, including records, documents, and interviews (Flyvbjerg, 2006; Harrison, Birks, Franklin, & Mills, 2017; Merriam, 2009; Stake, 1995; Yin, 2014). The qualitative data collection for the purpose of this case study include (a) archival records about the school district (website, demographic data, Quality Profile); (b) documents, including information from Virtual Intervention Project (VIP) and the Teleroo platform for distribution to parent/guardians, and training materials used for school teams; (c) parent/guardian interviews; and (d) focus group interviews (Table 1). The focus of the data collection centered around the profile of the district, the current perspective on the parent/guardian-school partnership, the parent/guardian perspective on school involvement, and the use of telecommunications technology. Throughout the data collection process an ongoing systematic method was used for collecting and categorizing the evidence in order for the information to be accessed and examined (Flyvbjerg, 2006; Yin 2014). Categories were identified based on the research questions, constructs in the literature, and the meanings derived from those involved in the study (Merriam & Tisdell, 2016). The case study is (a) particularistic in its focus on the specific home-to-school partnership, (b) descriptive in its examination of the parent/guardian

perspective, and (c) heuristic in its probing for understanding (Merriman, 2009). Rich descriptions have been used to ensure the perspectives of the individuals are captured, and a thorough, in-depth examination of the real life context is reflected in the data collection process (Merriam, 1995; Merriam, 2009; Merriam & Associates, 2002; Yin, 2014).

Document and records review. Documents and records are grounded in real-world context and can provide valuable information about the phenomenon being studied. These data sources are available prior to initiating the research and provide insightful, broader data that can be reviewed repeatedly. These data sources are typically unbiased, as they are pre-existing and not created for the specific purpose of the study (Yin, 2014). In this particular study, these records were able to be reviewed at any time during the data collection process and provided important background information on the district's ability to support telecommunications technology intervention, in philosophy and resources. Archived records were readily available for review through public sources such as the school website, the District Profile, and Board of Education policies. Included in these records are district demographics, district performance rating, special education resources and types of services currently provided. Data available through documents include VIP information distributed to parents/guardians, a parent/guardian survey, feedback from district personnel, and technology training materials. As the primary instrument for gathering data, the researcher had to remain open-minded and identified and included additional relevant documents and records useful in the inquiry (Merriam & Tisdell, 2016).

Parent/Guardian interviews. Understanding the parent/guardian perspective on home and school partnering is the focus of the parent/guardian interviews. The researcher asked questions to gather both information and perspective (Merriam & Tisdell, 2016). The data collection consists of interviews and understanding the subjective nature and nuances of how a district and family build a trusting and collaborative partnership (Giorgi, 1997). The strength of case study interviews allows for targeted inquiry specifically aligned to study topics. The responses can be insightful in perceptions and personal explanations though the researcher needs to be mindful of bias due to poor question design, poor recall by respondents, and the desire of the participant to please the researcher (Yin, 2014). The individual interviews are guided conversations between parent/guardian and researcher and aligned with specifically worded questions and an inquiry protocol (Yin, 2014). Probes were used to clarify or prompt extension of a response (Merriam & Tisdell, 2016). The interview questions were constructed using the constructs in the literature, an existing school climate survey created by Patrick Forsyth and Curt Adams (Hoy, Smith & Sweetland, 2002), as well as the three research questions.

Semi-structured interviews were conducted individually with each participating parent/guardian. Interviews took place off school grounds in a private area. The interview followed a set of open-ended questions to allow the parent/guardian to share their experiences and their stories (Stake, 1995) (Appendix J). The individual interviews were audio recorded and transcribed after the sessions.

An interview protocol was used to ensure consistency (Appendix D) (Appendix E). At the start of the interviews, using a script and adhering to the interview protocol, the researcher shared information about their professional background and interest in

telecommunications technology. General questions about the grant, the implementation, and the expected outcomes were addressed at this time. The format of the researcher's field notes and the transcribed responses included the participant, the time/day, and the location of the interview. The transcription was line-numbered for ease of analysis, and emerging themes highlighted in various colors. Additional field notes for the researcher's later reference included any additional factors that might have bearing on participant's responses such as mood, body language, and nonverbal communications (Merriam & Tisdell, 2016).

At the end of the interview, the researcher summarized key points. The participants had an additional opportunity to ask questions and clarify responses, as well as review the transcript for member checking.

Team focus groups. Information from focus groups provides a description of the context and influences of the phenomenon being studied (Clinton et al., 2007). The purpose of the focus group interviews are to gather information regarding parent/guardian inclusivity in the school, the involvement of parent/guardian on the school team, and the impact that telecommunications technology might have on the IEP partnership between home and school.

The carefully developed, open-ended, interview questions were aligned with the three research questions and constructs in the literature, including The Measure of School, Family, and Community Partnerships survey, based upon Epstein's framework of six levels of parent/guardian involvement (Salinas et al., 1999) (Appendix K).

The uniqueness of the focus group interview is marked by the group dynamic and can produce insights different from an individual interview. Focus group participants are

part of a larger discussion, and responses made by others may influence a participant's perspective (Merriam & Tisdell, 2016). However, the researcher moderated the discussion in an attempt to hear the views of all participants. It is ideal when focus group participants do not know each other well in order to prevent relationships forming between participants and the researcher and minimize potential response bias (Yin, 2014). In this case study design, the participants are members of a school team and work closely with each other, but this is of value because they know the most about the topic being examined (Merriam & Tisdell, 2016). The dynamics of team functioning, the decision-making process of the IEP process, and the role of the parent/guardian on the team provides important contextual details regarding school culture.

An interview protocol and specified procedures were used to ensure consistency of the focus group interviews (Appendix F) (Appendix G). Invited participants included the respective school team members of the participating families. The researcher shared information about her professional background and interest in telecommunications technology, and general questions about the grant, the implementation, and the expected outcomes were addressed at this time. Detailed field notes, and a template created by the researcher, captured focus group responses (Boblin et al. 2013). The data were reviewed and coded for patterns and categories.

At the end of the focus group interview, the researcher summarized key points, and the participants had an additional opportunity to ask questions and clarify responses.

Table 2

Data Source Triangulations

Research questions	Data sources
Q1: In what ways do the attitudes of district personnel, current practices, and district/school culture support or impede parent/guardian involvement?	• Records (policies, district profile, testing results, personnel and resources) • Focus group interviews • Parent/guardian interviews
Q2: In what way has telecommunications technology influenced parent/guardian involvement in their student's learning?	• Documents (VIP information, including parent survey) • Focus group interviews • Parent/guardian interviews
Q3: In what way has telepractice intervention impacted the parent/guardian role on the IEP team?	• Focus group interviews • Parent/guardian interviews

Data Storage

Digital and written interview data will be stored for at least three years at Youngstown State University. Data files will also be stored, password protected in a DropBox Account, accessible to the principal and sub investigator at Youngstown State University. Any personal recorded digital files were deleted immediately after data was reviewed, including data stored on digital recorders, phones, or other electronic devices. These procedures are aligned with the guidelines established by Youngstown State University's Institutional Review Board.

Validity

One of the concerns with case study validity is the lack of established procedures and methodological rigor available for a researcher to follow (Flyvbjerg, 2006; Yin, 2014). This validity of this case study will be supported through triangulation of data

sources, member checking by sharing back interview responses, pattern evidence, and admission of researcher bias (Yazan, 2015; Merriam, 1995). The case study design is insightful because the researcher is placed within the real-life context being studied (Flyvbjerg, 2006). This requires the researcher to be the primary instrument of data collection and analysis; therefore, the integrity of the investigator is critical. The researcher acknowledges personal bias and recognizes how these tendencies can shape the findings (Merriam & Associates, 2002). Limited experience in interviewing techniques and evidence from interview may be compromised by the nature of the question, the interpretation of the answer, inaccuracies due to recall errors or transcription inaccuracies, or the transparency of the parent/guardian who may minimize their perspectives to project a favorable relationship (Merriam & Tisdell, 2016).

Yin describes four design tests to judge the quality of a case study: (a) construct validity, (b) internal validity, (c) external validity, and (d) reliability (Yin, 2014). Construct validity will be supported through the collection of multiple sources of evidence (Yin, 2014).

In this case study, construct validity will be supported by the use of multiple data sources including documents, records, individual interviews, and focus group interviews during data collection. Triangulation of evidence will strengthen the construct validity of the case study by connecting the data sources with common themes to reinforce findings (Yin, 2014). To facilitate triangulation, a database is used to systematically organize and sort evidence. Research questions are carefully aligned with interview content and protocols to support a logical and clear chain of evidence in the data collection process (Yin, 2014).

The internal validity of a case is especially significant with an explanatory case study, as the researcher is attempting to determine how two events are connected (Yin, 2014). This case study is exploratory but supports internal validity through pattern-matching during the data analysis portion of the study (Yin, 2014). A theoretical framework of parent/guardian involvement levels (Epstein & Jansorn, 2004), research questions, and constructs in the literature are used to guide pattern matching to compare data of parent/guardian responses to their involvement as members of the school team.

The document and records, including family/participant survey information obtained through the VIP documents, increase the researcher's ability to holistically examine the phenomenon and report findings using descriptive language. External validity was strengthened through the use of thick description of participants, context, and activities, though findings were limited to the specific district being examined (Merriam & Associates 2002). The external validity was strengthened by the legal structure of special education in the public school context.

Reliability is measured through the likelihood that the research study can be replicated with consistent findings. A systematic compilation of evidence and organized method of recording units of data and their sources was accomplished through the use of a database. When others can examine the database and organized evidence of data outside of the case study summary and understand the findings, the reliability of the case study is strengthened (Yin 2014) Reliability is increased as bias and procedural errors are minimized through an established process and record of data gathering (Yanzan, 2015; Yin, 2014). The reliability of this case study can be found in the data collection process

and documentation of evidence as well as the established protocols for the individual and focus group interviews.

Preparatory Research

A case study allows for targeted inquiry specifically aligned to the topics being studied (Yin, 2014). A preparatory research process ensures that the inquiry will provide valid and reliable data (Yazan, 2015). The open-ended interview questions for this study were prepared in advance and intended to generate information and opinions through stories and experiences of the participants (Merriman & Tisdell, 2016; Stake, 1995). The interview is structured as guided conversations between participant and researcher and aligned with carefully worded questions and an inquiry protocol (Yin, 2014). Using prepared, open-ended interpretive questions, allowed the researcher to validate her own beliefs but also allowed for additional insights and feelings to be discovered (Merriman & Tisdell, 2016). The responses from multiple participants produce threads of similarities that can be combined for analysis (Stake, 1995). This allows the researcher to compile the evidence in response to each research question (Yin, 2014).

The parent/guardian and focus group interview questions are aligned with the researcher's questions and were constructed using existing surveys and constructs in the literature that focus on parent/guardian involvement in student learning and family-inclusionary school culture. Specifically, two tools were used to loosely guide the development of the open-ended questions: the Measure of School, Family, and Community Partnerships survey, based upon Epstein's framework of six levels of parent/guardian involvement (Salinas et al., 1999), and the Organizational Climate Index (OCI) for schools (Hoy, Smith, & Sweetland, 2002).

The Organizational Climate survey includes the following four dimensions and the reliability score of each dimension: principal leadership (.94), teacher professionalism (.88), achievement press (.92), and institutional vulnerability (.97). Each question is scored using a one-to-four scale, with one indicating the behavior rarely occurs, to a four indicating the behavior occurs very frequently. The construct validity was determined through a factor analysis and measured strong for each dimension. The Measure of School, Family, and Community Partnerships survey measures how a school engages parents, students, and community with each section of the survey aligned to Epstein's framework of six types of parent involvement. A five-point scoring rubric allows the participant to rate the activities from one to five, with a one indicating the activity does not occur at the school to a five, which indicates the activity occurs with frequency and with emphasis.

Both the parent/guardian and the focus group inquiry protocol included fifteen open-ended questions, five aligned with each of the three research questions. The questions were amended over time to best capture the context of the case study. Six individuals who are familiar with school operations but who are not involved in the case study ensured the reliability of the interview questions through a review. The purpose of their review was to verify that the questions would be understood and interpreted in the same manner by all reviewers. The validity of the interview questions was verified by four content experts who are knowledgeable about the constructs being examined and the intent of the inquiries. Feedback from reviewers was used to adjust the questions for clarity, content, and purpose.

Data Analysis

An interpretative analysis method was used to review the data in a systematic manner. The multiple methods of data collection used to categorize and compare variables in each data source are meant to enhance the successful design of telecommunications technology-based interventions. The data were examined from a part to whole process to best understand the specific district and family characteristics that support use of telecommunications technology to engage families. A constructivist, or part to whole, philosophical orientation (Merriam & Tisdell, 2016) focused on the parent/guardian perspective and guided the case study, as the interaction of key leaders, teachers, parent/guardians, students, and the school-home environments will impact the implementation of a telepractice service (Merriam & Tisdell, 2016). The parent/guardian will essentially be a co-investigator in the value of telecommunications technology and its impact on their role in their child's learning process. The researcher is central to the data collection and to the process of making meaning of their experiences (Merriam, 1995; Merriam & Associates, 2002; Merriam & Tisdell, 2016; Yazan, 2015).

Documents and Records

The documents in this study exist prior to beginning the research, and while they do not directly answer the research questions, they provide important context to the phenomenon being examined and provide necessary descriptive information. Documents and records provided a history of the school district and special education programming being studied (Merriam & Tisdell, 2016). Documents and records were gathered from various available sources. The authenticity of the documents in this study was supported by selecting sources that could be verified. Because the documents and records were not created for the specific purpose of this study, it was important for the researcher to

determine a method for extracting the critical information from a data source that also included material extraneous to the study's focus.

The data analysis began by reviewing the research questions and the theoretical framework, reviewing the document or record, making notes in the margin, coding with colors, and creating memos that detailed thoughts, ideas, and themes that were used when reviewing the next data source. The ongoing process of labeling, organizing, and refining the categories from each document or record simultaneously with other data collection activities, such as individual or focus group interviews, kept the data focused and manageable. Hard copies of documents, records, and notes were maintained in labeled file folders to organize these data sources. An Excel database was created to sort, consolidate, and manipulate each data unit for easier analysis.

Parent/Guardian Interviews

The data for each parent/guardian interview includes field notes and an interview transcript. The field notes contain participant quotes and ideas, as well as observations of the researcher obtained throughout the interview process. A memo after each interview noted ideas or clarifications that would be helpful to highlight in the next interview. Data analysis occurred throughout the data collection process (Merriam & Tisdell, 2016). Open coding was used initially so all ideas, themes, and notes were considered. The open-codes were then grouped by the researcher to narrow and organize the categories of data. The second, and subsequent, interview field notes and transcribed records were viewed in the context of coding the previous data source. A memo of notes, ideas, and insights was used and compared to the memo or list created for the first data set. These lists of ideas were merged into one list capturing recurring patterns or themes. Categories

were condensed and subcategories created with the desired outcome being the reduction of categories as themes were solidified. This process was similarly repeated for all three data sources.

Team Focus Groups

The data for each focus group interview includes detailed field notes that captured responses, exact wording, and other variables observed by the researcher during the interview process. The analysis of each data source occurred simultaneously with the data collection process (Merriam & Tisdell, 2016). Insights and ideas were added to the margin by the researcher as themes began to emerge. Open-coding was used to capture a wide array of concepts but narrowed in each subsequent data collection activity. Open-coding was used initially so all ideas, themes, and notes were considered. The open codes were then grouped by the researcher to narrow and organize the categories of data. The second, and subsequent, interview field notes were viewed in the context of coding the previous data source. A memo of notes, ideas, and insights was used and compared to the memo created for other data sets. These memos were useful in adding clarity or extensions to the next focus group interview, as well as identifying recurring patterns or themes. Categories were condensed and subcategories created with the desired outcome being the reduction of categories as themes were solidified.

The triangulation of the documents and records, parent/guardian interviews, and focus group interviews were accomplished through an organized and systematic analysis using coding to highlight patterns and themes present across data sources. It is important that units of data can be connected to specific sources. To accomplish this, each unit of data was recorded and identified by participant and line of the transcript or location in the

field notes or documents. Categories were identified by the researcher through the exact words of a participant or from themes found in the literature (Merriam & Tisdell, 2016). As the data from each of the sources was analyzed in context of previous data analysis, the discovery process evolved into verifying and confirming themes and patterns (Merriam & Tisdell, 2016). The final findings from the documents and records, the focus group interviews, and the parent/guardian interviews are reported in generalities without reference to family or student characteristics to ensure anonymity of the individuals involved. However, research is not without its challenges and limitations.

Limitations and Challenges

The limitations of the data collection methods vary with each type as well as the manner used to mitigate the limitations. The archived records and documents should be readily available. If data is missing from the records, the necessary information can be obtained in an unobtrusive manner through other sources such as the Ohio Department of Education, the District Profile, or website.

The parent/guardian and focus group interviews were based on a specific set of questions and provided a great deal of targeted evidence and insight. The researcher reduced bias by inviting all families in the VIP to participate in the interview process. While the team members and parent/guardian know the researcher by name and role in the district, the parent/guardian did not have a direct working relationship with the researcher. The researcher is two times removed from the educator evaluation process and practices only distant supervision for special education programming. Additionally, the researcher is three times removed from the IEP process and the respective interactions with families.

Recognizing the researcher's position and familiarity with the district could influence the responses of the participants and potentially overstate positive or negative responses to school culture questions. Additionally, the researcher, by nature of an interest in parent/guardian engagement, may have a bias towards the participants and inadvertently influence the responses or attitude through the study. Enthusiastic participation by parents/guardians would be valuable to the study; however, it would also be helpful to have the participants less interested in what is being examined to allow the phenomena to be more naturally studied (Stake, 1995). The use of multiple sources of data collection minimizes the potential bias of their responses.

A case study methodology and its findings can be criticized for its lack of scientific generalizability (Flyvbjerg, 2006). However, an argument has also been made that generalization is overvalued and the information from a single case can provide rich information. Generalizations are based on specific details and such particulars can be in fact generalizable to similar situations (Flyvbjerg, 2006; Stake, 1995). The reader of the findings determines what can be applied to his or her situation. It is the researcher, not the methodology that brings transferable meaning to a context. The goal of a case study is not to be meaningful to all, but to be meaningful when applied to each situation (Flyvbjerg, 2016; Stake, 1995). Some social scientists believe that the exploratory case study design is intended to generate hypothesis or build a theory for further inquiry (Yin, 2014). However, a case study methodology can provide sufficient analytical generalizability rather than statistical generalizability (Flyvbjerg, 2006; Willis, 2013). Rich, descriptive language provides a critical thorough analysis; however, an overly extensive narrative may also be a limitation in case study design. The researcher may have restrictions of

time or resources necessary to create the important rich, thick description of a phenomenon, or the reverse issue, the product may be too lengthy or detailed for policy makers and practitioners to read or use (Stake, 1995).

Using telecommunications technology to strengthen the home-school partnership is a largely unexplored practice, and yet with limited units of analysis, this study provides an exploratory foundation for future study of this topic. An overall limitation of this case study could be the sample size and the study of the experiences and perceptions of limited parents/guardians and respective school teams. It is acknowledged that the findings cannot be generalized to other school districts, and that this exploratory single case study design will provide findings specific only to the district involved. According to Stake's definition, it is an intrinsic case with the research to be driven by a desire to know more about the particular case, in contrast to an instrumental case that is undertaken for a broader, external purpose (Stake, 1995).

Subjectivity Statement

As an individual engaging in a case study of virtual intervention as a strategy to increase parent/guardian engagement and student success, my own life experiences may inadvertently shape the research process. Telecommunications technology will be used with families who have students with an identified disability and who are receiving special education services through the public school. It is effective when school personnel and parents/guardians function as a seamless team, sharing goals and techniques for improving student success in both the home and school setting. The secure digital dashboard allows team members to communicate, support, and monitor a child's progress and extend the IEP focus into the home setting. There are numerous legal,

technical, and logistical issues to resolve, but the parent/guardian perception of this type of support will be central to the case study. As the primary instrument of data collection, using interviews and relevant documents, the researcher must remain cognizant of any bias or understandings that could impact the research process.

I am a white female from an upper-middle class upbringing who has lived and worked in the same geographical area for the entirety of my thirty-year career in public school education. For twenty-five of those years, I have served predominantly in an administrative capacity. For seventeen years of my professional career, I have been directly involved in special education programs, with over ten years as a director of children's services at a county Developmental Disabilities Board program. My responsibilities included oversight for center-based, home- based, or public school services for children with disabilities (IFSP/IEP's) from birth through 21 years of age. In my local public school district, the second half of my career was spent as a coordinator of special education services, a building principal with special education program responsibilities, and currently, as assistant superintendent of curriculum, instruction, and pupil services (including oversight of the special education department). My professional experiences have shaped my understanding of special education law, how effective teams function, what intervention strategies are effective, how related services model are most successful, the value of parent/guardian engagement, and associated costs of special education support. In my 32 years of public school experience, I have lived in the community where I work and the district where the pilot program will be implemented. I know many of the parent/guardians and students and all of the teachers and administrators in the district. In my current role, I am three steps away from involvement

in the IEP process with families and two steps away from evaluation of the special education personnel who work directly with families. Though my influence with families and school teams is remote, this familiarity may impact my interview and observation perspectives and even influence my thoughts about the overall value of telecommunications technology as a strategy to connect participants in the IEP process.

Additionally, case studies can be enhanced by a familiarity with the people and situation to be studied and the ability to be unobtrusive (Stake, 1997). My deep understanding of the district culture, the operation of the special education department, and my extensive experience in IEP meetings allow me to be a keen observer and analytical in a productive manner without the distraction of new learning about the complexities of special education. The participants in the study would likely have name recognition of the researcher but no current professional involvement.

From a personal perspective, I am a parent of four healthy and academically gifted children. All four have attended college; all four have completed, are attending, or will be attending graduate school. I have no specific personal experience raising a child with a disability or how to develop a meaningful partnership with the school team. However, I have been a single parent of four children and have experienced first-hand the hectic home environment and challenges related to parent follow-through in the home setting with school assignments and related expectations.

Although my professional and personal life experiences could impact the case study process, these experiences may also support the study in a unique and positive manner. I have a commitment and passion for supporting children with disabilities with

research-based best practices. I also value the critical role of the parent/guardian-school partnership and can maintain realistic expectations for families with busy routines.

Conclusion

The case study design is an effective way to examine the partnership between parent/guardian and school personnel as well as the use of telecommunications technology intervention to strengthen this partnership. Examining the parent/guardian perspective in real-life context, regarding their level of involvement in working with a school team, will require a systematic approach to collect, analyze and summarize information from various data sources. The exploratory single case study design allows for in-depth, intensive examination of separate units of analysis in order to fully explore the phenomenon. The alignment of the theoretical framework and emerging themes from multiple sources of data collection from parents/guardians, district, administrators, teachers, and therapists ensures the integrity of the case study design. With the use of technology increasing in families' daily lives, the specific findings provide district leaders with a greater understanding of the potential of telecommunications technology as a strategy to involve parents/guardians in the IEP process.

CHAPTER IV: RESULTS

Introduction

The purpose of this qualitative exploratory case study was to examine the use of telecommunications technology as a tool to enhance parental involvement in the IEP process. The data was gathered through records review, semi-structured parent interviews and school personnel focus groups.

Data Collection

The researcher used existing records and documents to describe the context of the study and to augment evidence from the interview process (Yin 2014). Documents and records in the data collection included the state report card, the district profile, the state district profile, VIP agendas, parent materials, district policies, a university external study of the VIP program, VIP parent surveys, VIP/IEP student goals and progress summaries. Semi-structured parent interviews were individually conducted using questions aligned with the research questions and constructs in the literature. These interviews were digitally recorded and transcribed by the researcher. The researcher used similar questions for the focus group semi-structured interview, with appropriate adjustments for the audience. The researcher reached saturation through the interview responses of the 19 individuals who participated (Merriam & Tisdell, 2016). This chapter presents findings by describing the units of analysis and the themes that emerged from the data collection process. Findings were analyzed using constructs explored in the literature review regarding parent involvement and the home and school partnership, as well as their purposeful connections to specific research questions (Merriam & Tisdell).

Included in the following sections is a background description of the district and community and the sample population. Organized data from field notes and interview

transcriptions were recorded and coded using a case study database with referenced notations to data sources to demonstrate a chain of evidence (Yin, 2014). Triangulation of the data was accomplished through the collection of multiple sources of evidence, records, and documents that described the participants and the context of the study, parent interviews, and focus group interviews aimed at examining the same research findings (Merriam & Tisdell, 2016; Yin, 2014). To ensure the researcher accurately captured the perspectives of the participants, parent interview transcripts and direct quotes were used in the findings. Field notes were used for the focus group, so participants were given an opportunity to review direct quotes from the interview to verify accuracy.

Description of the District

The Washington School district is comprised of two townships and serves approximately 3,000 students in grades K-12. The communities are populated with both long-standing generational families as well as newer residents, and both demand decision-making that supports maintaining a rural environment, restricting growth, ensuring local governmental control, and offering college-ready curriculum for the students while minimizing levy increases. The two township-communities demonstrate great pride and commitment to remaining the same as they existed decades ago. Balancing these seemingly opposing priorities can be a challenge to the leaders of the Washington Local School District. (Ohio Department of Education, 2012)

There are four buildings, all located on the same campus and configured in the following way: Grades Pre-Kindergarten through 3, Grades 4 through 5, Grades 6 through 8, and Grades 9 through 12. The Washington District student body is 92%

Caucasian, 4% African American, 1% Hispanic, and the remaining 3% is divided between multi-racial and Asian/Pacific Islander. Ten percent of the students have been identified as students with disabilities, in comparison to the state average of 8%. The disability categories with the highest percentages in the Washington School District are: Specific Learning Disability; Other Health Impaired, Minor; and Autism (Ohio Department of Education, 2017). Ten percent of the students are eligible for free/reduced lunch. Ten percent of the students have been identified as gifted (Ohio Department of Education, 2012)

Washington is a high-achieving school district, having earned a perfect score and "Excellent" rating on the state report card for each of the past 11 years. Records from 2014 indicate a 98% high school graduation rate, with 92% of the graduates attending colleges/universities. The state passage rates in Reading and Math reported for the 2014-15 school year are above 90%. For students with disabilities, established graduation rates and academic performance standards were not met by the Washington School District. Inclusion opportunities for students with disabilities in the regular education classrooms fall below state benchmarks. Forty-six percent of the students who attend a regional vocational program are identified as special education students (Ohio Department of Education, 2015)

Washington's staff includes 404 employees: 196 classroom teachers, 35 special education personnel, and 13 administrative personnel. The average years of teaching experience is 15 years, with 80% of the faculty having attained a master's degree or higher. Of the Washington faculty, 58% of the staff resides within the school district

borders. Teacher mobility is less than five percent over the last five years (Ohio Department of Education, 2012).

The 2014 population census of the school district's geographical area is approximately 18,000 residents. The median age is 44.6. The community demographics of the Washington School District are: 97% of the population is white, 63% of the population have attended some college, with 59% of the community holding a bachelor's degree or higher. Over 45% of the families include a married couple with two working spouses. Over 26% of the married couples have a husband or wife not in the workplace. The average household income is $135,355. Approximately 96% of the residents speak English as the primary language in the home (The United States Census Bureau, 2010). The general description of the residents in the community surrounding the Washington School District is white, educated, and financially comfortable. Parents overall are active in the school community, primarily through attendance at school-sponsored events. The school district is the largest employer in the area.

The approximate land coverage of the district includes 59% forest, 21% cropland, 11% urban, 3% pasture, and 6% open water/wetlands. The rural feel, with large working farms throughout the two township communities, is valued and protected by local zoning laws for industry development and new construction. Private water wells and septic systems are a reflection of the rural identity that the community appreciates. Residents perceive the townships as safe areas for living. District facilities are located within a residential community, with combined suburban and rural features. Overall, the residents in the community prefer large lots and appreciate a more rural lifestyle.

Access to community resources presents a unique situation due to the two separate township entities of the Washington School District. From a district perspective, establishing community partnerships can be challenging due to duplicative services and separate governmental services.

Program Purpose

The use of telecommunications technology as an intervention to support the success of students with disabilities has been researched over the past several years (Coleman et al., 2015; Davis et al., 2012; Edwards et al., 2012; Gabel et al., 2013; Grogan-Johnson et al., 2011; Mashimima & Doarn, 2008; Richardson, 2012). The U.S. Department of Education summarized thirty years of research on family involvement in the document "Strong Families, Strong Schools" and affirmed the significant role of families in school success (U.S. Department of Education, 1994). The researcher is interested in examining whether the use of telecommunications technology can be used to more meaningfully involve parents as members of the IEP team in supporting their child's learning at school (Doctoroff & Arnold, 2017; Epstein, 1986; Green et al., 2012; Hoover-Dempsey & Sandler, 2007; Tran, 2014; Varlas, 2015; Yotyodying & Wild, 2016).

With families and school teams as users, telecommunications technology provides an opportunity for collaborative discussions and transparent and efficient communication between home and school. School teams and families identify the most appropriate school goals through the IEP process for home reinforcement using telecommunications technology intervention (Kids Uncomplicated, 2016). The Teleroo Gateway is a trademarked, secure, password-protected, web-based telecommunications technology

platform where families and school teams can view and post videos and documents, share comments on discussion boards, and participate in video conferences. It's the hub for many of the activities of the Virtual Intervention Project (VIP). Each parent/guardian in VIP, along with the school IEP team, has access to a password-protected dashboard where they can interact with each other. The Teleroo dashboard has the following tabs: Home (most recent activities and IEP team member information), Connect (link to video conferencing), Boards (discussions with team members), Media (search posted videos) and Upload (upload videos/pictures). Teleroo can be viewed using any mobile device (Kids Uncomplicated, 2016).

In supporting the continued availability of the Teleroo platform, district leaders must consider the cost-benefit of the financial commitment of this special education strategy. In addition to costs associated with the technology, scaling the program for broader implementation (beyond the group of parents/guardians who volunteered to participated in VIP) requires other factors to be considered such as administrator and teacher training, parent training, device availability, legal guidelines of student records, designated technology support, and ongoing program evaluation. The purpose of this exploratory case study research is to examine the validity of telecommunications technology as a way to connect home and school while engaging more meaningfully with parents/guardians in the IEP team process. Newly introduced to the Washington School District, the researcher and other district leaders are interested in evaluating the potential of the VIP program, the Teleroo platform, and telecommunications technology use for IEP teams for students with disabilities and their parents/guardians.

Description of the Sample

A random sample of convenience was used to recruit participants in the researcher's study. Since December of 2016, 14 Washington School District parents/guardians who have a child with an identified disability (U.S. Department of Education, 2004) have been invited to participate in a Virtual Intervention Project (VIP), using telecommunication technology as an enhanced communication tool. Of those 14 parents/guardians who are currently or were previously active in the VIP program in the last twelve months, seven families were randomly selected to receive a formal invitation from the researcher to participate in the study. In response, four parents/guardians volunteered to participate, and all four parents/guardians were interviewed and included in the study.

IEP team members aligned with the children of the four parents/guardian volunteers received an invitation from the researcher to participate in a focus group interview. The researcher identified four units of analysis, each unit representing a parent/guardian and their child's corresponding IEP team members. A total of 19 individuals participated in the interview process for data collection purposes, including five parents/guardians (one family requested both mother and father to participate). All 14 school professionals invited to participate in a focus group interview agreed to participate. Each focus group had three to four participants.

The IEP team roles of the focus group participants varied greatly and allowed the researcher to capture multiple perspectives of the phenomenon being examined. The make-up of the focus groups included one speech and language pathologist, one school counselor, one educational aide, two special education administrators, two building principals, two assistant principals, and five special education interventionists. The two

special education administrators involved in the focus groups are each operationally assigned to two of the units of analysis by virtue of their work responsibilities. However, they participated in just one of their respective IEP team focus groups. The interview data collection represented students with disabilities from preschool, elementary school, middle school, and high school. The area of special education services and disabilities represented included a variety of ages, disabilities, placements, and services (Table 2).

Table 3

Summary of participating students and parent/guardians information

Student Name *(Names were changed)*	Age/ Grade	Disability Category	Placement & Related Services	VIP Use & Goals for Home	Home *(Parent info)*
Sam Nelson	7/1st	Visual impairment	Regular education with pull-out services in resource room. Speech & Language therapy	Video posts and comments, post documents Homework habits Speech Language	2 parents 50 + age
Mary Henry	20/12th	Multiple Disabilities	Resource room and vocational Occupational therapy Physical therapy Speech & Language therapy	(No longer using) Video posts, comments, post documents Transition to school-(attendance) Communication	2 parents 50+ age
Tom Smith	13/8th	Other Health Impairment (Minor)	Regular education with pull-out tutoring services & classroom accommodations	No longer using Attempted video posts Transition to home and homework habits	2 parents 50+ age
Susie Jones	5/preK	Developmental Delay	Integrated preschool Speech & Language services	Teleconferencing, document posting Transition to school Regulation of emotions	2 parents 40+ age

Units of Analysis

This exploratory case study is bounded by the Washington School District and the IEP process. The researcher used units of analysis to approach this study. However, due to the small sample size, specific details of each unit of analysis regarding the teacher and parent/guardian profiles and any student references will be described only briefly so that no particular participant can be singled out and potentially identified (Table 3).

Unit 1: Jones Team

This IEP unit of analysis includes parent/guardians, a speech and language therapist, an intervention specialist, and a building administrator working together to meet the needs of an elementary student. Other team members who were not part of the study but who have a role on the team include a vision specialist and a physical therapist. These members were not invited to participate because of their external contract status.

The student has been identified with a specific learning disability. Parents/guardians are chronologically older than the typical age of parents of elementary children. They have four other children, three in college or in the workforce. There is one stay-at-home parent. They have lived in the district for approximately 10 years. Both father and mother participated in the interview process. They were interested in participating to "explore all of the help available" with a focus on carryover of school strategies to the home. They have been a part of the VIP program for approximately three months and are comfortable with the technology used in the program. They interact closely with several members of the school team but would like more feedback from other members.

Unit 2: Henry Team

This IEP unit of analysis consists of a parent/guardian, an intervention specialist, a school counselor, a special education administrator, and a building administrator. Other members of the team that did not participate in the focus groups include a speech and language therapist, a physical therapist, an occupational therapist, a behavior consultant, and school psychologist. These members were not invited due to their part-time or limited employment status or their ancillary role on the IEP team. One of the school team members who participated in the focus group has a child with a disability.

This team works to meet the needs of a high school student who has developmental delays and whose goals are aligned with extended standards and a functional living curriculum. The parent has been very active in using the VIP platform to link home and school efforts, most specifically in the area of home behavior associated with the morning routine and transitions to school. There is one stay-at-home parent in the home. They moved to the district more than 10 years ago and have three other children in high school, college, or in the workforce. They reported interest in participating in the VIP program because "we were exhausted with trying everything else."

Unit 3: Smith Team

This IEP unit of analysis includes a parent/guardian, an intervention specialist, a special education administrator, and building principal. One of the school team members who participated in the focus group has a child with a disability. The student is identified with attention deficit hyperactivity disorder and is performing at grade level in his Middle School classes. He is experiencing greater success than previous years but requires a number of accommodations from regular education teachers.

The parents are between 40 and 50 years of age. They are active in school functions and in the Parent-Teacher Organization (PTO). There is one stay-at-home parent in the home, and they have a younger child in the district. The parent/guardians communicate frequently with the intervention specialist. They were interested in the program to assist them with after-school homework routines. They discontinued the program earlier this year due to early technology and VIP program glitches and satisfaction with his current special education program. They believe in the value of the VIP program and would have continued, but "we already had a good relationship with the teacher."

Unit 4: Nelson Team

This IEP unit of analysis consists of a parent/guardian, an intervention specialist, an educational aide, a special education administrator, and a building administrator. A member of the team who did not participate in the focus groups includes a speech and language therapist, due to a leave of absence. This team works together to meet the speech and language goals and objectives of a preschool student.

The family has lived in the district for more than five years. There is one stay-at-home parent and one older sibling in the school district. Being relatively new to the special education process and wanting to learn more about services and support, the family was interested in the VIP program to support their home behavioral challenges and the daily transition to school. Additionally, the efficiency and easy availability of technology was attractive to the parent/guardian.

Table 4

Summary of the Focus Group participants in the study

Professionals	Role assignment	Experience (approx.)
Nelson Team		
Principal	Elementary	12 years
Special Ed Director	Pre K-grade 5	2 years (10+ as administrator)
Speech Therapist	Pre K-grade 3	25 years
Interventionist	Moderate to Severe	20 years
Henry Team		
Asst. Principal	High School	10 years
Guidance Counselor	Grades 9-12	20 years
Interventionist	Moderate to Severe	15 years
Smith Team		
Principal	Middle School	25 years
Special Ed Director	Grades 6-12	30 years
Interventionist	Moderate to Severe	10 years
Interventionist	Behavior/emotional	10 years
Jones Team		
Asst. Principal	Elementary	8 years
Interventionist	Preschool	5 years
Educational Aide	Classroom aide	2 years

The Interview Process

The interviews were conducted over a two-week period, not in a particular order, but scheduled by the convenience of the team. This condensed period for data collection allowed the researcher to recall details about the nature of the sessions that were not directly evident through the participant's responses.

Parent Interviews

After receiving an invitation letter mailed to their home address, parents contacted the researcher directly by phone or email to indicate their willingness to participate. Arrangements were made with each parent with respect to time and location of the interview. Two interviews were conducted in a home, one at a local coffee shop, and one in a private room at the local library. Each location was determined by the parent.

The mother of the Jones unit volunteered to participate but asked prior to the interview if her husband could also participate. The IRB indicated one parent would participate, but the researcher was given permission to allow both parents to interview together. Both parents had an opportunity to answer questions together, separately, or not at all. The mother responded first to nearly all questions, the dad sat close to her, leaned in towards her, and added additional thoughts to her responses. While both parents were present, it appeared to the researcher that the mother was in charge of the school involvement. She has a background in education and does not work out of the home so is likely more available to be a part of the IEP process and the telecommunications technology program.

The researcher sat across a dining table from both parents. Though friendly and eager to share perspectives, the interview had a formal feel to it. This could have been due to the researcher as this was the first interview, and the researcher was initially

preoccupied with the functioning of the recording device. The mother answered questions quickly and with confidence, and it was clear to the researcher that she had relationships with many of the educators in the school. She hesitated only once in the interview process when she explained that the interventionist and the speech therapist might not be in agreement about the team focus for the telecommunication technology intervention.

The second parent interview was conducted in a quiet corner of a local coffee shop. The mother enjoyed her lunch as the interview ensued, offering a more casual and comfortable aura to the interview. She was soft-spoken, and the recording was initially a challenge. However, we worked together to ensure the recorder was in close proximity to her. Her child was in the last years of education, and many years of being in the special system shaped her views and responses. She relayed stories of challenging years, the reason she decided to homeschool her child, and why they had returned to the Washington School District.

She responded to the questions about inclusivity, parent involvement, and the role of the parent on the IEP team with passion, earned through many IEP experiences. She revealed her own growth over the course of her daughter's special education and shared her timid approach with school personnel, her lack of understanding about her role, and the advocacy mindset she has developed to ensure her daughter is receiving the support she deserves. Her experiences, and subsequently, her strong belief in the potential of telecommunications technology far exceeded the experiences of the other parents. Her purpose for using the technology was not simply to strengthen relationships and increase parent coaching for home carryover, but to improve the team communications and trust, where opposing points of view had stalled the problem-solving process for her daughter.

The third interview occurred in the home setting, and the researcher and participant sat side-by-side on a couch. This was the researcher's only interview scheduled on the weekend, lending to the informal nature of the interaction with the parent. The parent was enthusiastic to share her limited experiences about telecommunication technology but also stories of other IEP team experiences and previous school situations that caused frustration to her and her husband. She communicated a very personal relationship with the current IEP team, but it was evident she held on to feelings of not being respected on other teams and perceptions that some team members were not interested in her son's success. She responded to questions with stories and long explanations. The researcher had to redirect often or restate questions to ensure the responses were completed by the end of the designated 60 minutes.

The fourth interview was conducted at the local library in a private area, and we sat across the table from each other. This parent is the newest to special education, having a preschool child. However, an older sibling in upper elementary school provided the parents with a solid understanding of the district and clear opinions in response to some of the interview questions. The parent was quick to reply to questions and offered few elaborations on her thoughts, even when prompted by the researcher. She did not respond using stories or anecdotes like the other parents. The rapport with the researcher was the most formal in all of the parent interviews, but the parent seemed genuinely interested in giving feedback about the telecommunications technology. Her responses were often framed in sentiments about not understanding special education terminology or process.

Focus Group Interviews

After the parents were invited to participate in the research study, the researcher sent invitations to team members through the inter-district mail system or hand-delivered the invitations. Some IEP team members were intentionally not invited to participate. Some professionals are contract employees, some part-time employees, and one resigned just prior to the data collection. Two of the professionals are assigned to more than one building in the district and aligned with more than one of the IEP teams in the study. They were invited to participate in only one of the focus groups.

All four focus group interviews occurred in a private area within the district, in the school where each respective team works. All four focus groups were conducted around a table where the researcher sat amongst the participants. Overall, the participants seemed eager to provide feedback and flattered to participate. This may be due to the researcher's leadership role in the district, though the role is not supervisory. The focus group format was initially planned as a rotation of responses to each question. It became clear to the researcher that isolated responses were less valuable than participants adding to previous comments or offering responses when they felt they had something to contribute. This allowed the researcher to easily extend lines of questioning and ask for clarifications

The focus groups were aligned with the parents of children the team served through the IEP process. The questions asked by the researcher were not specific to the student. The researcher, though recognizing the value of this data, intentionally omitted student data and student records from this exploratory study. As the use of telecommunications technology becomes more common and the population sample increases, the researcher recommends student data be included in the research design to

better examine the qualities of the IEP team, the families, and students that make telecommunications most successful.

The first focus group was scheduled on a school day, prior to student arrival. This group, per parent report, is the team that had some disagreement about the role of the communications technology in the IEP. However, the researcher did not notice any dissention among the team other than the interventionist, who reportedly opposed the level of use, responded less frequently and more briefly than the other participants. The team member who spearheaded the use of telecommunications technology for the team was the most knowledgeable and most enthusiastic participant. The early morning discussion, or the fact that this focus group was the first conducted by the researcher, seemed to provide less information than at subsequent focus group interviews.

The second focus group was conducted in a small, private conference room during midday. It is the location of all of the special education meetings in the building, which might have added to the comfort of the school team. It was evident to the researcher that the team interacts frequently, is collaboratively focused on interventions and student success. Limited small talk or informal conversations were observed; however, the team functioned cohesively in the interview exercise. Each one contributed to responses, supporting what others might have said, extending a response, or adding new information. This focus team, particularly the interventionist, had the most experience using the telecommunications technology although they did not yet use all of its features. The school administrator of this group was well informed and has been an active participant in the discussions surrounding telecommunications technology with the parent and team members. The three participants echoed similar thoughts of the parent

about team trust, the team needing a shared focus, and the progress of the student being impacted. Although the researcher did not ask questions about the family or share family responses, the team recognized the parent frustration and acknowledged that her perception was fair.

The third focus group took place after school in the school conference room. This is the only focus group whose participants agreed, and preferred, to meet after the school day so they could freely participate without being hindered by a return to their classroom after a designated period of time. The interventionist in this group was a newer participant in the telecommunication technology use, but had a very clear understanding of its purpose and its potential to help families and school teams connect for student success. Although she had limited actual experience, she provided the researcher with great perspective on the advantages and disadvantages in using the platform. It was evident that she was championing the use with her families, attempting to convince them how helpful this tool would be. The other interventionist had more limited experience but more opportunity to use the platform. She was trained early on and aligned with a family willing to try it. Her responses indicated that she did not give telecommunications technology fair consideration previously, and the researcher believes she likely influenced the parents' level of investment in it. However, her interest was piqued and her responses aligned accordingly, as she listened to the other team member describe its value. The team interacted positively and appeared comfortable with the interactions of the group. The building administrator and the special education director had noticeably limited experience and understanding of the telecommunications technology. This is a

critical observation that is revisited in Chapter V under the heading of Implications for Leaders.

The fourth focus group consisted of three individuals, with this group being the only one to have a paraprofessional involved. The tone of this focus group was positive and the responses of the interventionist and the educational aide indicated frequent and close communication with families. This group was the only group who accessed the teleconference feature of the platform and used it informally to talk for a few minutes about a situation (similar to how Facetime is used), as well as for more formal team meetings. We used the preschool classroom for our meeting and using small chairs around a small table added to the authenticity of their perspectives and responses regarding the culture of their room and the opportunities for parent involvement. The administrator present was conceptually aware of the platform and communicated its potential for school teams and families. She uses technology frequently in her work, which was evident in her support of the platform. The educational aide, despite the ancillary role a paraprofessional would assume, offered perspectives and conversed freely with the other participants. This was evidence to the researcher that the school personnel worked closely and collaborative in meeting the needs of the students. Some of her quotations were used in the findings because they were unique and insightful.

Summary of the Results

Data were gathered from three sources: document review, individual parent/guardian interviews, and focus group interviews. Document reviews from VIP parent surveys and district demographics provided the researcher with valuable information that corroborated the phenomenon being examined. This information was

especially relevant because it represented a real-world context and provided a paper trail for information not directly available through participant interviews (Merriam & Tisdell, 2016). Parent/guardian participants were interviewed in private locations, off school grounds, at a time and day convenient to the parent/guardian to protect participant anonymity and confidentiality. Interviews were digitally recorded and transcribed in a timely manner by the researcher. Focus group interviews were conducted in a private location, at times agreeable by the participants. Field notes, using a pre-developed template for all focus group interviews, were used to gather perspectives, insights, and meaningful quotations.

Coding and Category Creation

The evidence gathered through the data collection process was carefully and thoroughly organized by the researcher through the use of four separate case study databases to clearly demonstrate a chain of evidence (Yin 2014). For the document data collection process, information from various pre-existing records review was collected and organized on a spreadsheet. The information was organized by source and location using both quotations and concepts found to the researcher-aligned evidence by themes, referenced research questions, and theoretical framework.

For the data collected through the individual and focus group interviews, the researcher organized the data on separate databases by each unit of analysis. Questions posed during the semi-structured interview process were similar in content for both the parent/guardians and the school personnel. The researcher aligned the responses from the parents and the corresponding focus group side-by-side by topic and theme. The researcher transcribed and analyzed the parent/guardian and focus group interview data

within one day after the scheduled interview to best ensure its accuracy and capture details about the semi-structured conversations that might not be clearly stated in participant responses. The researcher numbered the lines in the transcribed interviews and included first initials and page numbers in the focus group field notes.

The database of evidence included references to data sources, color coding for general topics, and division of data by categories that emerged from the data, specific lines in the transcriptions for parent/guardian statements, and specific pages and first initials to delineate and responses of the focus group participants. The process of organizing the data in a timely manner and creating separate databases for each unit of analysis allowed the researcher to view the data collection as a connected and continuous process rather than as separate data collection activities.

The researcher conducted data collection simultaneously with the process of data analysis (Merriam & Tisdell, 2016). This ongoing analysis and reflection of the evidence gathered permitted the researcher to refine her interview techniques (Yin, 2014). Open coding, with thoughts, comments, questions jotted during the analysis of each transcript of parent/guardian interviews and focus group field notes, was used to begin deductively and comparatively creating categories and threads of themes across the multiple data sources (Merriam & Tisdell, 2016). The triangulation of the multiple data sources supported the researcher in the refinement of categories and identification of persistent themes that ultimately were aligned to the three research questions.

Research Questions and Themes

Research Question One: In what ways do the attitudes of district personnel, current practices, and district/school culture support the use of telecommunications technology?

Theme 1: Communication between school and home establishes a relationship. The communication efforts and actions between school and home were consistently acknowledged by the school personnel involved in the focus groups. Frequent one-way school communication such as teacher emails, phone calls, school open-houses, PTO-sponsored events, student-specific communication logs, school reminders, progress reports, and district e-blasts were cited as evidence of the school actively informing families about district, school, or classroom happenings. The interventionist of the Henry unit felt that the frequency and content of district, school, and team communications resulted in "fewer upset parents" and that proactive school communication prevented parent frustration. When parents perceive that the district is not communicating frequently to the parent community, negative feedback can interfere with the relationship between school and home. The interventionist from the Smith unit stated that parent use of private social media sources created miscommunications and allowed "mole hills to explode into a mountains."

Some participants made the distinction between one-way information-sharing communication and the two-way communication opportunities that exist during parent-teacher conferences, district surveys, intervention assistance team meetings, or conversations with the school counselor. The special education administrator of the Nelson unit believes that "enough communication and relationship-building will diminish frustration" on the part of the family. In general, focus group participants acknowledged the efforts of the school to communicate with families and believe there is interest on the

part of school personnel to talk or meet with parents to resolve any specific concerns The administrator of the Henry unit stated, "we are very responsive to parent concerns" and "get people together face-to-face. We already have things in place to solve problems that parents might not be aware of." The administrator of the Smith unit said, "team meetings are most effective; [so we] all hear the same thing."

The communication efforts and actions between school and home was also consistently acknowledged and appreciated by the parents who participated in the interviews. Frequent one-way school communication, such as teacher emails, phone calls, school open houses, PTO-sponsored events, student-specific communication logs, school reminders, progress reports, and district e-blasts, were cited as evidence of the school and district actively informing families about events, general information, or opportunities to be involved. However, the parent of the Nelson team made the observation "there are email communications going out but that's not really inviting people to come in."

For more two-way communication, parent/guardian responses indicated that opportunities to be in touch with the teacher and school were more consistent in the younger grades. In the Jones unit, the parent receives "written communication that comes home almost every day." The parent in the Nelson unit separately confirmed, "a notebook comes home every day. [If I have questions or concerns,] I know they will look at it every day." In the secondary units, communication with the teacher is present and also viewed as important. The parent in the Smith unit is so comfortable communicating with the teacher that she referenced the interventionist as "my guide" and "my personal parent coach" and felt confident that she could contact her at any time and receive a response.

The parent of the Henry unit agreed that the communication with the interventionist each week was "an inviting tool" for the parent.

Despite the district's commitment to communicate on a regular basis with families, there are times when the communication efforts are not meeting the needs of the families. School personnel need to be sensitive to families who may need additional support to understand school information or opportunities. The administrator of the Henry unit said that as a school, it is possible to "take for granted that all students and families have access" to school information or an understanding of school resources and processes. The administrator on the Jones unit felt that a parent's ability or willingness to communicate with the school might be due to "their own experience that influences their perception and we may not be aware of their experiences."

Many of the focus group participants shared the belief that although the school does communicate frequently with families, families may not actively seek to be informed. Family challenges, work schedules, disinterest, or a belief that they are already sufficiently informed may result in the school perceiving that parents are not in touch with the school. The interventionist of the Jones unit said, "school does a lot; some choose not, or can't." The administrator of the Smith unit felt that some parents are reluctant to become more involved in school. Similarly, the of the Henry unit expressed that the school is doing their part in communicating with families and many opportunities are provided for parents to be informed and involved but choose not to participate. Schools may need to look further into why some parents are disconnected.

Some of the parent participants also shared about communication gaps that exist. The parent of the Smith unit felt that if "you are an active parent who wants to ask a

question to someone else in the school" the parent needs to do so. She added, "if I email them, they are right on it, but again, I'm initiating it." The parent of the Henry unit shared a similar response, "They give their emails and suggest if there's a problem or question, to email them." According to the parent in the Jones unit, the teacher does an excellent job of communicating but "I don't get any feedback from the others." And finally, on the topic of communications gaps with the school, the parent of the Nelson unit felt "that it really depends on the teacher as to whether or not you get a good response."

Overall, with both parents/guardians and school personnel, across all units of analysis, communication and points of contact were regarded as important and that the Washington School District demonstrates a commitment to communicate with parents and involve them in school activities. The various communication efforts allow parents/guardians to understand school expectations and school practices and to grow their relationship with the school.

Theme 2: District and leadership impact the school culture. A strong commitment by the Washington School District is articulated in board policy (2111) and "recognizes and values parents and families as children's first teachers and decision-makers in education" (NEOLA, 2009). The Board policy further illustrates a commitment to home partnerships by stating that the term family includes "primary caregivers, who are not [the students'] biological parents, such as foster caregivers, grandparents, and other family members. Expectations for school personnel to offer volunteer opportunities, learning at home support, involvement of families in decision-making, and extend ways for collaboration with the larger community" is clearly stated in board policy (2111). Responses from all of the participants in the interviews acknowledged the presence of

district communications, through superintendent and principal electronic newsletters and messages, which corroborates that the leadership consistently communicates high expectations for students. One parent interview response specifically stated that high expectations are evident for all students. From the speech and language therapist of the Jones unit, "expectations are the same regardless of support at home."

The leadership in the building can influence how families feel connected to the school. It was the parent participants who commented the most on this topic. The parent of the Henry unit felt that school leaders influenced the level of acceptance for families of children with disabilities, but it "depended on the grade or building" of her child. For the parent of the Jones unit, they had difficulty with administrators in the eligibility process for special education services for their child. This parent felt that it was the teacher and educational aide who were instrumental in this process. The parent stated, "It took a champion on the inside of the building, and the parent was the champion on the outside to say there was an issue." The parent of the Smith unit felt that the current building leaders are "always helpful and take the time to talk with me." However, the experience at another building prompted her to question leadership and wonder if "the students are the priority."

Theme 3: Inclusivity for students and families create positive interactions. A concern for families of children with disabilities, beyond the academic challenges for their child, is the social setting of the school and in the classroom that will support their child's sense of belongingness, despite their differences. One of the most important roles of leadership is establishing such social expectations of inclusivity for all students in the

school community. The parent/guardian responses associated with this theme were more personal and more extensive than the responses shared by the focus groups on this topic.

Overall, the parents experienced inconsistencies of inclusivity throughout their students' education. The parent of the Nelson unit felt that the district has established "expectations for behavior and how you integrate with the community." Students are expected to treat each other kindly and school personnel support this culture. However, she worries how her child will integrate with her peers as she advances to the higher grades. Her child is very social and wants to be around other students but is concerned about how she will interact with her peers: "If they don't understand her are they just going to ignore her?" As a parent, she is concerned about the adults as well and worried about if "the teacher is going to be frustrated."

The parent of the Henry group, despite concerns regarding previous school experiences of isolation or misunderstanding of her daughter, recognized that "there are some people who are very accepting of children with disabilities." This parent described some years in her daughter's education that were especially segregating for her daughter. Twice, out of frustration with the IEP team, she withdrew her daughter from the school district and homeschooled her for a period of time. She appreciated when teachers did not "give up on her child," but they took time to learn who she is. The parent in the middle-school Smith unit also shared that there were frustrations with previous school teams, and she felt that they did not want to be bothered with the extra accommodations her son required. She is positive about her child's current school situation: "The school does embrace him and people with disabilities and want to help them integrate into the overall

atmosphere" She credits his teacher for "going above and beyond, to just look at him and accept him."

Through the parent interviews, concerns were expressed as to how, as parents of students with a disability, they are included and respected in the school environment. Ongoing communication between the teacher and the family of a child with a disability can be extensive as teams work together to support the students' unique learning needs or social challenges with their peers. Concurrently, parents also need social support and understanding as they navigate the special education language and requirements. When faced with frustration in working with an IEP team, the parent of the Henry unit regrets her timid demeanor at a time she felt she should have been an advocate for her child. She stated, "I didn't step in and say let's try something different." While she enjoyed the support and comfort with some buildings and some teams, she recalls a time when she wasn't considered equal: "There was a lot of talking down to me." The parent of the Nelson unit shared her insecurities regarding her lack of understanding about special education and how the team perceived her when her child first became eligible for services and admitted that she was "not familiar with special education."

Through the focus group interviews, the school personnel communicated that they felt that the schools make an effort to include both children with disabilities and parents of those children. The interventionist of the Nelson unit described the preschool program where children with disabilities learn alongside children who are not disabled. The classroom expectation for inclusion and respect is accomplished naturally as a class with the staff playing a "critical role" in modeling acceptance. The high school administrator of the Henry unit who believes they have frequent opportunities for natural peer groups

cited examples of how students with disabilities interact with the general population and how they are included in school functions. At the elementary level, the administrator felt that in an effort to be accurate in supporting the needs of children with disabilities, "we sometimes over-emphasize deficits and needs." With special education requirements for specific goals, school personnel can inadvertently support the exclusion of students through our interactions and services we provide.

The critical role of communication is embedded into the cultural fabric of a district and is central to all district decisions and operations. It is the culture of communication that allows the community to understand school priorities, to experience how they are welcomed into the school and understand school processes. The Washington School Board policy 2110.02 states that the "District respects the rights, privileges, and differences of each student." It is the characteristics of the school culture and the role of the leadership that ensures an emotionally safe environment for academic and social support of families and their children with disabilities. It is the culture that supports home and school communication and inclusivity for families and their children with disabilities. (NEOLA, n.d.) The philosophy and practices of the school culture can be pivotal when new programs or new strategies are introduced to educators, such as telecommunications technology.

Research Question Two. How has telecommunications technology influenced parent/guardian involvement in their student's learning?

Theme 1: There are telecommunications barriers that prevent parent involvement. After families are introduced to telecommunications technology, the Teleroo platform, and appropriate training has occurred, the IEP teams create a focus or student goal to be addressed specifically through the use of the telecommunications

platform. The feedback received through the parent interviews was that the technology component was not an issue in program success. The parent of the Smith unit admitted that they did not complete the tutorial, yet "everything seems really clear." The parent of the Nelson unit talked enthusiastically about the efficiency and ease of the technology platform. "It's super convenient and easy to use." She felt that the platform could be a single point of information and minimize the overwhelming mix of communications, often duplicative, she receives from the school.

The parents and school personnel also identified weaknesses of the telecommunications technology. At the onset of the program, there were technology issues that required attention and delayed implementation for interested families. The early delays prompted several families to withdraw from the program before it got underway. The parent of the Smith unit confirmed this. The interventionist of this same unit agreed that the start-up was slow. The speech and language therapist on the Jones unit felt that the timing was an issue and that the "program started late in the year." An additional concern about the technology from the interventionist of the Smith unit was that the "after hours involvement was difficult for teachers." There was concern that teachers would be expected to communicate during evenings and weekends, with technology that was always available.

One of the stated objectives in the VIP parent literature was to make "home life easier through collaborative parent coaching, self-guided learning and strengthening school, home, and community partnerships". Furthermore, those strong connections create a "multiplier effect with small changes" at home and school result in a greater student impact (VIP parent brochure, n.d.). Parents and school teams were very

responsive to questions related to the use of telecommunications technology as a way to communicate for the IEP team. However, they also identified a number of concerns or barriers to being successful.

The initial reluctance of parents to embrace the telecommunications technology was common feedback in all of the parent interviews. Some of the concerns were directed at parents and some concerns were directed at the teacher. For example, the parent of the Henry unit had concerns about the workload of the teacher and stated "How can we use it without making it more cumbersome?" The parent of the Smith unit was also concerned about the teacher involvement and that she might not welcome the possibility of "constant communication with the parent." This same parent further connected that the teacher burden could impact the teacher's attitude towards her son. "I don't think they would have appreciated doing one more thing for him."

The parent of the Nelson unit expressed concern about privacy and felt that some families might view the use of telecommunications technology as an "intrusion" in their home lives. A related concern stated by the parent of the Smith unit was her discomfort in sharing a comment that the entire team can view. "If you are thinking it might be a stupid question, you're not going to send it out to the team because everyone will see it." The elementary parent of the Jones unit was "circumspect" about its use and cautioned the school leaders to not consider telecommunications technology as a replacement tool for other interactions between home and school because some parents might not be "devoted [enough] to log in everyday."

Specific to the features and capacity of the telecommunications platform, most concerning by both parents and school personnel was the use of the student video and the

posting of recorded home incidents on the telecommunications platform, specifically with respect to student self-regulation. Parents often have the most questions and want the most advice from school personnel about disruptive behaviors in the home. The parent of the Nelson unit stated that she was "struggling with my child's behavior at home," and that although the teacher was not seeing it at school, the parent felt she needed help.

The telecommunications platform has the ability for teams to video situations or outbursts at home and ask the school team for strategies to address the behavior. Some issues raised by parents and focus group participants included the accuracy of the video and the exposure of their parenting style with the team. Addressing the first concern, the parent of the Henry unit felt "that the actual recording can change the behavior." The parent of the Smith unit said, "when you are in the middle of that emotional encounter the video changes the dynamic of the encounter."

The second concern stated by the participants was vulnerability. The interventionist of the Henry unit believes that "some families aren't comfortable with technology and videos of their home" and feel the parent sentiment would be "surely someone is going to judge me. The parent of the same unit shared her internal struggle with the video recording and a concern that the outburst might be perceived as having been actually caused by the parent's intervention with the child: "Are we going to record it or are we going to worry about the behavior?" An interventionist of the Smith unit felt that vulnerability was a concern for both parents and school team members. "You have to be vulnerable and release your self-pride." The video recording in the classroom and allowing parents and other team members view a classroom situation can also be

intimidating for the teacher. An interventionist of the Smith unit felt that the technology can also "make teachers feel like failures."

The speech and language therapist of the Jones unit summarized a common concern communicated in the focus group interviews that the team "is limited by what the parent is willing to do" with the telecommunications technology. However, the parent of the Henry unit felt the same about school teams. She felt that success with a telecommunications technology platform requires a "team that is not afraid of the technology [and] a teacher that is open to it and feels like it's going to help." School personnel largely agreed with value of the platform. The interventionist of the Smith unit believes that teachers who understand the potential of the telecommunications technology will not view it as "one more thing. Once the teacher understands the program and the value of it and success, they will push for it." A unique response made by the interventionist of the Nelson unit was that they felt the platform has the potential to also be overused by the parent and has experienced in one case that the "parent is capable of parenting" but when the parent uses the platform, "we are doing her job for her."

Theme 2: Telecommunications technology invites parents to be involved. Comments made by parents and school personnel throughout the interview process underscored the capacity of telecommunications technology to connect the school and home in a meaningful way. The parent of the Smith unit was enthusiastic about being "connected to the people that are really in touch with your child." The parent of the Jones unit "sees this as a beneficial platform [because] it invites us to see how he is doing in the classroom and how he interacts with the teacher when we are not around." Some of the stated strengths of the telecommunications technology by several of the interview

participants included timeliness, consistency, flexibility, having a variety of access points, and a good tool for parent coaching.

For timeliness, the parent of the Smith unit felt "you can ask questions and get those questions answered in a timely manner." For consistency, an administrator of the Nelson unit felt that platform "eliminates sidebar conversation and telephone game miscommunications" between team members. She appreciates that the telecommunications technology allows the whole team to assemble at one time. The interventionist of the Nelson unit felt that consistency is a result of greater "team cohesiveness" and that the telecommunications technology provides "a more direct way of communicating." The educational aide of the Nelson unit shared that this is a "great way the classroom and home are involved together; we are telling and communicating what we see and don't see at school." The parent of the Jones unit appreciates the ability to "model the same strategies at home." The value of consistency is a recognition that "education doesn't happen in a vacuum; what happens at school and home impacts student success," according to the educational aide of the Nelson unit.

For flexibility regarding team interactions, an interventionist of the Smith unit uses "all facets of the platform including video conferencing, posts, videos, and pictures." The parent of that same unit thought that the platform would be responsive to the needs of parents who travel for work or is not available during the day because of child care or transportation issues.

For access points, the features of the telecommunications platform that are used by each team vary, but the choices are available to all. The sharing of videos allows school personnel to provide instructions and comments to guide families. The special

education director of the Smith unit communicated that they can "share specialized tools, strategies, and ideas" with families. The interventionist of the Nelson unit uses video conferencing for both quick updates with family and for longer meetings with more team members present. She posts techniques and uploads important documents such as checklists for behavior on the platform.

Washington School board policy (2110.02) commits the district to "offering training and resources to help families learn strategies and skills to support at-home learning and success in school" (NEOLA, n.d.). The parent-coaching opportunity available through telecommunications technology was the feature most applauded by the interview participants. The VIP program literature defines coaching as "working one-to-one, listening, demonstrating empathy, engaging in dialogue and communicating honestly" (VIP, family agenda, n.d.). One advantage for the family lies in the parent being empowered to identify their greatest home need and to have the school team respond to that need by teaching parents targeted intervention strategies to meet that need. The parent of the Nelson unit feels, after they successfully selected a home goal, that the better things got at home, the easier it was for the student to go to school and be successful: "It's been helpful for us as a family."

To the parent of the Henry unit, figuring out how to help their child is intimidating so "it's nice to have support to push us along." Coaching involves modeling effective strategies for carryover by parents in the home setting. The administrator of the Jones unit said that it could provide parents a "visual of what (the team) is trying to describe." The school personnel associated with the Henry team supported the value of the coaching model using telecommunications technology. They described the benefits of

coaching as the school "tying to the home more closely," as a "way to provide concrete examples of strategies," as a way for families to "learn the language" the team uses, and to carryover strategies so "skills are not lost."

Research Question Three. How has telecommunications technology intervention impacted the parent/guardian role on the IEP team?

Theme 1: Parent trust is necessary for meaningful home and school relationships. One of the stated goals of the VIP program is to use telecommunications to build stronger school connections to parents/guardians, as well as "translate existing in-person relationships into positive virtual ones" (Case Western Reserve, 2018). The VIP framework also aspires to "build trust between program participants and school personnel" to ensure that the new technology will be successful. This trust is illustrated through the VIP parent information meeting, where parents hear they are the experts about their child (VIP parent agenda, n.d.). Respect for families is further communicated in the VIP team meeting where the parent is invited to identify what goals they would like to address, and the school relinquishes their traditional control of the IEP priorities. The parent of the Jones unit confirmed that they "chose the area to focus on in the home." The interventionist of the Nelson unit felt that by making the family an important part of the plan, "is a way to help parents and show that we care and they will be more engaged." The speech and language therapist of the Jones unit spoke sincerely in her feelings that we must recognize that "parents are valued members and their input is valued as part of the team."

The parent of the Jones unit got involved with the VIP program because they "trusted" the recommendation for the program by the speech and language pathologist. Trust existed as well with the parent of the Smith unit who admitted "because we had a

personal relationship already, that trumped what was going to happen in the program." Trust developed as a result of the telecommunications technology for the parent of the Henry team, and she shared that it prompted "a breakthrough in communication between home and school. We started understanding each other more." Separately, the interventionist, as well as the administrator, of the same team concurred that the team was "disconnected from the parent," and the parent did not trust the school team. The telecommunications "technology helped bridge the gap [and] fast-forwarded the team's progress." According to the counselor on that same school team, telecommunications technology can help "parents find their voice. You can't see how powerful it is until you try it." The parent of the Smith team felt that the telecommunication technology is also a very valuable tool in establishing a trusting relationship, particularly if the school is seen as initiating this new technology and invites the parent to participate in the program.

Theme 2: Team dynamics of the IEP team can be impacted by telecommunications technology. Team dynamics can be impacted by an individual's level of confidence or the amount of information they hold. Parents agree to meet with the IEP team to review progress, concerns, or services for their child. They attend the meeting in the school setting, and a number of school personnel are present at the meeting with reports, data, and other information. The IEP meeting in its functioning can be intimidating to parents. The parent of the Henry unit said that she felt outnumbered when she attended meetings. There are steps school personnel can do to alleviate some parental anxiety. The interventionist of the Nelson unit felt that "parents are very intimidated prior to a meeting. We need to have a good relationship and call and explain". The parent of the Nelson unit admitted that she feels "it's kind of

overwhelming" and the team is "using a lot of acronyms and things I don't even know." The parent of the Smith unit, despite many years of involvement in the district, feels there is a stigma that still exists and that the school personnel know more than the parent with respect to their child. The counselor and interventionist of the Henry unit agreed, "lots of parents come to meetings to just be agreeable" if the recommendations don't seem "too far off."

By employing the coaching strategy, telecommunications technology can engage parents in a sophisticated partnership where research-based strategies are introduced into the home setting, where the learning is facilitated by parents/guardians. In a coaching model, parents are viewed as trusted team members, and their skill in implementing teaching strategies in the home setting is respected. This is evidenced by the high level of instructional strategies taught to parents for home implementation and illustrated by the strategies listed in the VIP home plan created by the IEP team. With coaching by the school team, parents are trusted to apply research-based strategies including reinforcement schedules, visual schedules, visual timers, visual maps, role play, gestural and verbal prompts, allowance board, and first-then boards.

To mitigate parent feelings of inadequacy, team members argued for the benefits of the telecommunications platform and how it can balance the parent and school relationship. The interventionist and counselor of the Henry unit felt the telecommunications technology "empowered the parent as a home team," which led to her "having a lot more to say" in the meetings. An interventionist of Smith unit expressed that ongoing use of the technology platform could help build knowledge and instill confidence with the parents when they interact with the team. She further commented that

parents might feel that telecommunications might facilitate the parent interactions: "It's easier to type a question than say it" at a face-to-face meeting. The platform creates an open level of communication, and the interventionist of the Smith team acknowledged that it's "always open." Her colleague on the Smith unit added that when communication occurs frequency, as it can through the platform, there is a trust level that can result. The parent of that team stated she believed that "trust between the school and home environment is developed over time, [enabling a] relationship that you develop by points of contact." The parent of the Nelson unit suggested that with the technology, there are opportunities to have "smaller interactions throughout rather than just two big meetings, [where] people would be naturally more comfortable because you are exposed to it more."

The speech and language therapist of the Jones unit felt there was work still to be done in building IEP teams where members are equally and mutually valued. She expressed concern that "we lack approaching the dialogue as a team" and fully considering each other's perspectives. The interventionist on the same team felt that this may "give parents more confidence in helping" their child. The interventionist of the Nelson unit felt that with the ongoing parent communication, parents would know what is going on and "feel more a part of the team." The administrator of the same unit felt that went parents do come to a meeting, "they will know what they are walking into and that's half the battle."

Telecommunications technology is described by the focus group participants and the parent participants as having great potential to unite a team for a shared purpose. It is a tool that allows the team to work together and communicate in a variety of ways over

time. The interventionist of the Smith unit said telecommunications technology is good tool to "keep everyone on the same page [and] engage in productive problem-solving." The parent of the Jones unit stated, "if you have parents and teachers *not* working as a team, I think it makes the process slower." The interventionist of the Henry unit felt that the technology kept the team "goal-driven and even-keeled." The high school administrator of the Henry unit felt that the parents and school team knew all of the problems interfering with the student's success, but couldn't problem-solve as a team any longer. The telecommunications technology helped the school personnel and parent be more creative and unified: "It helped the team get unstuck." The special education administrator of the Nelson unit believes it provides a "more direct way of communicating" and enhances "team cohesiveness."

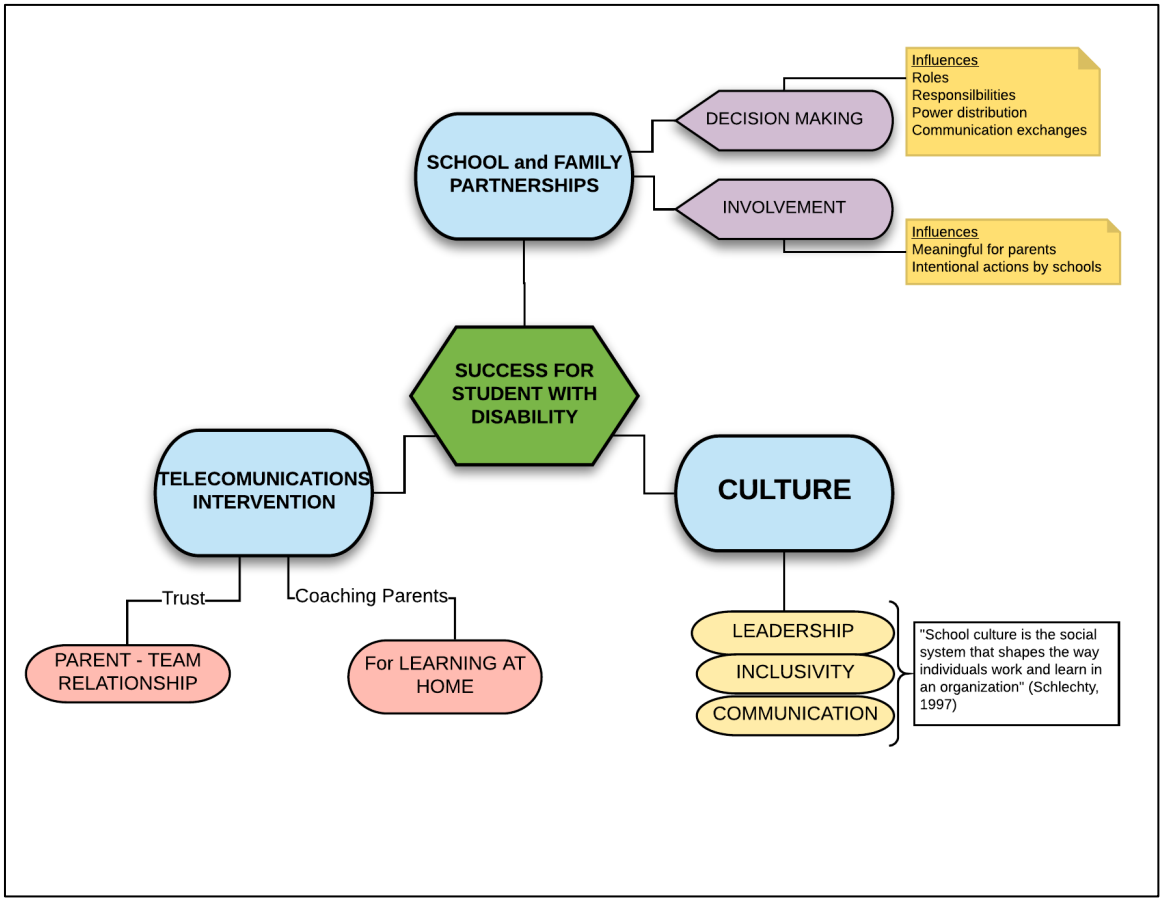

Figure 1: Concept Map connecting telecommunications technology and parent involvement

Summary

Chapter four presents the results of a document review, individual semi-structured parent interviews, and semi-structured focus group interviews. The 19 participants in the study had varying degrees of experience using telecommunications technology in collaboration with other IEP team members. Each team accessed different tools available on the telecommunications platform and applied those tools based upon the interest and readiness of their team members. Even within a team, as evidenced by the responses generated in the focus group interviews, each individual participant held a unique

perspective depending on their role on the team, their comfort with technology, or their purpose and motivation for using the technology to connect with parent and school team members. All individuals initiated their participation, volunteered their time, and appeared eager to share their thoughts and experiences.

The researcher analyzed and organized the data by units of analysis. Each unit was comprised of a parent/guardian and some of the corresponding school team members. While the characteristics of the sample population will be discussed in more detail in the next chapter, the findings did not show that each unit of analysis revealed evidence that was necessarily unique to their teams.

The findings were categorized into three broad areas with subcategories delineated based upon patterns of responses (Figure 1). This concept map illustrates the connectivity of school and family partnerships, school culture, and telecommunications technology for student success. The map links school and family partnerships with two meaningful levels of parent engagement, decision-making and involvement. It additionally identifies the influences associated with successful engagement. The culture of the district, as examined through leadership, communication, and inclusivity, illustrated how these connected features are influential in student success. The telecommunication intervention is a tool that can build trust between the home and school and, when implementing parent coaching, can meaningfully support student learning at home.

The first category identified evidence that described the context of the telecommunications technology: the culture of the school and district to determine how features of a school climate, communication, inclusivity, and leadership impact the

implementation of telecommunications technology as a strategy to connect IEP teams and include parents in meaningful ways. Looking at the results holistically, the findings show that there is a good deal of school-to-home communication in the district. The parents and school team participants described a wide variety of communication methods and communication formats. Evidence in this category was plentiful, and responses included both one and two-way communication, the latter mostly initiated by school leaders or as a result of ongoing district protocols.

School leadership was said to be influential in implementing new innovations. Responses from parents and school personnel provided less concrete examples, but opinions expressed indicated that building and district leadership impacted expectations for student learning and the social emotional climate of the learning environment. The final component of school culture examined inclusivity in the school and classroom. Parents were more heartfelt than the school team members in their responses and consistently expressed concerns about their child's sense of belongingness despite their disability. School team members, given the nature of their role in educating children with disabilities, were in support of inclusivity, but offered minimal evidence of intentional efforts that are in place to promote an inclusive environment.

The second category of clustered responses is in the area of telecommunication technology and parent involvement. Parents and school team members actively contributed responses that align with this topic. The extent of the participant's experience using the telecommunications platform influenced the depth of their responses. The data were loosely divided between pro (intentional parent involvement) and con (barriers to implementation). Some of the barriers described were largely technology glitches that

have been addressed over time, with many already having been resolved. Some of these included lack of training opportunities for school personnel and parents, confidentiality protections for student records, efficiency of the platform, and slow implementation of the program. The more significant barriers included exposure of the home, the challenges of recording student behavior, the personal discipline required to incorporate the platform as part of the school or home routine, or being judged as a parent or an educator by those viewing video clips.

The participants provided evidence of the advantages of telecommunications technology regarding the ease of increasing parent involvement. While the evidence of barriers with telecommunications technology reflected specific details and instances, the responses regarding this topic overall were positive but described in generalities and not specific team examples. Responses centered on the value of school team members coaching parents to carryover interventions into the home for greater student progress. Parents and school team members alike supported the use of telecommunications technology for this purpose.

The final category of clustered responses addressed the parent relationship with the school team and the role of the parent on the IEP team. Parent trust was a reoccurring theme in the responses, particularly on the part of the parent/guardians. Prior experiences with ineffective school teams and concerns about the intimidating language and overwhelming procedures of the IEP process influenced parent perceptions regarding trust with the school team. Responses included examples of situations when parents did not feel equal and the school team controlled decision-making about their child.

Conversely, it was trust in school personnel that parents cited as the reason they chose to try telecommunications technology.

Overall, the participants responded positively to the use of the telecommunications technology as an effective strategy to unite home and school in partnership for meeting the needs of students with disabilities. However, their responses didn't specifically confirm that the technology platform could naturally or independently improve the working relationships between home and school. The administrator of the Jones unit believes "it certainly would improve parent communication if all other things are perfect," meaning that the relationship between the team members was healthy. The interventionist of the Henry unit feels "that if all are comfortable with the technology, it works."

CHAPTER V: DISCUSSION

Introduction to the Study

This study explores the use of telecommunications technology as a tool to strengthen the partnership between school and home for students with disabilities. The researcher used documents and records, semi-structured parent interviews, and semi-structured focus group interviews as data sources for the study. Documents and records in the data collection included: township websites, board of elections, the state report card, the district profile, the state district profile, VIP agendas, parent materials, district policies, a university external study of the VIP program, VIP parent surveys, VIP/IEP student goals and progress summaries, which provided the researcher with a real-life context of the contemporary phenomenon being studied. Semi-structured parent interviews were individually conducted using questions aligned with the research questions and constructs in the literature. These interviews were digitally recorded and transcribed by the researcher. The researcher used similar questions for the focus group interviews, with appropriate adjustments for the audience. Field notes were used to capture the responses and perspectives of the participants. Through individual and focus group interviews, the researcher was able to gain an understanding of the human element that exists in the implementation of a telecommunications technology intervention and corroborate findings.

This study examines the relationship between two broad constructs in the literature: the use of telecommunications technology as a special education intervention and the significance of parent/guardian involvement in the school to improve student success. There have been a number of recent studies that demonstrate the effectiveness of telecommunications technology as a replacement for side-by-side therapy, predominately

in the area of speech and language (Davis et al., 2012; Coleman et al., 2015; Edwards et al., 2012; Gabel et al., 2013; Grogan-Johnson et al., 2011; Mashimima & Doarn, 2008; Richardson, 2012). There is also compelling evidence to suggest that home environment and parent involvement are significant factors in student learning (Clinton et al., 2007; Hattie, 2009) and that the reciprocal relationship between home and school and the role of parent/guardian in the learning process influences student performance (Becker & Epstein, 1982; Clinton et al., 2007; Epstein, 1986; Epstein, 1995; Epstein & Jansorn, 2004; Forsyth et al., 2005; Gonzalez-DeHass et al., 2005; Hart & Risely, 1995; Lucas, 2010). It is important for school leaders to identify the type of involvement that is most effective for student success (Jordan et al., 2001; Lucas, 2010; Tran, 2014). Joyce Epstein's well-known framework describes five types of for parent involvement and the outcomes for parents and schools at each level (Epstein 1995; Epstein & Jansorn, 2004; Jordan, et al., 2001). In the analysis of the findings, the researcher uses this framework, in addition to other constructs in the literature.

There is a gap in the literature on the use of telecommunications technology as a strategy to strengthen the IEP partnership between home and school and expand the capacity of families in supporting the success of their child. This study examines the use of telecommunications technology as a tool to more intentionally involve parents/guardians in their student's education.

This chapter contains the following sections: summary of the findings, discussion, recommendations for practice, recommendations for future research, and conclusion.

Summary of Findings

The researcher collected and organized the interview and focus group data by unit of analysis, which included a parent and the school personnel aligned to the family. Using a random sampling process, each unit of analysis represented different age groups, different student disabilities, and different programs or buildings in the district. The focus group participants represented a wide variety of roles and responsibilities. The sample size for a case study needs to be sufficient to examine phenomenon being studied and to answer the research questions posed. The 19 participants allowed the researcher to maximize the information about telecommunications technology program in the Washington School District without redundancy of responses (Merriam & Tisdell, 2016).

At the onset of the data collection process, the researchers expected that each unit of analysis would be generally cohesive in their responses and provide a unique picture of the dynamics for that IEP team. The data for each unit of analysis could then be analyzed within and between the units. In the simultaneous collection and analysis of the data, the researcher observed a commonality in the responses across all interview participants rather than responses that were unique to each unit of analysis. Since the intervention is new to the district and parents and school personnel are generally unfamiliar with its features and its full implementation, the comments made were similar across all units of analysis. One unit did not have more understanding or experience with the technology as a home-to-school connection. The findings were responsive to the research questions, but not necessarily delineated by units of analysis.

The section is organized first by the findings of the study and their connections to the literature and the research questions, followed by a discussion regarding significant findings across the data sources. The researcher then discusses practical implications of

the findings for use by district and school leaders. This will be followed by recommendations for future research or inquiry.

Research Question Results

This section will review each research question used in the study and determine how each one was addressed through the data collection process. Connections will be made to the theoretical framework and other constructs found in the previous literature review, as well as participant responses

Research Question One: In what ways do the attitudes of district personnel, current practices, and district/school culture support the use of telecommunications technology?

School culture is the social system that shapes the way individuals work and learn in an organization (Schlechty, 1997). The context of the Washington School District is essential to the interpretation of the data. The state district profile, the township's websites and census information indicate that the surrounding community of the Washington School District is comprised predominantly of residents who are active, well educated, and civically minded. The District Profile annual report document indicates that the district is a microcosm of the larger community in its demographics, its level of public interest, and its commitment to preserve the character and traditions of the school district. The school community is very limited in its diversity, and though parents expect an exemplary education for their children that mirrors current educational best practices, they are emphatic about maintaining a school district of modest facilities, longevity of teachers who reside within the Washington School District boundaries, and their status as the heart of the local community. The community consistently supports the financial needs of the district**.** The state's district profile reports that nearly 70% of the district is

funded using local tax dollars and is ranked in the top six percent of districts in the state with the largest local contribution to per-pupil costs.

Parents notice and value the communication efforts of the district. The responses of the participants and available evidence of district communications such as newsletters, email blasts, progress notes, report cards, announcements of events, board meeting minutes and agendas, along with school and teacher evidence of parent communication, provide compelling evidence that the Washington School District communicates on a regular basis for a wide variety of purposes with families. Using Joyce Epstein's framework of parent involvement, the ongoing interactions described by the parents and the school personnel are communicating and volunteering (Epstein, 1995). These levels of involvement and communication are evidenced through parent and teacher conferences, the district website, general newsletters from district leaders, flyers for district events, a district calendar with events and district information included, the District Profile annual report, parent orientation night, a district email account for parent use, parent and teacher conferences, an online grading system, and parent reports for all state testing are communication opportunities provided to all families.

Additional communications that are more tailored between a teacher and a family can include notices regarding events, classroom newsletter, teacher websites, individual communication logs for specific students, classroom volunteer requests, student work, classroom events, as well as personal phone calls and emails. Communication efforts assist parents in monitoring their child's progress and help them stay involved in their child's education. Parents benefit from frequent communication because they learn the role of the teacher and administrator, can better understand the school operations, and

have opportunities to interact with teachers. For the school team, involving parents through communication and volunteering allows them to share information, learn about families, and involve families who are hard to reach (Epstein, 1995).

School culture is influenced by the actions and interactions of the leader (Kowalski, 2000; Schlechty, 1997; Wallace Foundation, 2011) and study participants noted their principals as being influential in establishing a culture of parent communication and involvement. The parent of the Smith unit stated that "the actions of the leadership" communicate "what their priority is and if the students are the priority." The parent continued with how the school personnel play a critical role in acceptance of students: "The school does embrace him and people with disabilities. They want to really help them to integrate into the overall atmosphere and what's going on in the curriculum."

Effective principals believe all students can learn, all students belong equally in the school community, all educators are responsible for and capable of providing instruction to a wide range of learners, and that the principal holds a sense of accountability for every student's education (DiPaola & Walther-Thomas, 2002; Goor et al., 1997; Wallace Foundation, 2011). The administrator of the Smith unit feels that there is work to do in the area of rigorous standards for all, "we don't do a good job with this; this is a place for improvement." As a leader, the principal could do more to involve parents in curriculum-related workshops, provide more opportunities to be involved in learning experiences at school, and include more information in newsletters and at parent meetings about student work in the classrooms.

The findings of the study reveal that the Washington School District culture supports parent involvement through visible and varied communications to families for the purposes of keeping them informed (Schein, 1985) The district has adequate personnel resources, educated and experienced teachers and administrators, a supportive community, a clear vision, high student achievement, good facilities, a progressive curriculum, and a strong technology infrastructure. One way to capitalize on the advancements made with technology is to evaluate its potential to streamline or enhance other school operations (Cavanaugh, 1999). The use of telecommunications technology is a logical enhancement to district communication efforts and parent involvement.

Key Finding: IEP teams are poised to use telecommunications technology.

There is evidence that the Washington School District has made efforts to develop relationships with families, and that school leaders emphasize a cooperative partnership with families (Epstein, 1986; Epstein, 1995; Epstein & Jansorn, 2004; Hattie, 2009). The literature supports the critical role of the principal and the need for the leader to model and expect school personnel to engage in two-way communication with families (DiPaola & Walter-Thomas, 2002; Kowalsi, 2000). Specific to families with children who receive special education services through an IEP, the parent participants verified that the Washington School District practices a culture of parent involvement**.** Articulated clearly by the administrator of the Henry unit, and reiterated by other participants in the study, he believes that school personnel understand the value of two-way communication and practice it through parent opportunities such as conferences, college planning, and Intervention Assistance Team meetings. Participant responses generally supported the platform as a way to create an open level of communication, as a "two-way street."

Evidence was provided by the parent of the Nelson unit when she described how she felt the team meaningfully involved her in the special education goal-setting and planning for their child (Goor et al., 1997): "We were able to brainstorm and come up with something." The parent of the Jones unit was positive about the school's commitment to involve parents: "It really was the climate and the communication in the school that prompted us to choose the Washington School District for our child [with a disability]."

The culture of the district defines not only how parents are involved in the IEP process but how district standards include students with disabilities in regular education (Schein, 1985). The Washington School District has communicated expectations for student behavior toward each other. However, multiple participants shared their worries about the acceptance of their child. The parent of the Nelson unit expressed concerns about how their child will "integrate with her peers" and wondered if "she will be ignored when they have difficulty understanding what she is trying to say." The same parent acknowledged that the Washington School District has established expectations of "kindness and sharing" for student behavior and how students conduct themselves in the school community. The parent of the Smith unit credits school personnel for helping her student feel welcomed in the classroom by the students and the teacher despite his unique learning needs.

Some parents shared isolated incidents about particular building, a leader, or a school team that reflected less than ideal experiences for parents or their children. For example, the parent of the Henry unit said that she could recognize when she was not considered an equal participant on the team and felt her concerns were dismissed. However, overall, the parent participants reported that their experiences with the school's

communication, family involvement, and student inclusivity were positive. The focus group participants provided evidence of the school's willingness to communicate with parents, and it was acknowledged by several participants that they could always improve their skills in the area of parent involvement.

Because the district has prioritized school-to-home communication with the intent to involve parents in student learning, the IEP team is a logical, existing structure for schools to organize communications and foster parent involvement a using telecommunications technology platform. Special education law dictates paperwork and practices that can easily be chronicled in a telecommunications platform (U.S. Department of Education, 2004). The need for individualized behavior plans, the requirement for frequent progress monitoring of student growth, the documentation of specialized techniques for skill development, the need for frequent opportunities for the team collaboration, the requirement for parent involvement, the maintenance of extensive student records are all activities that can be easily organized, accessible, and archived on a virtual platform. The telecommunications technology ensures seamless and transparent communication between home and school. The IEP team would substantially benefit from using telecommunications technology to manage team communication.

Research Question Two: How has telecommunications technology influenced parent/guardian involvement in their student's learning?

All of the study participants, both parents and school personnel, have experiential understanding about the importance of parent involvement. As a matter of practice, the school's involvement of parents who have children with disabilities is expected (Schein, 1985). There is an expectation and a structure in place that requires the school and parent

to participate in the assessment, identification, and placement decision-making (U.S. Department of Education, 2004).

Study participants talked the most about this area and responses reflect an understanding of the capacity of telecommunications technology and how it might be used between home and school to shape student learning. Epstein would describe this type of parent involvement as learning at home (Epstein, 1995). Activities aligned with this type of involvement include carryover of school skills into the home by parents. Participants described a variety of ways the telecommunications technology could be used to support home learning. As indicated by the educational aide of the Nelson unit, telecommunications technology is a "great way that the classroom and home can be involved" together. Active parent involvement is a significant contributor to student success (Hattie, 2009). Active involvement of parents calls for schools to be intentional in their efforts to do so (Tran, 2014; Varlas, 2015). The school team can facilitate active parent involvement in home learning, through a parent-coaching model. Coaching requires explicit guidance on techniques from school personnel to parents for home carryover (Meadan et al., 2016; Vismara et al., 2013; Wainer & Ingersoll, 2015). The participants described how the telecommunications technology supports a parent-coaching approach. The administrator of the Henry unit believed parents would benefit from concrete examples of strategies. The administrator of the Jones unit believed parents would appreciate a visual demonstration of what strategy a teacher is trying to describe. To further support the concept of telecommunications technology as a tool to increase learning at home, the speech therapist of the Jones unit believed that if school personnel

would provide video and instructions to families, they could carry over the technique along with the verbiage used by school personnel.

Team members and parents also made comments about the risks associated with a virtual communication platform "that is always open." Individuals acknowledged a need to be vulnerable to a level of communication that includes video recording and real-time exchanges. The parent of the Henry unit believes that it will work if the team is not afraid and "a teacher is open to it and feels like it is going to help." The interventionist of the Smith unit feels that individuals "have to be willing to want some help and let your guard down." This vulnerability can be difficult for some families, according to the interventionist of the Smith unit. Telecommunications technology and video recording "can be a reality check; a reminder of who their child is." Building school awareness of the unique challenges faced by families with a student who has a disability would support home and school interactions (Tucker & Swartz, 2013).

Key Finding: Telecommunications technology has the ability to enhance the level of parent involvement in their student's learning.

The findings support that parent competency with technology or availability of technology did not pose significant barriers in the use of telecommunications technology. The parent of the Nelson unit reports that "technology is not hard, and it's super convenient." The parent of the Smith unit said it was so simple that she did not feel the tutorial was necessary.

Parent involvement is a significant contributor of student success (Flores De Apodaca et al., 2015; Clinton et al., 2007; Hattie, 2009; Hattie, 2012; Lucas, 2010; Topor et al., 2010). Parent involvement can include setting goals, asking questions, displaying

enthusiasm for learning, encouraging good study habits, supporting skill development, and learning new things (Hattie, 2009). John Hattie's research corroborates the research of Epstein and underscores the significance of parent/guardian impact on student achievement when parents/guardians are actively involved in school learning (Epstein, 1995; Hattie, 2009). For students with disabilities, school administrators must develop an understanding of individualized strategies and practices that can meet the unique learning needs (DiPaola & Walther-Thomas, 2002). Telecommunications technology is a unique strategy and it holds potential in the school setting as a tool to connect IEP teams with families as they work together to support student learning (ASHA, n.d.; Brennan & Barker, 2008; Denton, 2003; Houston et al., 2012; Kramer et al., 2015; Mashima & Doarn, 2008).

Parent and focus group responses verified that the telecommunications technology provides a direct way to communicate and a tool that can unite a team with a shared focus. High-quality interactions between the parent/guardian and the school can improve student performance (Izzo et al., 1999). According to the Smith unit special education administrator, parent coaching occurs when school personnel guide parents in using "specialized tools, strategies, and ideas" to carry over school goals into the home. This approach has the ability to bolster student success through generalizability of the skills being addressed (Dunst, et al., 2001; Hamren & Quigley, 2012; McCue et al., 2010). Using a coaching model, the parent implements a strategy at home and the team can then provide feedback if the parent needs to adjust the technique used (Meadan et al., 2016). The interventionist of the Smith unit felt this approach can be used seamlessly with telecommunications technology and will promote greater consistency between home and

school. Some focus group participants responses indicated that increasing meaningful parent involvement will "give parents more confidence" in their ability to impact their child's success.

Research Question Three: How has telecommunications technology intervention impacted the parent/guardian role on the IEP team?

Student success is positively impacted by the reciprocal relationship between home and school and the role of parent/guardian in the learning process (Forsyth et al., 2005; Hart & Risely, 1995; Gonzalez-DeHass et al., 2005). Engaging the parent as an equal decision-maker in the IEP process is a worthwhile goal of telecommunications technology intervention. The parent of the Henry unit shared this statement about her team experiences, "I could recognize when I wasn't considered equal, in both words and actions." Epstein identifies this type of parental involvement as decision-making, and emphasizes how this level would support the equal role of the parent in learning decisions for their child (Epstein, 1995).

The legal requirements of IDEA establish and guide the activities of an IEP team, but it is the team dynamics, such as roles, responsibilities, power distribution, and communication exchanges that are powerful influences in the decision-making process (Pinkus, 2005; Ruppar & Gaffney, 2011). Some families might not feel they are part of the decision-making process (Katsiyannis & Ward, 1992; Stoner & Angell, 2006; Tucker & Swartz, 2013). However, the participants in the study provided evidence that they believe that telecommunications technology will create a stronger parent and school partnership and opportunities to be a part of decision-making for their child. According to the interventionist of the Nelson unit, "we want parents to feel more a part of the team." The counselor of the Henry unit wants parents to feel comfortable and "find their voice in

the meeting." The interventionist of the same team wants parents to feel empowered and nurture a team relationship where all members can understand each other better. The speech therapist of the Jones unit wants parents to know they are "valued members and that their input is valued."

The role of the parent/guardian is not an incidental one, but must be viewed as a purposeful, relevant, and central one in home and school relationships (Adams et al., 2009). Measuring the impact of telecommunications technology on the role of the parent as a decision-maker was challenging for the researcher. The lack of artifacts or visible actions to substantiate this parent role may be attributed to the underlying assumptions that influence team dynamics (Schein, 1985). These invisible influences may include personal beliefs, values, or experiences of the team members. The administrator of the Jones unit said the parents' own experience influences their perceptions, and administrators may not be aware of them. The interventionist of the Smith unit felt that though schools might do a good job of inviting parents into the team process, a previous negative experience may influence their level of trust and participation.

Participants expressed their beliefs regarding parent involvement, but provided limited evidence beyond feelings that the technology can grow the role and influence of the parent on the IEP team. Over time and after more team experience using the available features of the telecommunications technology platform, the evolving role of the parent may become more evident. Looking more closely at the information shared on the telecommunications platform, such as type of communication, the language of relationships, and statements of expectations shared between home and school, might provide more evidence of the parent role (Flores de Apodaca et al., 2015; Jeynes, 2010;

Topor et al., 2010; Yotyodying & Wild, 2016). Comments made by parent participants, including the parent of the Smith unit, who sees the teacher as a "personal guide," or the parent of the Jones unit who volunteered to try the telecommunications technology because "I am kind of trusting you on this," suggest more subtle indicators of mutual trust and more meaningful parent involvement.

Key Finding: Telecommunications technology can be effective when healthy team dynamics exist and can empower parents in IEP decision-making.

The more that parents and school teams understand each other's goals and expectations for involvement, the more successful the interactions (Sanders et al., 2005). Trust is a characteristic that benefits the interactions of a team, regardless of technology. An interventionist of the Smith unit felt that "you need trust before the platform" and the parent of the same unit shared "that the trust between the school and the home environment is developed over time and by points of contact."

Telecommunications technology creates an opportunity for open communication that is always available and accessible to team members. It provides two-way communication between all team members with a continuous feedback loop that moves the dialogue forward. The platform has features that can foster transparency of information and team exchanges. Using individual devices and telecommunications software programs and platforms, individuals can share resources, dialogue in real or suspended time, create documents together, and expand the capacity for group learning (Cavanaugh, 1999; Dudding, 2009). If frequent opportunities and expectations to interact with each other cultivate trust, create mutual understanding, and dependency on each other (Adams et al., 2009), the telecommunication platform has the capacity to

accomplish trust. The interventionist from the Henry unit believes that the telecommunications technology platform did cultivate trust between home and school. Stated by the parent of the Henry unit, "It was a breakthrough in communication between home and school. We started understanding each other more."

The use of telecommunications technology in the Washington School District is in its infancy, with participants just learning how to navigate a virtual system of communication while working as a cohesive team. As telecommunications technology is further developed in the district, trusting team relationships must be equally nurtured. The interventionist of the Nelson unit connected the dynamics of trust, mutual dependency, and caring with the use of telecommunications technology to strengthen a team: "It can unite the parent and school by creating a plan together [to] make things better in both places" for the child. She further states that the platform can "help us show parents that we care by involving them more in their child's education." The parent of the Smith unit agrees that telecommunications technology is a "very valuable tool" in establishing a trusting relationship.

Limitations

To frame the findings of this study appropriately, it is important to understand the sample population. Although the sample size, five parents and fourteen school personnel, is appropriate for case study research, it is the context of a single school district that limits the findings and produces results only meaningful to this population and district. The children of the parent participants represented a wide range of ages and disabilities also making it challenging to identify similarities in the findings even within the district. Additionally, the results may not transfer to other populations in the district such as low-

socioeconomic families, English Language Learners, families with parents who work outside of the home, or parents who are typically uninvolved. The parent participants in the study are likely highly involved in the district with sufficient time and flexible schedules to participate.

The participants in this sample of convenience volunteered first to participate in the VIP telecommunications technology pilot program in the Washington School District. Secondly, after invitation to be included in this study, the parents volunteered and agreed to be interviewed by the researcher. The school personnel aligned with the IEP team of each parent were invited to participate in the study and agreed to a focus group interview. However, parent motivation and pre-existing attitudes of the participants were factors not fully considered in the research study. The motivation for each parent to participate varied from they "needed help" to they "trusted" the school team member who presented the idea to them, or the motivation for participation might be feeling honored to be invited and interested in giving their early feedback on the telecommunications technology.

The researcher expected participants to share insights relevant to the current IEP team. However, the concerns expressed and the feelings behind those concerns, for both parents and school personnel, may be in fact perspectives developed over time and based on a culmination of their experiences with the IEP process or with specific building practices. Each IEP team is operationally similar, but the experience of the IEP process may be unique to each team. The parent perception of their role, the teacher's view of parent involvement, and life situations outside of the school environment can alter how parents and school personnel interact with each other (Green et al., 2007; Hoover-

Dempsey & Sandler, 1977). By not including motivation, pre-existing attitudes, and prior experiences more fully in the study, the researcher is unable to fully examine how background information influenced participation.

The unknown nature of the true parent motivation for volunteering to be a part of the VIP pilot program or the case study, paired with parent perceptions and experiences that have developed over time as a parent with a child with a disability, made it challenging for the researcher to understand the underlying and unconscious thoughts that may have influenced participant responses (Schein, 1995).

The random sampling of convenience includes parents who represent unique student and personal traits such as age of their child, disability of their child, services received through the IEP, feelings about the IEP team, adoptive status of their child, age of parents, socioeconomic information, and other personal family information that could impact their perspectives of school involvement or comfort with telecommunications technology. Some of these descriptors were not included in the unit of analysis detail to ensure the participants could not be identified. By not fully including these participant characteristics, the researcher could not determine if these elements had an impact on the use or effectiveness of the telecommunication technology.

There are several implementation shortfalls that could influence the findings of the study. The VIP pilot program was implemented in 2016 as a state funded innovative grant awarded to a regional educational organization. Within the grant guidelines, measures were identified for systematic implementation with six local school districts that volunteered to participate. Since the original award of the grant, the state innovative initiative has been discontinued and requirements for implementation and evaluation have

been eliminated. For approximately the last year, the implementation process has been predominantly managed internally by each participating local district. While this has added great flexibility to the program, it has impacted the fidelity of implementation practices and has made it challenging to evaluate program effectiveness.

This study is also limited through the data collection process with the researcher relying only on the records review and the responses from parent interviews and focus groups. The researcher did not consider measuring student progress when using the telecommunications technology. The early exploratory study was conducted when the technology platform was in use for a year or less. The limited frequency and limited scope of use of the platform by the participants could compromise the measurement of student achievement. Researcher observation of the activities of the IEP team using the telecommunications technology platform would have offered additional evidence on the qualities of the interactions between home and school for analysis.

The researcher is central to the data collection and to the process of making meaning of their experiences (Merriam, 1995; Merriam & Associates, 2002; Merriam & Tisdell, 2016; Yazan, 2015). In this case study researcher subjectivity must be acknowledged. With a background as a special education teacher, supervisor, building principal and central office administrator with special education oversight, the researcher has a unique perspective on the structure of special education and the challenges faced by parents and school teams as they work together to support children with disabilities. The professional experiences of the researcher bring not only insight but passion to the topic of meaningful parent involvement.

Implications for Leaders

Technology has secured a place in classrooms and has made an impact on how students learn and teachers instruct (del Camo et al., 2012; November, 2001) but school leaders can look further and determine if technology can offer further benefits beyond a traditional education resource (Cavanaugh,1999). One way to capitalize on the advancements made with technology is to evaluate its potential to streamline or enhance other school operations. The use of telecommunications technology is a logical enhancement to district communication efforts.

Local district leaders will appreciate the findings of this study and can use the results to inform their decision-making about further use of telecommunications technology. Innovations take time to implement. While it can be assumed that it will take two or three years for significant change to take place, innovations require individuals to learn new ideas and learn how to do something different than before (Fullan, 1991). Innovations may require leadership to consider the need for change, the change process, the barriers to change, the school culture, and staff development. However, it is not appropriate or acceptable for leaders in public schools to invest extensive time and resources in initiatives that are not producing the expected student opportunity or results.

Leaders have limited time to evaluate and determine the feasibility of an innovative program. In the case of the Washington School District, the use of telecommunications technology has been available for approximately two years. While teams involved with the technology have been increasing the frequency and scope of its use, the implementation has been unexpectedly slow. To determine continued investment in telecommunications technology, district leaders will need to examine these results to better understand why a strong, progressive district like Washington School District is

experiencing some early positive results from participants, but the implementation as a district is lackluster.

A subtle, but notable observation by the researcher was that parents showed more enthusiasm in the use of telecommunications technology than indicated by the responses of the school team. This might be explained by the greater motivation of the parent to increase their involvement in the IEP process. This is a not a perspective likely shared by school personnel since school teams are typically already in control of the IEP. The parent participants perhaps recognize that the telecommunications technology is a tool that could balance the power between the home and school team.

Assuming there is truth to a participant's statement that "once the teacher understands the program and the value of it, they will push for it," one explanation for the lagging implementation and expansion of the telecommunications technology is the teacher roll-out of this initiative. Worthy of more exploration by leaders is a review of the implementation plan used to introduce and support the telecommunication technology innovation. The researcher perceived that the parents were introduced to the technology and trained to use it before special education personnel understood the purpose or scope of the telecommunications platform.

Successful innovation with implementation does not occur without leadership guiding, supporting, and evaluating the process. An administrator in one of the focus groups recognizes that growth of the program requires leadership to drive implementation. "The district would need a plan to determine how the parent role would increase" and ensure consistent practices exist across the district. This researcher recommends that to continue the use of telecommunications technology in the IEP team

process, the leadership needs to identify goals of the intervention, plan for ongoing professional development, establish accountability measures for special education personnel, provide parent information and training, consult with the collective bargaining agreement regarding teacher workload, verify the technology requirements, ensure that the confidentiality requirements of data transmission (Denton, 2003; Kramer et al., 2015) and student records are met, and allocate the necessary resources to support the program. Involving stakeholders, such as interventionists, in the implementation planning would also be a judicious step for district leaders. School personnel working closely with families have firsthand knowledge of parent concerns, strategies for involving parents, and potential barriers to implementation. One suggestion made by the interventionist of the Smith unit is that "parent training alongside of the teacher" might be more effective and allow teams to "learn together."

Based upon the findings of the study some specific implementation strategies for Washington School District leaders include adding telecommunications technology to the district plan and budget to clearly communicate the priority. Developing a roll-out plan that focuses on a specific grade level and personnel will be a critical next step for leaders. Selecting the primary grades will allow the leaders to introduce the telecommunications technology a grade level band at a time. As the students with disabilities advance to the next grade, the telecommunications technology can be introduced at the primary level and continue each year thereafter. This will allow for a systematic rollout process. Using a targeted group of school personnel and families allows best practies to be established for future teams and ensures that the ongoing monitoring of the program can be accomplished with fidelity.

The leaders of the Washington School District will need to be cognizant of the school team and the parents to ensure their needs are being met. The interventionist on the Smith unit stated, "Teachers have to see it as a success for the students and not just one more thing to do." Teachers will also need to see it as a time-saver, an efficient system that will streamline their workload. Teachers will appreciate the platform as a tool for consolidating and archiving communications, documentation, required IEP paperwork, and strategy ideas in one location that can be shared between current team members and ongoing throughout the student's school career.

Contributions to the Literature and Implications for Future Study

The purpose of the exploratory case study is to investigate a current phenomenon in its real-life context with an interest in contributing to the body of literature and prompting further study or examination (Yin, 2014). There are several concepts generated through the findings that would be useful for future studies. First, the quality of interactions between team members is worthy of further examination. The study of telecommunications technology and its potential to increase the level and the quality of parent involvement in the IEP team process is highly influenced by the relationship and the level of trust between parents and school teams. Second, the case study design was limiting in discerning what actions represent trust and how trust and team cohesiveness are fostered using the platform over time. A mixed methods case design could uncover additional evidence of the quality of interactions between home and school. Third, the efficiency features of telecommunications technology may grow in value to parents and school teams as technology uses continue to be embedded in everyday life. This may be a phenomenon worth further study.

The interventionist of the Henry unit describes the importance of team trust on the IEP team. “We were disconnected from the parent. Mom didn’t trust me. Technology helped bridge the gap.” The parent of the Smith unit describes trust in this way. “ I think that the trust between the school and home environment is developed over time. I think it is just like a relationship that you develop by points of contact.” The interventionist of the Smith unit agreed. “You have communicated so many times there is a trust level”. Schein’s model of culture and group dynamics may indicate that it is more than the frequency and action of communication that fosters trust. Beliefs and attitudes exist as underlying assumptions with unconscious thoughts influencing the trust in the relationship between parents and school teams. It may be difficult to determine how underlying assumptions turn into artifacts, or visible behavior (Schein, 1995). Emotions and actions of trust are not easily identified and therefore more challenging for teams to influence.

Lencioni, a well-known author and leader in team development, supports that trust is the heart of a cohesive team. It is the confidence that a group of people feel when working together. It requires participants of the team to be honest and open with each other and expose their weaknesses without fear of judgment (Lencioni, 2002). The interventionist of the Smith unit confirmed the need for vulnerability and the role of telecommunication technology in fostering it. She shared that the two-way communication inherent in the technology platform can be intimidating and requires team members to release their self-pride and let their guard down.

Epstein’s framework of parent involvement identifies clear avenues for parent involvement and the associated actions and benefit for students, parents, teachers, and

schools (Epstein, 2005). The findings of the study illustrate various levels of parent involvement, but they also highlight the synergy that exists between the levels of involvement and the culture of parent inclusivity.

This study corroborates the influence of school culture in the school and parent partnership. The study findings confirm positive outcomes for IEP teams when parent involvement is fostered through telecommunications technology. However, it is the quality of parent and school communication using technology, not merely the frequency or appearance of communication that builds a trusting culture of teamwork and creates conditions to move underlying beliefs into visible behavior of a partnership between home and school (Schein, 1985). The interventionist of the Smith unit describes the two-way communication as, "Everyone is on the same page and feedback is immediate; same language, same goals." The administrator on the Jones unit believes that team use of the telecommunications technology would be very effective if the team dynamic was already strong. The counselor of the Henry unit agreed that the potential of the home school partnership is enhanced through active use telecommunications technology. "Parents have a lot more to say about school." "They can find their voice." And finally, the educational aide of the Nelson unit confirms that the telecommunications technology is a direct way of communicating where misunderstandings are avoided and the team becomes more cohesive. High quality two-way communication is a critical component of meaningful parent involvement and requires intentionality on the part of the school to create the opportunities and expectations (Tran, 2014). When parents and school teams communicate to understand and respect each other, IEP teams can move toward greater trust, mutual support, and student achievement. The speech therapist of the Jones unit

expressed when team trust does not exist, "we lack approaching as a team and understanding other's perspectives."

Future studies on specific high quality interactions using telecommunications technology to foster a culture of trust may further enhance the existing body of knowledge regarding parent involvement and the partnership between home and school.

As the application of telecommunications technology in education increases, the design of future studies would likely change. A mixed methods case study design would provide the education community with a broader understanding of telecommunications technology and its use with a school IEP team. It would allow the researcher to collect complementary information through quantitative methods to more fully respond to the research questions (Yin, 2014). Survey information that examines the additional traits of the participants, in addition to parent and school team interviews and telecommunication observation would provide a broader, more holistic understanding of the conditions in which a telecommunications technology platform would be effective. Additionally, as noted earlier, identifying evidence of trust between the home and school is challenging. A well-designed parent and team survey could explore this variable in a more direct manner.

The study findings introduced a secondary focus for future telecommunications study. As technology continuous to become more generationally imbedded in daily lives, a future study might examine the efficiency and convenience of telecommunications technology for busy families rather than a focus on an enhanced level of parental involvement in the IEP partnership. As one parent commented on the overabundance of communication generated by the school: "it's sometimes overwhelming [and] you

sometimes get duplication." To have the information in one place would be helpful. Increasing the use of telecommunications technology based on the demand for the efficiency it offers might organically enhance the parent and school relationship and this phenomenon may be worthy of study.

Conclusion

The researcher studied the use of telecommunications technology in the Washington School District as a tool to strengthen the partnership between school and home for students with disabilities. Home involvement in school learning has proven to be a significant contributor of student success (Hattie, 2009). Communication and an inclusive culture are established priorities for the Washington School District and support parent involvement. This commitment extends to parents of students with disabilities. Considering the challenges associated with closing the academic gaps for students with disabilities, leveraging the relationship with families could alter the current performance trends (Harmren & Quigley, 2012). The IEP structure and process required by special education teams is poised to substantively increase meaningful parent involvement through telecommunications technology. Telecommunications technology calls for schools to intentionally involve parents in their child's learning and the IEP structure supports this type of intentionality. Different from the broad wide-range of communication activities directed to the parent and community at large, the IEP team can individualized, organize, simplify, standardize, and can collectively establish mutually beneficial expectations for communication content and purpose.

Telecommunications technology has only recently been introduced to the public education arena. Telecommunications technology as a strategy to strengthen the home

and school partnership for students with disabilities is limited in the literature. While findings are limited and cannot be generalizable to other populations, this exploratory study is significant in that it starts an important professional dialogue about its effectiveness and feasibility for use with IEP teams. Whether telecommunications technology improves parental involvement on an already cohesive team that actively supports the parent decision-making role, or the technology improves the functionality of a team and intentionality of parent involvement, the use of telecommunications technology is conceptually a powerful, yet unexplored, tool for schools to consider.

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APPENDIX A: IRB APPROVAL

Youngstown
STATE UNIVERSITY

One University Plaza, Youngstown, Ohio 44555
Office of Research
330.941.2377
www.ysu.edu

February 16, 2018

Dr. Jane Beese, Principal Investigator
Ms. Kathleen Poe, Co-investigator
Department of Counseling, School Psychology & Educational Leadership
UNIVERSITY

RE: HSRC PROTOCOL NUMBER: 094-2018
TITLE: Measuring Meaningful Parent-School Interactions through the Use of Telecommunications Technology

Dear Dr. Beese and Ms. Poe:

The Institutional Review Board has reviewed the abovementioned protocol and determined that it is exempt from full committee review based on a DHHS Category 2 exemption.

Any changes in your research activity should be promptly reported to the Institutional Review Board and may not be initiated without IRB approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the IRB.

The IRB would like to extend its best wishes to you in the conduct of this study.

Sincerely,

Mr. Michael Hripko
Associate Vice President for Research
Authorized Institutional Official

MAH:cc

c: Dr. Jake Protivnak, Chair
Department of Counseling, School Psychology & Educational Leadership

APPENDIX B: PARENT LETTER

March 5, 2018

Dear Parent/Guardian,

If I have not had the pleasure of meeting you, please let me introduce myself. I am the Assistant Superintendent in the Kenston School District and oversee many of the educational initiatives in the district, including special education programs. To that point, I have been very interested in understanding and evaluating the potential of telecommunications technology and the current VIP program.

I am a doctoral student in the Educational Leadership program at Youngstown State University. To assist in my dissertation process, I will be reviewing district information and conducting interviews as part of a research study on the use of telecommunications technology as a way to involve parents in their student's Individual Education Program. As a parent/guardian already participating in the Virtual Intervention Project (VIP), you are an ideal position to provide valuable and personal perspective on this topic. Please know that your insights will be helpful regardless of how long you have been a part of the program. This letter is a formal invitation for you to participate in the interview portion of my research study.

The interview will occur in the next couple of weeks in a private location of your choice. The interview itself will be no longer than sixty minutes but I will allocate 90 minutes for any additional questions you might have. Although there will be no compensation for participating in the study, your participation will be a valuable addition to the field of educational research and findings could lead to a greater understanding of the use of two-way communication technology and parent involvement in their student's education.

The semi-structured interview will include open-ended questions to allow you to answer to the extent in which you are confortable. Questions will be focused on your experience and perspective regarding the parent/guardian role in your student's education, the communication

that exists between home and school, and the use of two-way telecommunications technology (the Teleroo platform) as a potential strategy to strengthen the home and school partnership for student success. There will be no questions about your student or their special education services. Multiple families and school team members will be interviewed at different for the study. Confidentiality will be maintained and all interview responses will be presented in a general way in my dissertation findings.

If you are willing to participate in my research study, or have further questions regarding the interview or the research study, please contact me directly at 440-xxx-xxxx or email me at katie.poe@xxx. We will determine a day and time that will work best for you to complete the interview. A consent form will be shared with you at the time of the interview that I will ask you to sign.

Thank you so much for your kind consideration!

Respectfully,

Kathleen M. Poe

APPENDIX C: IEP TEAM MEMBER LETTER

March 12, 2018

Dear IEP Team Member,

If I have not shared my own professional development plans with you, I am a doctoral student in the Educational Leadership program at Youngstown State University. I have selected an area of study that in my current position is an area of responsibility, but it has also been a priority for me for most of my career, special education programs. To that point, I have been very interested in understanding and evaluating the potential of telecommunications technology and the current VIP program.

To assist in my dissertation process, I will be reviewing district information and conducting interviews as part of a research study on the use of telecommunications technology as a way to involve parents in their student's Individual Education Program. As a team member already participating in the Virtual Intervention Project (VIP), you are an ideal position to provide valuable and personal perspective on this topic. Please know that your insights will be helpful regardless of how long, or when you have been a part of the program. This letter is a formal invitation for you to participate in the interview portion of my research study.

The interview will occur in the next couple of weeks in a private location of your choice. The interview itself will be no longer than sixty minutes but I but I will allocate 90 minutes for any additional questions you might have. Although there will be no compensation for participating in the study, your participation will be a valuable addition to the field of educational research and findings could lead to a greater understanding of the use of two-way communication technology and parent involvement in their student's education.

The semi-structured interview will include open-ended questions to allow you to answer to the extent in which you are confortable. Questions will be focused on your experience and perspective regarding the parent/guardian role in the student's education, the communication that exists between home and school, and the use of two-way telecommunications technology (the Teleroo platform) as a potential strategy to strengthen the home and school partnership for student success. There will be no questions about specific students or their special education services. Multiple families and school team members will be interviewed at different times for the study. Confidentiality will be maintained and all interview responses will be presented in a general way in my dissertation findings.

If you are willing to participate in my research study, or have further questions regarding the interview or the research study, please confirm directly with me, contact me at 440-543-9677, or email me at katie.poe@kenstonapps.org. The interview will be scheduled during your workday, with permission from the administrator if appropriate. A consent form will be shared with you at the time of the interview that I will ask you to sign.

Thank you so much for your kind consideration!

Respectfully,

Kathleen M. Poe

APPENDIX D: SEMI-STRUCTURED PARENT/GUARDIAN INTERVIEW PROTOCOL

This method of qualitative data collection will provide the researcher with parent/guardian perspective on the nature of the IEP relationships that exist between home and school. The interview questions will allow the researcher to examine perspectives on how parents perceive their role and involvement as a member of the student IEP team. Furthermore, open-ended questions will explore how telecommunications technology, that will uniquely connect school personnel with parents/guardians, might impact the parent role on the IEP team and in the student's success.

Participants. The target population for this study will consist of parents/guardians who are already enrolled/participating in the VIP program and are randomly selected to participate in the study.

The participants will:

- Be encouraged to share their perspectives and experiences
- Discuss the role of parents/guardians in student success
- Consider how a virtual software platform might impact the role of parents/guardians as team members

Procedures. Each potential participant will be invited through a letter. Details regarding the purpose of the study, the research design, and their commitment will be included in the letter to allow participants to determine if they would like to participate. Once confirmation is received, details about the time, date and location of the interview will be coordinated with the participant's schedule.

An informed consent document with participant's signature will be distributed/signed to verify agreement to participate at the start of the interview process.

Individual interviews will be conducted using open-ended questions that have been prepared in advance and asked in the same order for all participants. The interview will be lead by the researcher and audio recording equipment will record the responses. After the interviews are completed, the tapes will be transcribed. The data collected will be analyzed and coded in themes and patterns and findings will be reported in generalities.

The timeline for the scheduled interviews is Spring 2018. Data analysis will be completed by Spring 2018.

Methods of Validity. Strategies of member checking and thick descriptions will be used for study trustworthiness. Participants will be offered the opportunity to review transcriptions of the interview and provide feedback, including additional information to add clarity to a comment made during the interview process. Direct quotes and other features of rich descriptions will be used, though confidentiality of particular responses will be maintained.

Conclusion: The interviews will be conducted in a private conference room located off school grounds to ensure convenience for the participants, as well as confidentiality of responses and an uninterrupted process.

APPENDIX E: PARENT/GUARDIAN INTERVIEW PROCEDURES

1. Prior to the interview, the researcher will ensure copies of the informed consent are available, that the room is marked with signage to avoid any unexpected disruptions, and that the recording device is prepared.

2. After the participant arrives to the private, off-campus, interview location, the researcher will greet them at the door, make introductions, ask them to be seated and explain the reason for their presence.

3. All participants will be ushered to their seats. The participants will seated across from the researcher at a table.

4. The only materials on the table or desk will be a pen, the researcher's field notes, a digital recording device (turned off prior to the start of the interview process), and informed consent documents which will be filled out by the participant.

5. The informed consent forms will disclose full detail of the study, including the parent/guardian interviews, focus groups, and document review process in addition to the benefits and risks associated with the study.

6. The participant will be provided the informed consent form and given sufficient time to read the document and determine if they will participate in the study. The form will be returned, signed, and dated if they decide to participate in the interview.

7. Upon signing of the informed consent form, the researcher will spend at least five minutes building rapport with the participants by informing them about the researcher's present position and asking questions to the participants about themselves/family. The intent of this step is to build trust between the researcher and the participant and improve comfort to encourage depth of the interview responses. None of

the information shared during the rapport building process will be recorded or used for further analysis.

8. After the rapport-building process, the researcher will alert the participant that the digital recording device will be turned on and that the researcher will be writing field notes based on their responses. Pseudonyms will be used for field notes to protect confidentiality.

9. Ample time (up to 60 minutes for the interview) will be given to allow the participant to elaborate on their responses. Using a semi-structured format, the researcher will have the freedom to ask for clarification and explore topics further if doing so will provide a more detailed understanding of the parent/guardian and school partnership or the perceptions regarding the use of telecommunication.

10. After all questions have been answered, the researcher will indicate that the digital recording device will be turned off and field notes will cease. The researcher will thank the participant and ask them if they would like to receive a copy of the case study results when completed. If they indicate they would like this information, contact information will be obtained and a method will be determined on how the results will be shared such as mail, in person, or digitally.

11. The researcher will then escort the participant from the interview location and prepare for the next participant, if applicable. If multiple participant interviews are conducted during the same day, participant interviews will be staggered and allow at least 30 minutes between interviews to help ensure the anonymity and confidentiality of each participant. This will also provide time for the researcher time to organize materials after the interview and prepare for the next one.

APPENDIX F: FOCUS GROUP INTERVIEW PROTOCOL

This method of qualitative data collection will provide the researcher with school team perspective on the nature of the IEP relationships that exist between home and school members. The focus group questions will allow the researcher to examine attitudes, practices, and perspectives on how parents are, or should be involved, as members of the student IEP team. Furthermore, open-ended questions will explore how telecommunications technology, might uniquely connect school personnel with parents/guardians, might impact the parent role in the student's success.

Participants. The target population for this study will consist of the school personnel linked to each of the three randomly units of analysis, including, if appropriate:

- Principal or assistant principal
- Special education director
- Interventionist
- Speech and language pathologist
- Occupational therapist

The participants will:

- Be encouraged to share their perspectives and experiences
- Discuss the role of parents/guardians on student success
- Consider how a virtual software platform might impact the role of the parent/guardian as team members

Procedures. Each potential participant will be invited through a letter, delivered in person. Details regarding the purpose of the study, the research design, and their commitment will be included in the letter to allow them to determine if they would like to participate. Once confirmation is received, details about the time, date and location of the focus group interview will be provided.

An informed consent document with participant's signature will be used to verify participation before the interview begins.

Interviews will be conducted using a focus group format. The focus group will be lead by the researcher and field notes will document the responses. Open-ended questions will be prepared in advance and asked in the same order for all participants. The questions will be aligned with the three stated research questions. During the interview process, thorough and detailed notes will be taken. After the interviews are completed, the notes will be reviewed and organized. The data collected through focus group interviews will be analyzed and coded in themes and patterns. The timeline for the scheduled interviews is Spring 2018. Data analysis will be completed by Spring 2018.

Methods of Validity. Strategies of member checking and thick descriptions will be used for study trustworthiness. Participants will be offered the opportunity to review field notes and provide feedback, including additional information to add clarity to a comment made during the interview process. Direct quotes and other features of rich descriptions will be used, though confidentiality of particular responses will be maintained.

Conclusion: The interviews will be conducted in a private conference room located on the school district campus to ensure convenience for the participants, as well as confidentiality of responses and an uninterrupted process. The interviews will be scheduled during the school day and substitute coverage will be provided if needed.

APPENDIX G: FOCUS GROUP INTERVIEW PROCEDURES

1.Prior to the interview, the researcher will ensure copies of the informed consent are available, that the room is marked with signage to avoid any unexpected disruptions. Additionally, since the interviews will be scheduled during the school day, the researcher will verify with administrators that all participants have release time and proper coverage for their class.

2. After the participants arrive to the private interview location, the researcher will greet them at the door, do introductions, and explain the reason for their presence.

3. The participants will be ushered to their seats. The participants will be seated across from the researcher at a table.

4. The only materials on the table will be a pen, the researcher's field notes, and informed consent documents, which will be filled out by the participants.

5. The informed consent forms will disclose full detail of the study, including the parent/guardian interviews, focus groups, and document review process in addition to the benefits and risks associated with the study.

6. The participants will be provided the informed consent form and given sufficient time to read the document and determine if they will participate in the study. The form will be returned, signed, and dated if they decide to participate in the interview.

7. Upon signing of the informed consent form, the researcher will spend at least five minutes building rapport with the participants by informing them about the researcher's present position and asking questions to the participants about their teaching positions. The intent of this step is to build trust between the researcher and the participant to encourage depth of the interview responses. . None of the information shared during the rapport building process will be recorded or used for further analysis.

8. After the rapport-building process, the researcher will alert the participants that the researcher will be writing field notes based on their responses. Pseudonyms will be used to protect confidentiality of the participants.

9. Ample time (up to 60 minutes for the interview) will be given to allow the participants to elaborate on their responses. The semi-structured interview will be conducted using a focus group format. The focus group will be lead by the researcher and field notes will document the responses. Open-ended questions will be prepared in advance and asked in the same order for all participants. The researcher will have the freedom to ask for clarification and explore topics further if doing so will provide a more detailed understanding of the home and school partnership or the perceptions regarding the use of telecommunication.

10. After all questions have been answered, the researcher will stop taking field notes. The researcher will thank the participants and ask them if they would like to receive a copy of the case study results when completed. If they indicate they would like this information, contact information will be obtained and a method will be determined on how the results will be shared such as mail, in person, or digitally.

11. The researcher will then escort the participants from the interview location and prepare for the next participants, if applicable. If multiple focus group interviews are conducted during the same day, they will be staggered and allow at least 30 minutes between interviews to help ensure the anonymity and confidentiality of each participant. This will also provide time for the researcher time to organize materials and prepare for the next one.

APPENDIX H: CONSENT FOR PARTICIPATION IN RESEARCH STUDY

Dear School Team Member,

Thank you for your willingness to participate in this on the use of telecommunications technology as a way to involve parents/guardian in their student's Individual Education Plan. Personal data such as gender, age, etc. will not be collected although your role, as an existing key participant in the Virtual Intervention Project (VIP), will be fully explored.

PURPOSE OF THE STUDY

A. Explore the use of telecommunications technology to as a strategy to strengthen the role of the parent/guardian on the IEP team.

B. Determine the parent/guardian perception regarding their role using telecommunications technology.

RESEARCH STUDY DESIGN AND DURATION

This research will use a case-study design encompassing the following parts:

A. Semi-structured interviews- No more than a 60 minute interview (90 minute time commitment) with each parent/guardian participant using a set of scripted interview questions Responses will be recorded digitally and also with handwritten notes.

B. Focus group interviews- No more than a 60 minute interview (90 minute time commitment) with the IEP team of a participating family using a set of scripted interview questions on the use of two-way telecommunications technology (the Teleroo platform) as a potential strategy to strengthen the home and school partnership for student success. Responses will be recorded with handwritten notes based on literature-based themes.

C. Document Reviews - School district public documents will be reviewed by the researcher including, but not limited to, information and training materials for parents/caregivers and school team members regarding the Virtual Intervention Project, the school website, the District Profile, State Report Card, Board of Education policies and the collective bargaining agreement.

POTENTIAL BENEFITS AND RISKS FROM PARTICIPATION IN THE STUDY

By participating in this study, you will be able to better understand the potential of telecommunications technology as a strategy to strengthen the home and school partnership to improve the success of a child with disabilities. Additionally, your participation may help other school teams, families or districts in the future. You will be able to help address a gap in the literature that exists concerning the perception of parents/guardians about their role in their student's success using telecommunications

technology. Although the researcher will take every precaution to protect your confidentiality, it is possible that your responses may identify you, which may lead to various risks including adverse social consequences. As such, please share only information you feel comfortable sharing.

STATEMENT OF DATA CONFIDENTIALITY

As a participant in this study, I will not be identified by name in any reports or publications. My confidentiality will be ensured during this study and all data gathered will be subject to standard data use policies that protect your privacy and personal information. Only the researcher will have access to the personal data gathered during this study.

RIGHT TO WITHDRAW FROM THE STUDY AT ANY TIME WITHOUT PENALTY

If you feel uncomfortable at any point in the research study, you have the right to refuse to answer any question and may end the interview at any time.

QUESTIONS

The researcher will offer to answer any questions prior to and during the research study. No deception will be used in the research study.

CONTACT INFORMATION

Kathleen Poe- Researcher
ADDRESS INFO REMOVED
Dr. Jane Beese- Dissertation Chair
ADDRESS INFO REMOVED

SIGNATURES

I have read all of the above information about the research study in addition to my rights as a research participant. I voluntarily agree to participate in this research study and have been given a copy of this form.

My Printed Name:_____

My signature: _____Date:_____

AGE DECLARATION

I am 18 years of age or older, and therefore do not require parent or legal guardian permission to take part in the study.

My Printed Name:_____

My signature:

_____Date:_____

_____

Signature of Researcher

Kathleen Poe- Youngstown State University

If you have questions about your rights as a research participant, please contact the Office of Research Services at XXX@ysu.edu or 330-XXX

APPENDIX J: PARENT/GUARDIAN INTERVIEW QUESTIONS

Thank you for your willingness to participate in this interview. I will pose a series of open-ended questions to you. Please answer as best as you can and know there are no "right" answers and just ask if you would like clarification of a question. Feel free to skip a question for any reason. You are also free to stop participating at any time as well. Please remember that I will be taking notes and audio recording the interview so that I can most accurately refer back to your responses at a later time. If at any point during our conversation you would like me to stop recording, just let me know. Do you have any questions before we begin?

Research questions

- In what ways do the attitudes of district personnel, current practices, and district/school culture support the use of telecommunications technology?
- Describe ways that the school invites parent involvement?
- How does the school communicate high standards for all students?
- How does the school meet the needs of students with disabilities?
- What things do you worry about when your child is at school?
- What are ways that the school can better meet the needs of families?

- How has telecommunications technology influenced parent/guardian involvement in their student's learning?
- How are you using the telepractice platform?
- How does the school provide information or training to parents to help students learn at home?
- How, and in what ways does the school communicate with you?-What are the advantages of using a telepractice platform?
- What are the disadvantages of using a telepractice platform?
- How has telepractice intervention impacted the parent/guardian role on the IEP team?

- How do you perceive your role on the IEP team?
- How can the school team make it easier for you to feel engaged with the IEP team?
- Describe the Teleroo training and how it has impacted your use of it?-How has the use of Teleroo impacted your involvement on the IEP team?-How has the use of Teleroo impacted your student' success?

APPENDIX K: FOCUS GROUP INTERVIEW QUESTIONS

Thank you for your willingness to participate in this interview. I will pose the same question to each person in the group in a consistent counterclockwise order. Answer as best as you can and know there are no "right" answers. If you would like clarification of a question, please ask. I will be taking notes of your responses. Feel free to skip a question for any reason. You are also free to stop participating at any time as well. Does anyone have any questions before we begin?

Research questions

- In what ways do the attitudes of district personnel, current practices, and district/school culture support the use of telecommunications technology?
- Describe ways that the school invites parent involvement.
- How does the school communicate high standards for all students?
- How does the school meet the needs of students with disabilities?
- How are the concerns of parents heard and acted upon?
- What are ways that the school can better meet the needs of families?

- How has telecommunications technology influenced parent/guardian involvement in their student's learning?
- How are you using the VIP- Teleroo platform?
- How does the school provide information or training to parents to help students learn at home?

- How, and in what ways does the school communicate with parents?
- What are the advantages of using a teleprctice platform?

- What are the disadvantages of using a telepractice platform?
- How has telecommunications technology intervention impacted the parent/guardian role on the IEP team?

- How do you perceive the parent role on the IEP team?

- How can the school team use telecommunications technology to engage parents in the IEP process?
- Describe the Teleroo training and how it has impacted your use of it?
- How has the use of Teleroo impacted parent involvement on the IEP team?
- How has the use of Teleroo impacted the student's success?