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Perceptions of the Delivery of Group and Individual Writing Telehealth Interventions for Students 7 to 12 Years of Age using Two Virtual Platforms: A Pilot Study

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Perceptions of the Delivery of Group and Individual Writing Telehealth Interventions for Students 7 to 12 Years of Age using Two Virtual Platforms: A Pilot Study

Abstract

Background: Existing evidence supports occupational therapy's (OT) role in improving handwriting skills; however, evidence is limited regarding the delivery of virtual intervention.

Method: This pilot study reviewed the use of a virtual interprofessional writing program for five children 7 to 12 years of age that addressed both handwriting (OT) and spelling (speech-language pathology) skills. The program included eight weekly sessions using Microsoft Teams (first four sessions) and Cisco WebEx (last four sessions). A parent survey consisting of 14 questions was conducted to gauge overall satisfaction with the program as well as learn about platform preferences. In addition, the occupational therapists provided insights from using the features of the two platforms.

Results: Overall, the families were satisfied with the virtual program, the primary strengths being the engagement of their child, the materials used in the program, and skill development. The occupational therapists identified various features of the virtual platforms that impacted their use for individual and group interventions.

Conclusion: Information from this pilot study can be used to help clinicians when preparing for the virtual delivery of OT services. It also provided feedback from parents that is consistent with previous literature about strengths and weaknesses of virtual services.

Comments

The authors declare that they have no competing financial, professional, or personal interest that might have influenced the performance or presentation of the work described in this manuscript.

Keywords

handwriting, occupational therapy, telehealth, video conferencing

Cover Page Footnote

Thank you to Virginia Middleton, OTR/L, who was an OT student involved in the program, and the ECU SLP students (Paige Khan and Abigail Sproul) and faculty mentor, Dr. Joy Kennedy.

Credentials Display

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The novel Coronavirus (COVID-19) was declared a worldwide pandemic in January 2020, triggering a disruption in global life (World Health Organization [WHO], 2021). As social distancing and quarantining became the “new normal,” businesses, educational institutions, public buildings, and restaurants were forced to close. Occupational therapists and other health care providers faced the challenge of delivering high-quality services while maintaining social distance from their clients and families. Because of the new regulations, many providers shifted to providing services virtually through telehealth (Zahoransky & Lape, 2020).

In April 2020, the Centers for Medicare and Medicaid Services (CMS) approved the provision of services via telehealth for occupational therapists, physical therapists, and speech-language pathologists for Medicare beneficiaries throughout the emergency (American Occupational Therapy Association [AOTA], 2020; Tenforde et al., 2020). Because reimbursement can be a barrier to telehealth services, this approval was a positive turning point for the use of telehealth in these rehabilitation disciplines (AOTA, 2018). Individuals can use telehealth to overcome various barriers to health care access, including distance, transportation, time, expense, and provider shortages. Telehealth allows clients to attend therapy in the most convenient and naturalistic location (Cason, 2012; Dahl-Popolizio et al., 2020).

According to Proffitt et al. (2021), “occupational therapy (OT) is focused on increasing participation in authentic contexts; telehealth as an OT service delivery model is a natural fit for this pursuit” (p. 153). The AOTA first released telehealth guidelines in 2005 and officially endorsed the term “telehealth” in 2013 (Proffitt et al., 2021). The term telehealth has a broad scope, and AOTA defines telehealth as inclusive of evaluation, consultation, prevention, and therapy services delivered through information and communication technology (AOTA, 2018; Geyer & Cooper, 2021). While telehealth has been used as a method of service delivery for some time, many occupational therapists provided in-person services when the pandemic began (Camden & Silva, 2021). The evidence for the effectiveness of telehealth, gathered pre-pandemic, is varied. There is a gap in the research about the efficiency and effectiveness of telehealth services and the composition of a virtual occupational therapy (OT) session (Camden & Silva, 2021). However, Dahl-Popolizio et al. (2020) stated that evidence-based interventions could be provided via telehealth with adequate preparation and communication between the practitioner and the client. In addition, telehealth is effective for coaching caregivers, which increases the likelihood of carryover of therapy at home. Further, telehealth increases motivation and cognitive function, improves occupational performance, and reduces parental stress (Hung & Fong, 2019). Telehealth services offer benefits that offset barriers to in-person services. These benefits include reduced time commuting between clients’ homes, which can increase time spent in therapy appointments and family involvement in care (Cason, 2012; Dahl-Popolizio et al., 2020; Tenforde et al., 2020).

In response to the increase in telehealth services provided by occupational therapists during the pandemic, a survey was administered to gather opinions regarding telehealth implementation and effectiveness. Occupational therapists indicated they supported telehealth as a substitute for in-person services (77%; $n = 176$) and as a permanent option in addition to in-person services (78%; $n = 179$). All respondents ($n = 230$) had experience using telehealth as a service delivery model. These findings provide evidence that occupational therapists value telehealth services and feel positive about its implementation (Dahl-Popolizio et al., 2020).

The abrupt shift to virtual service delivery through telehealth was a tremendous change for clients and occupational therapists alike. The virtual platform options for meeting face-to-face through the

internet and communication technologies are extensive. A survey from June 2020 indicated most therapists (70%; n = 161) used ZOOM as an interface. Other platforms used included doxy.me, FaceTime®, Google Meet™, Microsoft® Teams, Cisco WebEx, Skype, and THERAPLATFORM, among others. The survey indicated most therapists had positive experiences providing virtual services. The primary limitations included overcoming technical difficulties and a lack of personal contact or socialization. Positive outcomes included that telehealth services supported family engagement, especially among the pediatric population (Dahl-Popolizio et al., 2020).

Benefits of Telehealth in Pediatrics

While in-person services may be perceived as the “gold standard,” evidence supports telehealth services to overcome barriers to accessing quality health care services (Cole et al., 2019; Cason, 2012; Dahl-Popolizio et al., 2020; Tenforde et al., 2020). Recent research shows that using a telehealth service-delivery approach in pediatric OT practice is gaining traction, as evidenced by enhancing access to expert care and minimizing delays in service delivery, increasing collaboration and treatment strategy carry-over, and improving overall therapist/client satisfaction (Rortvedt & Jacobs, 2019). According to the American Community Survey completed in 2016, 89% of households in the United States had a computer, including a smartphone (National Center for Education Statistics, 2018). This access offers a wide range of individuals the ability to use telehealth services. One of the most evident benefits of telehealth is increased access to qualified health care professionals for individuals living in rural areas (Zylstra, 2013). Based on 2020 statistics, approximately 14% of the U.S. population lives in rural areas where health care professionals are limited in number (Dobis et al., 2021). Telehealth can improve flexibility in service delivery and decrease barriers, such as travel time and distance, for both clients and providers (Cason, 2014; Cole et al., 2019). Telehealth can lower costs for occupational therapists, clients, and families through reduced gas for traveling to and from clinics. In addition, clients save time by not traveling to their service provider (Seto et al., 2019; Zylstra, 2013).

In addition to increased access, there are additional benefits to pediatric telehealth services. Increased family involvement is another distinct benefit of using telehealth services with the pediatric population. Carry-over of OT treatment techniques and interventions is crucial for generalization, maintaining progress, and achieving long-term improvement in skills. Using telehealth services with children offers a unique opportunity to involve the family and caregivers in sessions, allowing for the entire family to be educated on treatment strategies, leading to increased carry-over and implementation of the strategies used (Cole et al., 2019; Gibbs & Toth-Cohen, 2011; Seto et al., 2019). Telehealth is beneficial for teaching coaching skills, establishing routines, and teaching caregivers how to play and engage with their children (Hsu et al., 2021).

Another benefit of telehealth is perceived effectiveness. Eighty-four percent of occupational therapists considered telehealth effective for providing pediatric services (Dahl-Popolizio et al., 2020), thus supporting its continued use even when the pandemic subsides. Furthermore, Wallisch et al. (2019) stated OT services delivered through telehealth are effective, particularly with young children, because of increased parent and caregiver education and access to care. However, this study also indicates more research is necessary to identify how telehealth may best serve these families.

Telehealth Challenges

While evidence supports the use of telehealth, limitations should be considered. Limitations include concerns about a lack of physical contact with clients; technical issues, including a lack of access

to a strong Wi-Fi connection; concerns with client privacy; uncontrolled distractions in the client's environment; client and/or caregiver behavior; and limited reimbursement (Cole et al., 2019; Dahl-Popolizio et al., 2020; Lerman et al., 2020; Tanner et al., 2020). Not all therapy sessions are conducive to a telehealth environment, as the occupational therapist is unable to provide physical prompts and effectively assess tactile skills (Hsu et al., 2021; Seto et al., 2019). Technology use introduces a broad array of challenges for clients in a separate setting without technology support trying to troubleshoot barriers. Lack of access to appropriate devices and a poor internet connection, especially in remote areas, may minimize the effectiveness of virtual delivery. Even if these barriers are eliminated, families may not have the appropriate software to participate in telehealth sessions, or they may have limited technical experience to troubleshoot the software. In addition, audio and video streaming quality can be compromised (Cole et al., 2019; Lerman et al., 2020; Seto et al., 2019). To reduce client barriers, providers can loan equipment, recommend restricting the number of devices using Wi-Fi during the session, train caregivers on the software, and provide direct instructions to the family (Lerman et al., 2020).

Occupational Therapist and Parent Satisfaction

With the sudden implementation of telehealth services because of the pandemic, there were many concerns from occupational therapists and families of children receiving services regarding the quality of therapy. The start of the pandemic prompted studies on the satisfaction of all parties involved in telehealth services. Overall, the literature indicates satisfaction with telehealth services (Harkey et al., 2021; Tenforde et al., 2020). According to Tanner et al. (2020), the lowest percentage of positive responses given by parents and caregivers related to the ease of use of the technology and virtual platforms used for therapy sessions. Harkey et al. (2021) also indicated the quality of available technology and programming difficulties were barriers to telehealth in rural areas. However, no significant differences were found in client and parent satisfaction rates of virtual services provided in 2020 compared to in-person services provided in 2019 (Tanner et al., 2020; Wallisch et al., 2019). In addition, Wallisch et al. (2019) found that OT services offered through telehealth increased both parent self-efficacy and child satisfaction. These findings support the receptiveness of telehealth as a mode of therapy delivery despite potential technological difficulties. The findings also support the importance of considering appropriate virtual platforms for the occupational therapist and families.

Summary

Evidence supports the benefits of telehealth, particularly for the pediatric population. However, more research is necessary to determine how the delivery of services may impact the services provided to best support children and families. Numerous platforms for providing telehealth services now exist. Health care practitioners should consider the choices available to them to provide the highest quality of care to their clients and their families. The results from studies regarding telehealth, including practitioner and caregiver opinions, can inform occupational therapists to advocate for continued telehealth reimbursement. This study examines parent perception of and satisfaction with pediatric services delivered through two virtual platforms, Cisco WebEx and Microsoft Teams.

Method

Purpose

The purpose of this pilot study was to explore parent and occupational therapists perceptions of the virtual delivery of group and individual handwriting interventions during the COVID-19 pandemic (Kistin & Silverstein, 2015). The design of this study is a pilot study using a survey administered to the

families of children after the program's conclusion (Kistin & Silverstein, 2015; Portney, 2020). In addition to the survey, a discussion was conducted with the practitioners who delivered the services regarding the use of two specific platforms to deliver both group and individual handwriting interventions. This study examined overall satisfaction with the virtual handwriting program and the use of and satisfaction with two virtual platforms, Microsoft Teams and Cisco WebEx, for providing group and individual telehealth services to children. The outcomes of this study can be used to inform the delivery of OT services through telehealth and inform future studies on telehealth services for OT with children.

Participants

Five children (n = 3 males; n = 2 females), 7 to 12 years of age, participated in an after-school virtual writing program. Two children were diagnosed with ADHD, and one of these two children had additional diagnoses of sensory processing disorder, oppositional defiant disorder, and dyslexia. Two children were receiving OT services during the study. Children were recruited from a rural area in a southeastern state. Two of the children were previous attendees of an in-person pilot program conducted in spring 2020 that was discontinued because of the onset of the pandemic. After completion of this virtual writing program, satisfaction surveys were emailed to the children's parents, who are the participants in the study. Four parent survey responses were received and are the data for this study.

Procedures

This study (UMCIRB #20-001888) was approved by the university institutional review board, and all parents of the children provided informed consent prior to completing the study. The children of the survey participants completed an 8-week (September to November 2020) interprofessional writing program offered by OT and speech-language pathology (SLP) departments at a rural public university in the southeast. Four OT students and two SLP students collaborated to plan weekly group activities. The OT students collaborated with each other to plan individual OT-based activities. Each week, the children engaged in a 20-min group activity, managed by OT and SLP students. After the group activity, the children were assigned to virtual breakout rooms to work with OT students or SLP students for 20 min. Once the children completed their first session (OT), they switched to complete the other session (SLP). Table 1 outlines a weekly session.

Participation in the program involved the use of digital tools including the Interactive Digital Teaching Tool developed by Learning Without Tears® and the use of physical manipulatives, including a double-lined blackboard, chalk, magnetic letters, Wikki Stix®, and post-it tabs. All children were provided a Learning Without Tears® workbook based on their grade level (Can Do Print for older children or Cursive Kickoff for younger children). The physical manipulatives were mailed to each child's home prior to the beginning of the program. The children were able to keep the manipulatives for personal use after the program ended. To participate in the program, the families needed a reliable internet connection and a device with video and audio capabilities that allowed access to Microsoft Teams and Cisco WebEx. The writing program used Microsoft Teams for the first 4 weeks and Cisco WebEx for the last 4 weeks. These virtual platforms were selected because of access through the university, which provided availability to the families at no charge. In addition, the primary investigator had experience using both platforms and suggested using platforms that allowed a breakout room feature to accommodate the design of the writing program.

Each week, the students' parents accessed the program through an email link sent prior to the sessions. One session was conducted each week during the 8-week program. Each weekly session included

three 20-min intervention sections. Table 1 outlines each session, while Table 2 identifies the method of delivery.

Table 1

Virtual Writing Program Session Outline

First 20 Minutes	Second 20 Minutes	Third 20 Minutes
Group Activity An OT or SLP graduate student facilitated a full group session.	Individual/Small Group Activity Students attended either an OT session or SLP session.	Individual/Small Group Activity Students attended the remaining discipline’s session (either OT or SLP).
This time was used to orient children to the group and served as a warm-up activity. Group activities provided students with time to practice both spelling and fine motor skills.	OT sessions were conducted individually and SLP sessions were conducted in a small group of two to three students. OT and SLP sessions incorporated digital and manipulative-based activities.	

Table 2

Method of Delivery

Sessions 1–4: Microsoft Teams	Sessions 5–8: Cisco WebEx
Group (n = 5) followed by two small group/individual sessions (n = 1–2)	Group (n = 5) followed by two small group/individual sessions (n = 1–2)

Approximately three months after the conclusion of the program, follow-up data were collected. At this time, satisfaction surveys were sent to the parents of the participating children to gauge overall satisfaction with the virtual program as well as to gain their perspectives regarding platform preferences. This survey was provided months after the program because of the timeframe included holidays, and because several survey questions asked about continuation of skills and frequency of use of materials following the conclusion of the program. The survey included 14 questions, and the responses remained anonymous. The parents were given 1 week to complete the survey.

In addition to the survey, the student therapists and their advising occupational therapists collaborated to identify strengths and barriers of both platforms used when considering group and individual services during an open-ended debrief session. Although this information was not a formal outcome measure, it was a valuable byproduct of the study.

Survey Instrument

A descriptive survey, using the questionnaire method, was developed by the researchers using Qualtrics software to disseminate the survey to the parents (Portney, 2020). Guiding questions were discussed by the research team to determine the information to be collected while considering the small sample size. Literature was reviewed and served as a resource for the questions included in the survey, but additional questions unique to the program were also included (Tanner et al., 2020; Wallisch et al., 2019). An initial draft of questions was created by the OT students and reviewed and modified by the advising occupational therapists. Most questions were written to allow for quantitative analysis. The questions included information about the specific virtual platforms and overall perceptions of the virtual handwriting program. All of the questions were included in the analysis. The survey began with a 5-point Likert scale question rating the overall experience of the program. Following this initial response, the parents rated eight possible strengths and eight possible limitations of the program based on a 5-point scale ranging from strongly agree to strongly disagree. Two additional 5-point scale questions rating the ease of use for the two virtual platforms from extremely easy to extremely difficult followed. The last

portion of the survey consisted of six questions about parent perceptions of the program designed to include information to assist with future program planning (five open-ended, one multiple choice).

Data Analysis

Because of the small number of participants in this pilot study, a descriptive data analysis was performed through Qualtrics. For 5-point scale questions, the strongly agree and somewhat agree categories were combined as “agree,” and the strongly disagree and somewhat disagree were combined as “disagree.” Comments from the open-ended questions were included to support these data as appropriate in the Results and Discussion. Not all open-ended questions were answered by all survey participants. Discussions among the student therapists and occupational therapists about the features of the two virtual platforms are described in Table 3. No formal survey was conducted for occupational therapists feedback because the researchers felt the open discussion provided opportunities for richer feedback.

Results

The findings from this study revealed overall parent satisfaction with the delivery of the virtual writing program, as well as specific preferences related to the two virtual platforms. For the initial questions on the overall experience with the virtual writing program, 100% (n = 4) of the parents identified the program as excellent. The strengths and weaknesses of the virtual program are identified in Figures 1 and 2. The parents rated each item on a 5-point scale (for analysis, strongly agree and agree were combined, strongly disagree and disagree were combined). Overall, the strengths of the program (n = 4 for agree/strongly agree) included having physical materials, engagement of the child, and improvement of at least one skill. The only limitation identified (n = 1) was the difficulty of use of the web conferencing software.

Figure 1

Parent Perception of Program Strengths

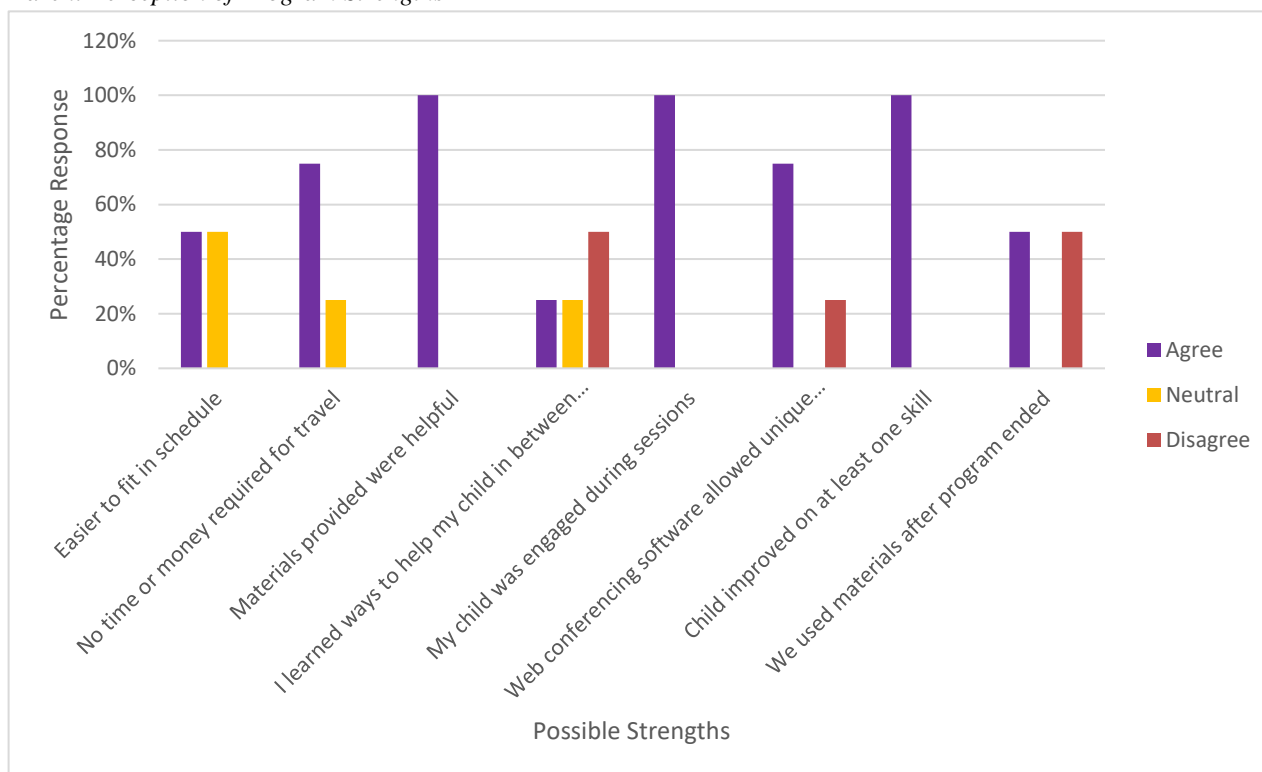
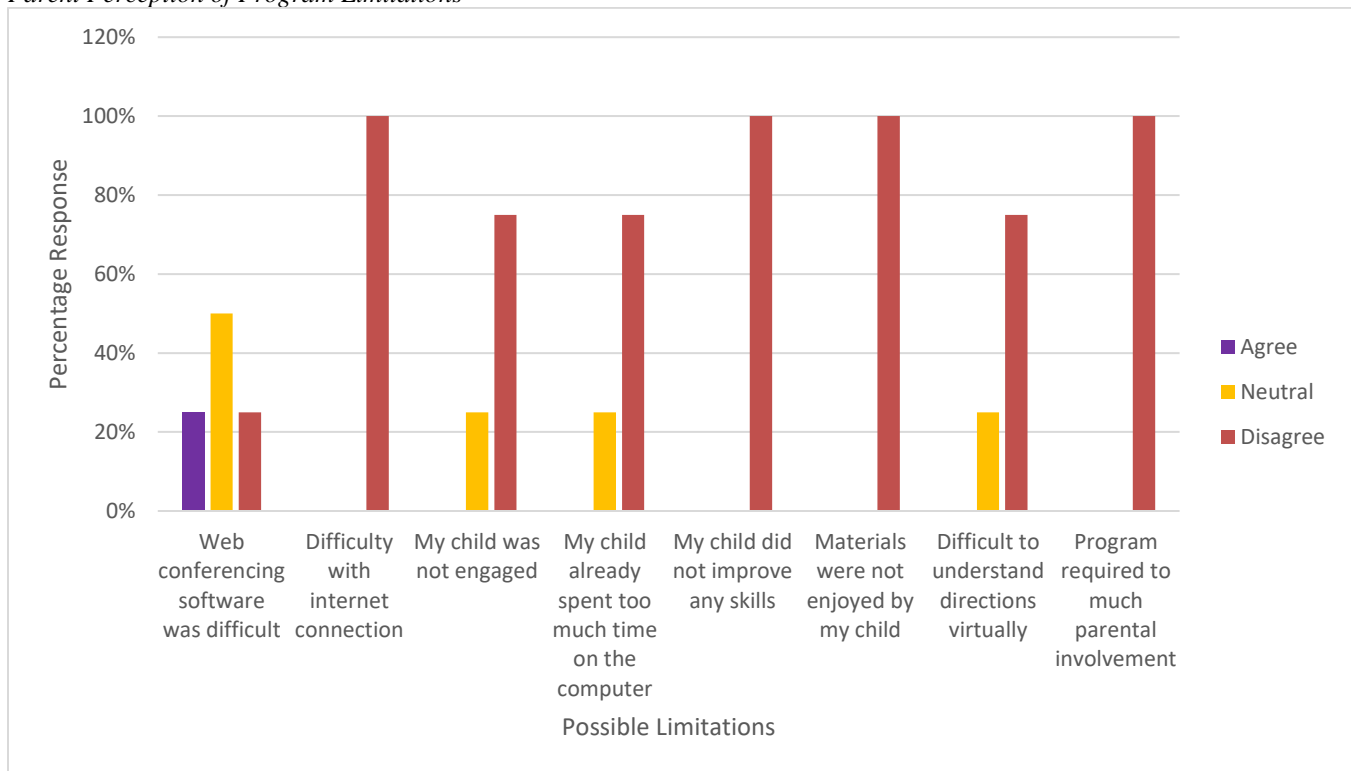


Figure 2

Parent Perception of Program Limitations



The remaining questions included both open- and closed-ended questions. The closed-ended questions related to ease of use for both virtual platforms. The parents rated Microsoft Teams on a 5-point scale. When asked about the ease of using Microsoft Teams, 25% (n = 1) said it was *extremely easy*, 25% (n = 1) said *somewhat easy*, 25% (n = 1) said *neither easy nor difficult*, and 25% (n = 1) said *extremely difficult* (overall M = 3, SD = 1). When asked about the ease of using Cisco WebEx, 25% (n = 1) said it was *extremely easy* and 75% (n = 3) said it was *somewhat easy* (overall M = 2, SD = 0). Overall, 50% of the parents found Microsoft Teams *somewhat easy/extremely easy* to use, while one parent rated its use *extremely difficult*. One hundred percent of the parents found WebEx *somewhat easy/extremely easy* to use.

Responses from the open-ended questions will be summarized. Although four parents completed the survey, no more than three responses were recorded for each open-ended question. When asked what they would share with other parents about the program, one parent indicated that the program was excellent and that they would highly recommend it. Another parent indicated their child’s penmanship improved vastly and complemented the research team for individualizing the interventions based on the child’s needs. Another question related to future program considerations. One parent indicated the program should “absolutely be offered again.” Two other parents discussed software and suggested using software that “works across different platforms.” One parent indicated “WebEx is much more user friendly. . . and gives you the control you need to facilitate the online group much more smoothly.” This same parent indicated that Microsoft Teams had a “sharp learning curve.” In addition, the suggestion to trial the platforms with families outside the university system was provided.

The final open-ended questions specifically addressed program outcomes. When asked if the program prompted changes with the parent or child, one parent indicated their child’s spelling improved.

Another parent indicated their child was “starting to do some writing on his own.” Furthermore, another parent indicated their child was “holding their pencil differently” and “there has been a clear, positive change in his handwriting.” Overall, according to the parent responses, the most helpful components of this virtual program included the individualized instruction, feedback from adults other than parents, and improved writing mechanics. At the conclusion of the survey, 100% (n = 4) of the parents indicated that the program should be offered again.

The post-program discussion session among the student therapists and advising occupational therapists involved in the delivery of the program yielded interesting information about the usability of the two platforms in delivering group and individual services. This information includes beneficial features for implementing the program as well as features viewed as limitations to program implementation. Both Cisco WebEx and Microsoft Teams offer unique features that enable provision of various therapeutic activities and allow for ease of use and access for families and program administrators. Common features of each platform are described in Table 3.

Table 3
Microsoft Teams and Cisco WebEx: Therapeutic Features

Feature	Microsoft Teams	Cisco WebEx
Chat	<ul style="list-style-type: none"> Allowed advising therapist to send individual messages to OT students with service delivery suggestions in real-time during sessions 	<ul style="list-style-type: none"> Allowed advising therapist to send individual messages to OT students with service delivery suggestions in real-time during sessions
Mute	<ul style="list-style-type: none"> Advising therapist could observe sessions with microphone and video on mute to minimize distractions 	<ul style="list-style-type: none"> Advising therapist could observe sessions with microphone and video on mute to minimize distractions Host could mute/unmute children individually or as a group
Video	<ul style="list-style-type: none"> Can pin individual videos on the screen to ensure visibility of select children during individual or group sessions Can pin multiple screens in view to focus on a few children When using two screens, can see children on the other screen during screen share with a few mouse clicks 	<ul style="list-style-type: none"> Can pin individual videos on the screen to ensure visibility of select children during individual or group sessions Can only pin one individual in view at a time Child videos are shown in the corner of the screen while the practitioner shares their screen
Screen Share	<ul style="list-style-type: none"> Must select an additional button to enable computer sound 	<ul style="list-style-type: none"> Sound automatically shared when video is played when applicable through screen share feature Annotate feature allows host and children to ‘write’ on screen digitally, host and children can work on a shared activity by using different colors
Scheduling Session	<ul style="list-style-type: none"> Easy to schedule sessions through Microsoft Outlook account used by the university Unable to set up reminders to families for the scheduled sessions 	<ul style="list-style-type: none"> Scheduling feature provided automatic reminder email to all families with link prior to sessions
Breakout Options	<ul style="list-style-type: none"> Has ‘channels’ to create individual rooms for smaller group activities Parents/children must navigate from the initial large group meeting to their individual group meetings, using the ‘channels’ found on the main page (led to confusion and required extended transition times) When used on a mobile device, the ‘channels’ were not visible (families could not manually navigate their small group/individual sessions) Families with emails external to the university system were not always recognized by Teams which made ‘channel’ and breakout rooms non-functional 	<ul style="list-style-type: none"> Breakout room feature allows host of meeting to assign individuals to a room. Children only had to select a “join” button Timer, which can be set by host, is visible in breakout room Breakout rooms can be preassigned before the meeting and be adjusted during the meeting by host Host can move freely between breakout rooms to observe treatments Host can move children between breakout rooms or add children to rooms
Other	<ul style="list-style-type: none"> Screenshots can be taken, with permission, for documentation of pencil grasp and writing legibility 	<ul style="list-style-type: none"> Can have multiple hosts, as identified by the primary host, to have access to the controls Screenshots can be taken, with permission, for documentation of pencil grasp and writing legibility

Discussion

The purpose of this study was to explore the delivery of handwriting intervention through telehealth to help guide future research on telehealth services and provide information for occupational therapists when making decisions about use of virtual platforms. Previous literature states the evidence is inconclusive regarding the specific benefits of telehealth, including which types of interventions are effective, as well as how best to serve families through this delivery model (Camden & Silva, 2021; Wallisch et al., 2019). Our parent satisfaction survey provides insight into the perceived benefits of telehealth as well as opinions regarding two specific virtual platforms.

One strength of this telehealth program was that the required materials were provided to the children prior to the program. Although all families kept the materials after the conclusion of the program, only 50% of the parent survey respondents indicated they continued to use these materials once the program ended. Although no respondent stated internet connection was a limitation to the program, 1 out of 4 respondents did “somewhat agree” that the virtual platforms were difficult to use. One parent also indicated that they intermittently had trouble logging in on a computer. Cisco WebEx appeared to be a preferred platform through both the parent satisfaction surveys and from the occupational therapists discussion. One hundred percent of the parents identified Cisco WebEx as “easy to use,” and only 50% of the parents identified Microsoft Teams as “easy to use.”

One of the main benefits discussed in previous studies regarding pediatric telehealth was that increased caregiver involvement can lead to carry-over of therapeutic techniques in the home (Gibbs & Toth-Cohen, 2011; Wallisch et al., 2019). The findings from this survey indicated that 50% of the parents indicated they were unaware of ways to help their child after the program ended. While this was not a main objective of our program, lack of caregiver instruction could be viewed as a limitation. Although the materials were provided for use in the home, and some childrens’ parents remained in proximity to their child during the sessions, the student occupational therapists did not provide coaching strategies to educate parents on how to carry over techniques used during the program until the end of the program. In addition, 100% of the parents indicated they “strongly disagreed” that the program required too much parental involvement. It is possible that there was not enough parental involvement required for the parents to learn how to continue to facilitate the skills taught through the program, which should be addressed in the program design and in future iterations.

All of the survey respondents expressed overall satisfaction with the virtual program, which is consistent with the literature on telehealth as a mode of service delivery (Dahl-Popolizio et al., 2020). Perceived benefits from this program that were also noted in the literature include time and money saved from reduced travel. Evidence from Tanner et al. (2020) states that parents were the least satisfied with the ease of use of technology and the choice of virtual platform used for virtual therapy sessions. Although not an overwhelming weakness in our study, parents did give mixed reviews in satisfaction with the ease of use of Microsoft Teams but were satisfied Cisco WebEx. The occupational therapists also preferred Cisco WebEx because of the features offered and how they impacted the specific sessions.

The opinions provided by the occupational therapists who implemented these services are beneficial for other occupational therapists to consider, as they provide specific information related to the features of two common virtual platforms. This information combined with the results from the parent satisfaction survey can help occupational therapists critically assess and make decisions about the delivery of virtual OT services through different virtual platforms. The features described and discussed in this

study can help clinicians consider available platforms and determine which platform might best meet the needs of their clients.

Limitations

The small sample size is a significant limitation of this study. However, only a small group of children participated in our program, which limited the number of parents we could survey. During the recruitment phase for the writing program, we tried to recruit families during the COVID-19 pandemic when many children were already using computers for remote learning. It is possible that the parents did not want to add more screen time to their child's day. In addition, this study only included two widely used virtual platforms, but there are many other options available to occupational therapists. Because virtual platforms continue to evolve, the features discussed in this article may have changed since the completion of our study. In addition, time lapse between the completion of the program and the parent survey, recall of benefits, and challenges may have been impacted. This study contributes to the overall understanding of family and occupational therapists satisfaction, as well as the options available to occupational therapists offering virtual services.

Clinical Considerations

The information gathered in this pilot study can be useful for occupational therapists who use virtual platforms to deliver OT services. The following recommendations are takeaways that may be used by clinicians in their delivery of virtual OT services.

- Platforms have various features, and occupational therapists should consider these features based on how they plan to deliver OT services when choosing which platform to use.
- Microsoft Teams and Cisco WebEx allow individual messages to be sent between specific individuals during the session, sessions can be viewed with microphone and video off to minimize distractions, screenshots can be taken for documentation and analysis of performance, and breakout rooms are available.
- Microsoft Teams allows “pinning” of multiple individuals to the screen for closer view but does not have automatic email reminders, and the breakout rooms were difficult to maneuver especially for families outside of the university system.
- Cisco WebEx allows the host to mute and unmute individuals as appropriate, sound is automatically shared through screen share feature, the annotate feature allows host and child to mark on the screen together during activities, automatic email reminders are provided, and host can move self and others freely between breakout rooms.
- When preparing for the virtual delivery of OT services, consider client's and family's familiarity and comfort level with technology when selecting appropriate platforms and activities.
- Determining the best platform for delivery will require consideration of what you will need to see the client doing during the session. Additional cameras or an external camera may be necessary to achieve a preferred view.
- Consider physical and electronic manipulatives or tools that may be necessary to enhance the delivery of the session. Try to have family ensure other unnecessary items are removed and not a distraction.
- Take time to practice with the platform you are using before conducting a session to learn the current features and to brainstorm how to integrate those features into therapy sessions.

Conclusion

Evidence exists supporting the use of telehealth as a mode of service delivery for OT, especially when there are barriers that prevent access to service. Parent and occupational therapists feedback can be beneficial for the therapist when considering telehealth as a mode of service delivery. This study gathered perceptions for the use of two virtual platforms for both individual and group intervention. While this was only a pilot study, these findings support previous research indicating parent satisfaction with telehealth delivery and identify specific strengths and challenges. The perceptions provided by the occupational therapists contribute to the clinical reasoning of the occupational therapists and help clinicians maximize the features of virtual platforms and prepare for the virtual delivery of OT services. Next steps in research may focus on expanding the study to include a larger sample size, random assignment, and inclusion of other virtual platforms, such as Google Classroom and ZOOM. Features of virtual platforms continue to evolve, and occupational therapists should review all available platforms, including current features, to make an informed choice.

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