Understanding teletherapy as an option for K-12 Students with Disabilities

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Abstract

Students with disabilities who qualify for related services in a traditional school environment receive those services during the day as part of their regular routine. However, as more students with disabilities enter online learning environments, access to related services, especially therapies, have become more complicated to provide. The purpose of this article is to describe the ways in which teletherapy practices function as part of in virtual schools and courses. Phenomenological interviews were the primary method of data collection for this study. Findings emerged as descriptions of the ways in which teletherapists established a virtual presence with clients, attended to the expectations of their school contexts, and integrated technological skill and comfort into therapeutic tasks. The findings of this study have implications for the development and evaluation of teletherapy programs in K-12 schools— both virtual and traditional.

Understanding teletherapy as an option for K-12 Students with Disabilities

This article builds on findings from an ongoing inquiry into the work of the related services professionals who organize, supervise, and innovate to provide services to children over the Internet (Author). Addressing related services for children in a school setting is a critical issue as common related services (such as occupational therapy, speech, and language therapy, and physical therapy) are crucial to fulfilling the legal requirements mandated in the Individuals with Disabilities in Education Act of 2004 (34 C.F.R. §300.320(a) (4) for children who are deemed eligible after a comprehensive evaluation. The purpose of such related services, under the law, is to enable students to take advantage of educational opportunities (Smith, 2015). Therefore, closely aligning these services with other educational supports to help students succeed academically is required. Traditionally, students with disabilities who qualify for related services in a traditional school environment receive those services during the school day as part of their regular routine. However, as more students with disabilities enter online learning environments, access to related services, especially therapies, have become more complicated to provide (Peterson, Watzlaf, & Fahima, 2014).

Technically, telerehabilitation refers to the delivery of therapies and other services through telemedicine methods and techniques (Brennan, Mawson, & Brownsell 2009). This means that providers serve patients from remote locations using online communications. The most commonly offered therapies in school settings are occupational therapy (OT), physical therapy (PT), and speech-language therapy (SLP) (Majnemer, Shevell, Rosenbaum, & Abrahamowicz, 2002; Reeder, Arnold, Jeffries, & McEwan, 2011). The code of federal regulations (CFR) for these three types of services emphasizes a need for providers to ensure that facilities meet standards for therapeutic exercises in safe and reasonable conditions, and that services are provided by persons qualified to administer tests and take measurements of activities (42. CFR §485.713).

Part of what makes teletherapy complex is that the delivery "site" becomes not just the physical locations of both the therapist and the student, but also the cyberspatial environment that connects client and provider. Students receiving teletherapy will have different experiences based on where the service is taking place. Students who receive teletherapy in traditional schools will be supported by an employee of the school (e.g. paraprofessional, teacher) while a student receiving teletherapy at home will likely be supported by a learning coach who is most often a parent or caregiver. Further, Internet access may differ between home and school, and there may be differences in the tangible items that can be used to provide therapy to students with disabilities.

In a telerehabilitation setting, students interact with a licensed therapist through an Internet connection (typically some kind of web conferencing component). In addition, therapists have access to a suite of other technological tools that support communication with the student clients and their families. We had previously conducted studies on what happens to children with disabilities' communities and social opportunities when they participate in online

education. Related services were selected as the focus of this article when Author (2015) reported findings from in-depth interviews with high-level administrators from several blended and fully online school programs.

Questions in this study were targeted to the provision of related services—specifically OT, PT, and SLP—in those online schools. Further, even though a school is technically virtual and any student can enroll, schools—or programs within schools—serve students who live in areas with varying access to technology. In many communities, there are great disparities in technological infrastructure, especially regarding access to the Internet and access to professionals for initial evaluations and periodic reevaluations. Another challenge articulated by the virtual school administrators was the severe shortages of therapists in some geographical areas. Finally, contracts with therapists have been difficult to maintain in the schools represented in the preliminary focus groups. Although consistency of both quantity and quality of providers and services was highly desired by the virtual school administrators in this previous study, such consistency was difficult to orchestrate. In addition, administrators reported that families embraced related services offered as teletherapy to varying degrees and integrating teletherapy services with a student's other disability services was generally not taking place. These findings suggested a need for more research regarding how teletherapy was delivered in collaboration with schools, particularly virtual schools.

Phase I of this project was designed to determine advocates and primary drivers of teletherapies delivered to children in schools, especially when the host school was a virtual, online, or blended school. Enrollments in these schools is rapidly growing. In fact, the Christensen Institute predicts that half of all K-12 education will occur online by 2019 and will grow to 80% by 2024 (Christensen, Horn, & Johnson, 2008). During this phase, research focused on the lived experiences and efforts of these advocates as they engaged in innovative practices to make teletherapies a viable option for children and their families (Tansey, 2007).

Previous Work in Teletherapy in Schools

The work of teletherapists is a small but growing area of practical and research interest. As part of their work on improving special education practice in online learning, Rhim and Kowai (2008) identified a need to learn more about teletherapy delivered in the context of virtual schools. In 2010, the American Telemedicine Association (ATA) created standards for telepractice in many areas of related services, focusing on occupational, physical, and speech therapy (Brennan, Tindall, Theodoros, Brown, Campbell, Christiana, & Lee, 2010). To provide an overview of existing research, a literature review was conducted on teletherapy for occupational, physical, and speech services for students who qualified and who were receiving their education in virtual schools.

The process of reviewing literature about related services delivered via telepractice included searches using Google Scholar, Gale, Academic OneFile, and Education Resources Information Center, employing combinations of the following terms: *teletherapy*, *telepractice*, *speech therapy*, *occupational therapy*, *physical therapy*, *K-12*, *virtual school*, *online school*, *cyber school*, *children,* and *adolescents*. These words were combined in various ways to ensure that the

returned search results included the specific related services being studies, Internet delivery element, target population, and virtual school as a site for delivery. These searches yielded 234 results.

After obtaining the search results, documents were reviewed and articles eliminated that had not been published and/or peer-reviewed. This eliminated position papers, conference presentations, and book chapters, which formed the greatest portion of the 234-item corpus.

Documents that did not deal directly with virtual schools were then eliminated as many results included the word *virtual* because of the Internet delivery method rather than as part of the school context. Following these exclusions, all search results were eliminated. The search results were retained that included service delivery in traditional schools, but continued to exclude delivery models that relied on community or school-based clinics, which brought the total to eight articles. Then we eliminated the community-based delivery models because of the legal imperative for related services in schools to enable students to participate in educational activities: Other legitimate reasons exist to receive various therapies, but are not conducted with the goal of educational participation.

Due to the low number of articles, running multiple formal coding cycles was not deemed helpful, so the topics of the articles were discussed by the research team. Topics included: viability and effectiveness, provider perspectives, and general stakeholder satisfaction. Each of these topics will be overviewed in the following sections.

Viability and Effectiveness
One of the major research concerns in teletherapy has been the effectiveness of such practices, especially compared with more traditional forms (Criss, 2013; Grogan-Johnson, Alvares, Rowan, & Creaghead, 2010; Grogan-Johnson, Gabel, Taylor, Rowan, Alvares, & Schenker, 2011; Grogan-Johnson, Schmidt, Schenker, Alvares, Rowan, & Taylor, 2013). In these studies, which have focused mainly on young children, teletherapies were found to be as effective as services delivered with the therapist and the client in the same physical space. The definition of effectiveness has centered mostly on using growth or improvement models already developed in traditional schools.

Provider Perspectives
One early study of provider perspectives studied parents as well as well as students (McCullough, 2001). During the study, a researcher implemented and measured her own teletherapy delivery system and used a survey to gather feedback. Her participants were four preschoolers with disabilities. These particpants received teletherapy in both their nursery setting and home environment. Family members and the speech/language service providers were surveyed on the reliability, satisfaction, and functionality of the system. These stakeholders also provided feedback on the audio and visual interface aspects of the system. During this study, parents were surveyed regarding their perceptions of the usefulness and effectiveness of this teletherapy system for providing speech/language services to their children. Prior to participating in teletherapy, parents and providers were apprehensive regarding its effectiveness. However, by the end of the study, both groups were impressed with

the visual and audio quality and the system's ability to help parents, clients, and providers communicate. Finally, the parents perceived that the children in the study were being supported in their language development through use of the system.

Tucker (2012) interviewed five speech/language pathologists who were providing teletherapy in schools. During these interviews, four major themes emerged: barriers, benefits, reasons for acceptance and use of telepractice, and suggestions to resolve telepractice professional issues. The most recent study by Behl and Kahn (2015) surveyed early intervention providers working in teletherapeutic settings. Twenty-seven individuals representing 11 programs responded. The respondents reported great variability in the hardware and software they used, with many providers voicing concerns regarding security. The primary challenges reported were Internet connectivity issues. The providers were also concerned about their lack of training in skills required to deliver telepractice services and their desire for more support.

General Stakeholder Satisfaction
Survey techniques have also been used to measure participant satisfaction with teletherapy in schools. In a study by Crutchley and Campbell (2010), respondents were solicited from three groups: parents, teachers, and administrators. The results of the survey were positive, but not all parents and teachers were satisfied with their teletherapy experience. Researcher reviews of literature revealed that providers and parents were optimistic about teletherapy, but also that little was known about what teletherapy was truly like from the perspectives of these providers and how teletherapies are conceptualized as different from traditional service delivery models. Especially concerning was the lack of research in teletherapy in virtual school settings.

Methods and Strategies

This study was designed as a *phenomenological inquiry within an educational context* (van Manen, 1990). Learning more about the practical and policy issues around teletherapists providing OT, PT, and SLP in school contexts required the identification of individuals with a broad understanding of school-based teletherapy along with substantial knowledge of and experience with law and policy. Elite interview theory (Lilleker, 2003) guided the design and conduct of the interviews. When interviewing elite members of a group, an important consideration is to strategize carefully to gain access to participants who have certain kinds of insider knowledge (Hunter 1995) and who are willing to participate in research. In addition, conceptualization of this study required locating and inviting participants who would be more than knowledgeable—also generative—individuals who were actively working to position their profession (Van Laren, Mudaly, Pithouse-Morgan, & Singh, 2013).

To identify participants who would be positioned to share responses around teletherapy (with a broad generative perspective), participants were located and invited who (1) were actively conducting and publishing research in teletherapy, (2) had responsibilities for supervising and/or hiring teletherapists who would work with students in schools, and/or (3) owned or were high ranking in service provider companies. In addition, these participants needed to be recommended by a representative of a national organization and/or have a record of presentation at national conferences at one or more major national organizations (American

Occupational Therapy Association (AOTA), American Physical Therapy Association (APTA), and American Speech Hearing Association (ASHA).

With these criteria in mind, an initial content analysis of national conference proceedings was conducted, starting in 2009 (the year before the telerehabilitation standards were published) and continuing through 2014 (the most recent year available). In addition to searching for names of potential participants, we identified the major topics and ideas of these presentations.

We contacted representatives from AOTA, APTA, and ASHA, explained the purpose of the research, and asked for recommendations for potential participants. After reviewing potential potential participants from content analysis of national conference programs and through recommendations from leaders in professional organizations, a list of 12 (eight women and four men) potential participants was generated. Potential participants were invited via email and/or phone call. Of the 12 individuals who were contacted, six agreed to be interviewed for the study. The ratio of individuals who declined to participate is important because it helped preserve the confidentiality of those who did participate (since the initial list was so small). Table 1 below describes the participants.

One participant, Adam, has a work context of a clinic (rather than a school), but he was included because of his experience in physical teletherapy, because physical therapists were the most difficult teletherapists to find, and because he was recommended by representatives in all three professional organizations. In addition, most of the other participants cited his expertise when talking about their own work. The remaining participants had expertise with children in traditional and/or school contexts and professional and/or research responsibilities in OT and/or SLP.

Table 1
Participant Descriptions

Participant	Specialty	Primary Responsibility	Typical work context(s)
Adam	PT	Researcher	Clinic
Carrie	SLP	Professional	Traditional school/virtual school
Sarah	SLP	Professional	Traditional school/virtual school
Michelle	OT	Professional	Traditional school/virtual school
Laura	OT/SLP	Professional	Traditional school/virtual school
Karen	SLP	Researcher	Traditional School

Kvale (2006) argued that the purpose of an interview is to see a phenomenon through the eyes of a person experiencing that phenomenon directly. However, direct experience with a phenomenon emerges from multiple stakeholders. In the case of this study, the participants were positioned to see national trends and observe and perform teletherapies over many years and/or across many states and contexts. Typically, people with extraordinary or elite

knowledge are easy to identify because of their high visibility but difficult to enlist in research because their elite status often means that their schedules are full (Delaney, 2007).

Participants were interviewed 1-2 times for 30 minutes to one hour. The types of questions the participants were asked are sampled in Table 2. Generally, participants with a research focus were asked questions that pertained to the implementation of teletherapy in schools and practitioners were asked questions about service delivery. However, several participants were both practitioners (former or current) and researchers. In addition, almost all participants had supervisory duties; all participants were asked about those responsibilities.

Each interview was recorded and transcribed. Transcriptions were analyzed using structural codes as a first-round coding cycle and theming as a second (Saldaña, 2012). In structural coding, content and concepts become the objects of coding. In a sequence of data such as an interview response, the content/concept words were identified and then the discourse around the content was checked to ensure that the participant was speaking about the concept with urgency, rather than as a matter of background knowledge building for the interviewer, or because they were asked a question on the topic. The themes that emerged as content codes were revisited to consider these desired traits of frequency and urgency, and conflicting evidence was deliberately sought (Author, in press). Finalized themes are presented in the findings section.

Table 2
Sample Questions for Participants

Participant Category	Sample Questions
Researcher	What parts of a therapist's existing professional skills transfer well to providing services through teletherapy? What new knowledge or skills usually need to be learned or adapted?
	Describe the major policy perspectives for conducting therapy via online interactions.
	How does professional/policy guidance from the ATA or other organizations support the acquisition of related knowledge and skills?
Practitioner	How does teletherapy differ in traditional and virtual school contexts?
	Can you provide an overview of the range of teletherapy practices you have used in your work (practice/research or both)?
	Can you describe typical or popular technologies (hardware, software, AT, platforms) used to conduct teletherapy?

Can you elaborate on some strengths and weakness of these technologies?

What are the big things you have learned about providing these therapies to young clients and their families?

How does teletherapy services link to IEP goals, especially those related to language and literacy?

What technological support to you provide to students?

Supervisor What are the major practical needs in terms of preparing teletherapists over the next five to 10 years?

What does supervision look like in teletherapy contexts?

What are the critical professional and technological skills necessary for successful teletherapists?

Overall, what do you think it would take to ensure the long-term viability/sustainability of teletherapy services?

To ensure trustworthiness, during data analysis, we looked for instances where the teletherapists displayed resistance to interviewer statements. For example, the interviewer asked a teletherapist about the teletherapists she supervises and specifically targeted the question to suggest that the hours were potentially overwhelming as clients might expect teletherapists to be available at all hours:

> Interviewer: It sounds like you really have to take up the whole virtual ethos of being available all the time and getting back to people quickly. You can't provide therapy and be a 9-5 operation.
> Michelle: I'm definitely not a 9-5 operation but for the therapists I try to just get them to respond within 24 hours. I don't expect them to, although they usually do just like teachers. And that's one of the benefits of this model is that you can work it best when it fits into your schedule. You can do it when it comes to paperwork and authorization and things like that. They are certainly welcome to do that, but I don't encourage them to do anything beyond 9-5 or on the weekends.

In this interaction, the teletherapist can clarify and elaborate, rather than just affirm or disaffirm. The dynamic interview with general topics that were tailored to participants' expertise allowed for these types of exchanges in which expertise can be shared and confidence can be built, while also allowing instructional activities to emerge and unfold. Michelle asserts that, in her position, she feels that she must be available all the time, but the therapists that work for and with her should be allowed to make their own judgments on work time frames (within certain parameters).

After ensuring that all participants that were interviewed had chances to resist positioning from interviewers (and did so), the participants were shown the collected data and allowed to elaborate and/or redact their statements. Both strategies added additional layers to the positioning and demonstrate the intentional and strategic nature of the data collection and analysis.

In addition to the content analysis of professional conference presentation abstracts and the interviews, artifacts were collected for analysis to inform our understandings of the phenomenon of related services in schools. These artifacts included recommended professional development materials from the participants. These materials were offered through their employers and/or through the professional service organizations and were publicly available with online registration. Materials included infographics, webinars, pamphlets, and links to resources for teletherapists. During data analysis, these materials were consulted alongside the interviews to build a more complete picture (Tobin & Begley, 2004) of these individuals' work in making and guiding teletherapy.

Findings as Resonant Threads

Findings in this research are presented as resonant threads (Carrillo & Baguley, 2007), which are focused accounts of stories located in data and developed from the research texts. These threads focus on establishing provider presence, disentangling and tethering to traditional school practices, and learning technologies alongside clients. Each of these threads will be discussed in this section.

Establishing a Presence as a Provider

The stories that emerged around provider presence began with the idea of coming into teleservice in general. The participants talked about both wanting challenges and facing challenges as they took up research and practice in providing teleservices. These stories focused on the generative aspect of identity development in which a person develops a strong desire to innovate—to do something new. One participant describes this impetus:

> About seven or eight years ago decided that I wanted to change what I was doing. I was burnt out with the private practice and felt like I had done all that I wanted to do. There weren't any more challenges that I wanted to take on in the private practice. So, I started looking around for something else within the field but I wanted something to challenge myself (Laura).

This participant's story of wanting something personally challenging was echoed by other participants. What is interesting is that the challenge was not necessarily a desire to do work with technology, but the need to find something that would enable them to enjoy new roles in their professions. However, when they saw the opportunities to work with technology and began to see not just what lessons they could make, but how they could impact students' lives, that is where they became committed.

In taking up research telepractice, therapists felt a push to establish a physical presence in schools, as one researcher describes:

When we first started, we could not find school districts. Even districts that did not have a speech pathologist did not want telepractice services. Eventually the way we got started was that the State Department of Education actually paid for the entire thing. The school districts bore no financial burden to receive speech therapy by telepractice. Still, they were nervous about it so we were only allowed to see the children in telepractice for half of the school year because they didn't want to lose a whole school year of practice if telepractice was bad. So we had to do kind of a split half design and do some kids first half of the year in tele-practice and second half in person and reverse it (Karen).

The need to establish a presence in a physical setting is interesting since this work was being done with students online. Just coming into schools—whether virtually or physically—was fraught with initial challenges that eventually subsided. These challenges subsided as the work of teletherapy came to be regarded not necessarily as *good,* but as not altogether *bad*.

Challenges in terms of provider presence were in the form of licensure requirements, which were linked to feelings of professional legitimacy. Teletherapies can be offered between states, but, because states regulate the licensure process (often without reciprocity), the presence of teletherapists has been difficult for individual therapists to achieve.

There are some states where the licensure costs are like $300 and others that it's less than $100. Some states are done yearly and others are done every other year. Some states have costs for initial licensure and background checks, some take money to verify your certification. Most states require that you receive a letter of good standing from every single state that you've ever been licensed in. So, it takes an entire day's worth of work just to apply for one state licensure. So, to apply for licensure in each state I had to request a letter to 15 other states that I had ever been licensed in (Michelle).

Having to go through these lengthy and expensive processes to acquire licensure has been a major barrier in developing the overall presence of teletherapies in schools. When this process is made difficult and daunting for practitioners who have been successful in establishing a professional presence in traditional schools (or other locations), these practictioners are unlikely to take up teletherapy. However, the participants also said that they felt that the long licensure process made them feel like they were doing something new and brave and bold. Their status as vanguards, even mavericks, is highlighted in the heroic stories about how difficult it is to become properly licensed to do their work.

Once teletherapists had pursued career opportunities in teletherapy and waded through the licensure process, establishing presence with clients was the next challenge. Establishing this presence requires a concert of behaviors that are elicited by the therapists. For example:

You have to establish eye contact not by looking at the web camera but by looking at the students. You have to learn how to be able to use your peripheral vision to see what you're doing on the screen and while you're looking at the child. To be therapeutic, you have to look into the child's eyes. We've learned to refine how we give direction and

we're more descriptive in our directions to [children] and that can take the place of being physically present (Karen).

Establishing this presence with students requires Internet-mediated eye contact. This approach is not revolutionary as it is about making small but meaningful changes to an extant craft. For this eye contact to be established, teletherapists learn how to use their equipment in certain ways. In the concert among the equipment, eye contact, and established certified presence of the teletherapists' work emerges.

However, the presence of the provider is not the only requisite for teletherapy sessions to occur. Another individual besides the child is required to support the presence of the provider.

> We have what we call an *e*helper. That is a person who has the equivalent of a classroom aide training so they have to pass a security check and have a high school education and then be trained in our telepractice projects. But their job is to help us with scheduling; they call for the students and physically go get the students and bring them to the room. They help if there are technology glitches. If we lose the child from camera view, they bring them back in. But they are not directly involved in the therapeutic process. They don't cue the children; they don't give them instruction; they don't reinstruct (Karen).

The *e*helper, as described by this participant, is a kind of apprentice; a person with some training, but not enough to run the therapy by themselves. However, these individuals are indispensable links to the child clientele.

Although this participant described the additional adult support as an *e*helper whose training resembles that of a paraprofessional in fully online schools, often parents must function as *e*helper equivalents. In this role, the parent sustains the learning space for the student and the teletherapist.

> [Parents] really can follow through a lot more with the child because they're there in person. They hear the verbal cues and they see what we're doing in therapy. They see things they can do while they're sitting at the dinner table and mom's cooking dinner. There's a benefit for that support for the child. I would always ask the parent or the paraprofessional about what we worked on and I would ask them to try and incorporate these activities on the playground or at lunchtime (Sarah).

Overwhelmingly, this parental support presence is regarded positively by the survey participants. With parents, as with *e*helpers, the provision of therapy becomes a co-making event among all three parties (therapist, child, parent/paraprofessional) under the professional auspices of the maker. The therapists cannot do their work without the cooperation of these other individuals. What they know together is regarded as a knowledge separate and distinct from other forms of information that might exist.

> With diverse students and especially over telepractice, you really have to rely on things other than formal measures. I really had to hone my interview skills with parents and with teachers to really get information about the student that is harder for me to get when I'm not physically there in the classroom. I can't pop in and do an observation. That was the one big shift with the students and to dig in a little deeper with the parent interviews and the teacher interviews (Carrie).

The "digging a little deeper" and the reluctance to rely on standardized testing data alone as a measure for student progress are both elements of establishing a professional presence while emphasizing the fact that the making required to be successful with this type of therapy is not work that the professional can do alone.

Disentangling from and Tethering to Traditional Schooling

Another important issue that emerged was the way in which teletherapy tethers to and disentangles from traditional school timelines and practices. This entanglement was present in both research and practice.

> Our philosophy when we entered into the project was that in order for this to work, it needed to be as close to how services would be provided in how they would be measured as they typically are in public schools. So, in state public schools, children's improvement is measured by quarterly progress reports. And they have to achieve their IEP goals and that's documented in each of their quarterly reports. They may or may not do additional testing throughout the school year. We did standardized testing. We took language samples and we developed a rubric for reporting progress in both the in-person and telepractice settings (Karen).

In this description, the participant describes the intentional tethering to school practices to establish credibility and presence in a school, and to talk to parents and educators using familiar practices and descriptions about the work that was being done. This practice was especially critical in the early days of telepractice, but continues to maintain the support of stakeholders.

Another interesting instance of tethering comes from the ways in which teletherapy practice attempts to follow traditional school seasonal timelines.

> We do a process called *onboarding*. That's just making sure all the technology works and that it's in place, making sure the school has the computers in place with webcams. We work with the school in putting a student schedule in place so that we know every Monday at 12 o'clock a certain student is seeing so and so. We work on the scheduling and then we have to connect the clinician with the school. So it's kind of a big process to make sure that all of those pieces are in place and then we get started (Sarah).

The tethering to the weekly, quarterly, semester, and yearly rhythms of schools is particularly interesting since the major benefit to teletherapy is often described in terms of flexibility of time. Nevertheless, for the teletherapy to occur when scheduled, an appointment model must

be employed. Ensuring that students have access to therapies under these familiar terms makes both practice and research easier to manage.

However, tethering requires pre-planning, before students and teletherapists begin their interaction during a session. Those limits fall away as the therapist and client work together.

> If I were sitting in an office, whether it was in the school setting or in my private practice and I had all my materials there, it was really easy to reach over and grab something off the shelf. In a tele-practice setting you have to have your materials up there because there's nothing to grab. Certainly you can go out and look for something on the Internet but it may not be exactly what you want. So you do have to do some advanced planning and know what's on there and have tabs open on your computer and be prepared (Laura).

The resultant disentangling was described by the participants as a key difference between what they do in traditional practice and what they do when they provide services online. Establishing a presence at the school without having a physical space is interesting work that requires craft thinking. The participants realized that they are not going to find what they need to provide services at a moment's notice, even with the available resources of the Internet. Therefore, advanced planning became a critical element.

> I feel like I'm a pretty organized person in general but I really had to improve my organization skills and my planning for my online sessions is definitely significantly increased just because you don't have that ability to take things out of your closet if you're onsite. So if you think of something mid-session you could pull it out of your closet or if the student is having a hard time you could just pull their favorite thing out. I think one of the things as OTs we do really well is we're really good at using what's there. So like using the resources that are there, the materials that are there and being really creative and resourceful. I think those kinds of skills are part of our personality as OTs and those can absolutely be used online because we want to use what's in a student's home or readily available at the school. We really have to be good at using what's there (Sarah).

Much like the presence that teletherapists create, the innovation necessary to run sessions is regarded by practitioners as an opportunity. In addition, the chance to design instruction that grew into individualized curriculum was embedded in the professional identities of the teletherapists. Although the participant emphasized the planning that goes into providing services in this manner, the last statement (where she indicates that therapists must be good at "using what's there") suggests that they innovate in the moment by surveying two sets of surroundings: theirs and that of the child. They realized that they could control what was in their immediate surroundings and, when they take advantage of that, they are better positioned to innovate with what children have in their midst. Even when control is even extended to children's space, the need for space to innovate and individualize is evident.

It's definitely a disadvantage to the client when they do not have tools sent to them. Certainly there are things around the home environment that they can ask parents for during sessions, but what we're seeing in some of the literature is for the client and the therapist to have access to the same thing. So over time, we've developed a toolkit list of supplies. So when a clinician takes on a client, they send up a list of supplies to the main office that they think would be beneficial for that particular student. So our therapists have all of those potential tools at their fingertips and then the students see an individualized list of tools that would be beneficial (Michelle).

Finally, when teletherapies are provided in languages other than English, there is another layer to language instruction. The emerging therapy is grounded in what is already happening in the school and is contingent on what the students bring with them to the session.

I'll work with some students almost exclusively in Spanish and other students almost exclusively in English but always with the opportunity to know things, say things, or hear things in Spanish too. Some students, even though they have a basis in Spanish, they're not that interested in doing activities in Spanish with me. We could be encouraged to work with the student in Spanish or in dual-language programs the students are often much more interested in working with me in Spanish. There may be other students that we do half of the session in Spanish and then half of the session in English. It could even vary by the type of activity; just like they feel more comfortable doing certain types of tasks primarily in Spanish, they may feel more comfortable doing other types of tasks primarily in English (Carrie).

The activities that emerge in the process of negotiation with students illustrate the complexity of the tethering and disentangling process. Whether the teletherapists can provide bilingual services is not a decision that they get to make: the school context—whether it be traditional or virtual—does. Even so, the participants describe the work of teletherapists as makers of activities that attend to these language policy contexts. Eventually rhythms and patterns of activity emerge between the students and the therapists.

Developing Technological Skills Alongside Clients
The participants said they are often asked by colleagues and school officials whether the students, most of whom are receiving services because they have disabilities, adjust well to communicating and working via technology.

[Teletherapy] really isn't much of an adjustment for school-aged kids. They're so used to it and think it's really cool. They really like it and have no problems with it. As a matter of fact, because we started working in schools, we typically have some sort of para or *e*helper or facilitator with the students and often times when there are tech issues, the kids fix it a lot faster than the helper can—they know exactly what to do. They just say "oh yeah, just click this button" and it fixes the problem (Laura).

In this way, the students become knowers in the space rather than mere recipients of a service. In addition, the participants used examples like this to continue to suggest that while they are

*tele*therapists, the focus is not the technology, but the professional expertise. They do not feel compelled to become experts (although they did desire competence) in technology because they sensed that programs and devices and infrastructure barriers were ephemeral and had little to do with the making in the session at hand.

> When we first started, in our first couple of years we had a terrible time getting through firewalls from the university into the schools and it would be several days sometimes before we could finally establish a connection but that has since remediated itself with just general advances. On a regular day-to-day basis, because we're stationed at a university that has adequate bandwidth for what we're doing and we're tele-practicing into school districts, the infrastructure for the Internet in our state is such that generally we don't have trouble. Now I will say that when we have tried to do venture into some in-home telepractice settings, that has been a little sketchier. We have had inconsistent good quality or what we would even just call adequate video and audio (Karen).

What this participant makes clear is that adequate is good enough, with the expectation that what is difficult today will be adequate tomorrow and eventually highly efficacious in the future. In the meantime, they insist, the therapists and the families find creative ways to make teletherapy work.

> We talk to families in a virtual school settings and sometimes they say they don't have good Internet in their home, so they've had to go to a library and use the library's Internet. There are definitely some issues. I feel like it's becoming easier and easier that we're not hearing as many concerns about Internet connection. School buildings are usually fine (Sarah).

Overall, the sense among the participants was that if the child was fine with the technology then it was adequate. When this is the case, the technological understandings make their way into the sessions:

> Delays in video or audio can disrupt the session so much that it can be frustrating for the child. So, learning along the way how to troubleshoot and of course we have access to a technology person in all the schools. But we've learned a lot along the way—various tips to share to save time so they don't have to call tech support. One of them being doing a speed test and we know that for video conferencing the recommended internet speed is at least 4 MB per second download speed and 2 MB per second upload speed (Michelle).

Finally, the technologically-mediated instruction in teletherapy is about more than just devices and bandwidth. Teletherapy also is about programs, resources, and websites. Although the participants talked about the need for teletherapists to understand analog technologies and learn to wield tangible objects, the Internet also provides countless resources. These resources must be woven into the work of teletherapy:

I've used Spanish-English translation websites and just for certain pieces it had a lot of technical jargon. I had to do a lot of cross-checking things when I was translating them. Another thing that districts will do for translating things for other SLPs, they'll run a translation just in an online translator and they'll ask if I can go in and check the parts they know aren't going to be right. So they kind of do somewhat of a mediocre electronic translation and then we kind of fix it up (Carrie).

Once again, the emphasis is on the ways that professional knowledge about practice outweighs information from other sources, even though technologies are regarded as essential for teletherapeutic work. The need to extend and validate professional expertise important as well. What teletherapists do with young clients is not just a matter of implementing a set of pre-set techniques; successful sessions are also a matter of co-creating a learning experience in concert with other individuals via powerful web technologies.

Discussion of Findings

In this study of elite professionals regarding teletherapies in school settings, the resonant threads were (1) establishing provider presence, (2) tethering to and moving away from traditional school practices, and (3) developing technological skills alongside clients. Each of these threads underscored the professional's role in knowledge enactment alongside students.

Part of the professional knowledge of teletherapists was expressed as their hopes: (1) technology was going to improve, (2) the number of children with access to teletherapy would improve, and (3) successful outcomes in this format were going to increase, particularly among student populations such as English language learners. It was clear that these innovators were disturbed that they could see no concerted efforts to prepare providers to do this work. This concern is natural because if this work is generative making, preparation will involve more than simply training people to use technology, engage in advanced planning, and communicate clearly through the Internet. These future providers need to be able to collaborate with parents and other assistants who are physically in the presence of the child during service delivery, manage cultural concerns, navigate state and school language policies, and use good judgment as they work with young clients—they need to be prepared to do their work in these virtual environments. Questions that organizations have not addressed include: Where are new teletherapists are going to be found (will the specialty always draw from existing therapists)? Who is going to be responsible for preparing them and supporting their induction into the profession?

Although tethering to schools is necessary to create the space necessary to engage with students, much of what goes on in a session is decidedly non-traditional when compared to a brick-and-mortar experience. For example, these sessions may be the only time in a student's day—especially when students are enrolled in fully online virtual schooling—in which they work with a professional in a one-on-one session. In addition, this approach is also a space in which students have the chance to showcase their knowledge of technology in a low stakes situation (no grades are being given) and they have both analog and technological objects and resources that have been specially selected for them.

Given these conditions, the following recommendations are critical to the current and future success of teletherapies for students with disabilities in fully online educational programs: Ensuring that whenever and however possible, teletherapists are able to continue with the same students and families (whether the therapy is provided in a school building or in the home) is a fundamental priority; therapists need to be consulted early and often regarding the technological and analog objects that would be helpful for their work. Indeed, teachers in a fully online school might benefit from being able to also provide common objects and resources to students; and, if teletherapists form meaningful partnerships with parents and other individuals, schools should consider this alternative as they build expectations for parents in learning, especially in virtual settings. How much of this direct parental participation is reasonable? How much can be justified? Who else could perform *e*helper responsibilities, especially in fully online schools?

This study captured information from individuals who are conducting research, supervising, and employing teletherapists in school settings. While they could speak from their experiences and discuss generally what they have been seeing and how they have responded, this study cannot be taken as representative of all telepractitioners. Nevertheless, because the goal was to understand experience—rather than a single construct such as beliefs, attitudes, or motivation—the information gained from these highly experienced, highly respected practitioners should be understood as an opportunity to consider important issues around the intersection of a fluid concept (like professional identity) in concert with emerging issues from the broader social context around technology, related services, and what it means not to work *on*, or even *for* children, but *with* them in an online setting.

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