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RESEARCH REPORT

Considerations for paediatric student-led telepractice in speech-language therapy: A pilot observational study from South Africa

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Abstract

Background: COVID-19 necessitated emergency telepractice for student-led speech-language therapy clinical practicals in training institutions, with limited preparation and evidence-based guidelines. Beyond the pandemic, practitioners and university training sites are likely to continue to offer telepractice necessitating thorough preparation for telepractice services underpinned by a comprehensive understanding of the complexities involved in online therapy.

Aims: Adopting realist evaluation principles, our aim in this paper was to explore broadly what works and does not work in a set of student-led telepractice sessions in a diverse, resource-limited context. The broader goal of this project was to provide evidence-based support to enhance the efficiency and success of telepractice sessions in student clinical training contexts.

Methods & Procedures: We used qualitative observational methods with reflexive thematic analysis to analyse 28 video recordings and 61 observation notes of student-led paediatric telepractice sessions from a South African university clinic as part of a pilot study.

Outcomes & Results: We identified four overarching considerations for student-led telepractice: (1) additional, specific *preparation* is required, (2) with greater *management of technology* and adaptation of tasks, especially during times of poor connectivity; (3) telepractice relies heavily on *caregiver input and collaboration*; and (4) *promoting engagement online*, holding a client's attention, building rapport and offering reinforcement are critical skills that are complicated by the lack of face-to-face contact.

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Conclusions & Implications: Our findings indicate that telepractice pedagogy needs to be explicitly taught and students require practical assistance as they learn how to use this service delivery approach effectively. There are some aspects peculiar to telepractice that require unique consideration and planning, especially in contexts where service providers and users may be unfamiliar with this form of service provision. The findings of this pilot study can be used by clinical educators and student clinicians to enhance clinical training opportunities involving telepractice.

KEYWORDS
caregiver, child, COVID-19, qualitative, speech-language therapy, students, training, telepractice

WHAT THIS PAPER ADDS

What is already known on this subject

- Many speech-language therapy (SLT) student clinicians had to transition quickly to telepractice service provision during COVID-19 with limited existing guidelines and support, especially in contexts where teletherapy is typically non-existent or difficult to access. Although there is some literature available on experiences of telepractice, there is very little evidence-based research which explores the mechanics of such sessions in real-time and which offers practical support to student clinicians and clinical educators engaging in this mode of service delivery.

What this study adds

- This pilot study examined video-recorded, student-led, paediatric, speech-language teletherapy sessions to understand challenges and considerations involved in using telepractice as a clinical training tool. Findings show that additional preparation for telepractice sessions is required, particularly in contexts of poor digital literacy; students must learn to manage technology, especially when connectivity poses a challenge, and adapt therapy tasks for online work with clients; telepractice relies heavily on caregiver input and collaboration, more so than in in-person consultations, and this relationship requires careful management; and promoting engagement online, holding a client's attention, building rapport and offering reinforcement are critical yet challenging skills in telepractice.

What are the potential or actual clinical implications of this work?

- Our findings highlight a need to teach telepractice pedagogy explicitly and support students practically in learning how to provide therapy effectively via this mode of service delivery. Observational methods for studying practices in recorded telepractice sessions can be used as part of a reflective approach to clinical training. Using already available data allowed us to unpack the 'messy reality' of clinical training using telepractice.

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INTRODUCTION

Although telepractice in the speech-language therapy field has been implemented successfully as an alternative service delivery approach (e.g., Grillo, 2017; Overby, 2018), the COVID-19 pandemic necessitated a rapid transition to emergency telepractice for many practitioners and clients across the world (Fong et al., 2021; Macoir et al., 2021; Tambyraja et al., 2021). Student clinical training was no exception, with universities shifting to telepractice to ensure students could continue to offer intervention services to clients and meet their professional training obligations. Students and clinical educators in many contexts were 'thrown into' the world of telepractice with limited preparation and experience of this mode of service delivery. Beyond the pandemic, many practitioners and university training sites will likely pursue telepractice in some form as it proved convenient, cost effective and helpful in reaching under-resourced areas (Kollia & Tsiamtsiouris, 2021), making it important to ensure that future groups of students are more thoroughly prepared to offer telepractice services.

Definitions and models of telepractice

Telepractice is a model of service delivery that involves remotely connecting a clinician and client via Internet technology for the purposes of assessment, management and/or education. It can either replace in-person services entirely or can be used to enhance them via a hybrid service delivery approach. Synchronous telepractice simulates in-person therapy through interactive audio or video connections, while asynchronous telepractice preserves information for later interpretation. Hybrid telepractice combines synchronous and asynchronous elements, including prerecorded video content (American Speech-Language-Hearing Association, 2022). Telepractice has been utilized successfully to treat a variety of speech, language and swallowing issues in both adults and children (Houston, 2013).

Differences between in-person and telepractice models of service delivery

There are acknowledged similarities and differences between in-person and telepractice models of service delivery. Both models require the application of evidence-based practice and careful preparation to establish appropriate therapy goals and means to achieve them (Page et al., 2022). Telepractice facilitates access to therapy services and enables the client to receive therapy in their natural environment, which may have benefits for generalization and carryover of skills. However, the speech-language pathologist (SLP) cannot physically manipulate or cue the client's articulators, and client and clinician engagement with physical objects, tools and materials is restricted via telepractice (American Speech-Language-Hearing Association, 2022). Creating rapport may also be more challenging via telepractice (Page et al., 2022), although some authors argue that rapport building is not affected in telepractice (Freckmann et al., 2017).

Benefits and challenges of telepractice

Telepractice opens significant opportunities for ensuring continuity of service (particularly when in-person consultation may be limited as was the case during the pandemic) and enabling greater access to intervention, especially in contexts where therapy is not available (Fairweather et al., 2016). However, it also comes with several challenges. Anecdotally, SLPs have described a loss of 'connection' with clients when engaging online, and research suggests that telepractice may adversely affect the conversational flow and alter how clients and clinicians interact (Wherton et al., 2020). Navigating technology and internet connectivity issues may also negatively affect the efficiency of telepractice (Fairweather et al., 2016). Telepractice may be difficult for clinicians and clients who are unfamiliar or hesitant with this mode of service delivery (Gallant et al., 2023), which may impact the quality of service and satisfaction levels.

Guidelines for telepractice

While there were some guidelines for telepractice in the field before the pandemic (e.g., Houston, 2013) as well as support offered through speech-language therapy organizations, many of these related to setting up telepractice services in non-emergency situations and most do not relate directly to student-led telepractice nor to telepractice in Global South contexts (defined as lower-income countries mostly found in the southern parts of the world). Position papers and telepractice guidelines and resources in the field appear to have emerged largely as the pandemic progressed (American Speech-Language-Hearing Association, 2022; Royal College of Speech-Language Therapists, 2020; Speech Pathology Australia, 2022). Some of the pre-pandemic literature on telepractice is now outdated since technology has advanced significantly. In general, there is a lack of evidence-based telepractice resources available, confirmed by Bhattarai et al.'s (2022) survey of students

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and practitioners. Support offered by organizations and bodies via frequently asked question sections, position papers and website resources—and the support offered to students by authors such as Lowman et al. (2022)—tends to focus on context-specific legislation and regulations rather than on providing a more pragmatic view of telepractice and exploring the mechanics of real-time online interactions.

Dimer et al.'s (2020) description of emergency telepractice in Brazil during the pandemic is an exception that gives insight into some of the practical and logistical considerations involved in setting up online services. Ekberg et al.'s (2019) pre-pandemic paper is another exception that offers an analysis of paediatric telepractice sessions via Conversation Analysis, focusing on engagement between SLPs and paediatric clients online.

Literature related to student-led telepractice in the field

There is some literature available related to telepractice used in student training programs both before (e.g., Overby, 2018; Rende & Ramsberger, 2011) and during COVID-19 (e.g., Bhattarai et al., 2022; Hatcher et al., 2022; Page et al., 2021; Roman et al., 2021; Voniati et al., 2021). This literature highlights students' mixed feelings about telepractice, difficulties in using software and locating appropriate therapy approaches for online work, and a general feeling among students that telepractice is more difficult than in-person work.

However, these studies focus on stakeholder perspectives and experiences rather than on examining student-led telepractice sessions themselves. There is little published research based on interactional evidence that offers ways to support students in their synchronous engagement with clients in online spaces, and limited research on student-led telepractice in contexts in the Global South. Importantly, Grogan-Johnson (2021) argues that establishing telepractice services in emergency versus non-emergency situations are two very different scenarios, making it important to explore the phenomenon of telepractice under both types of conditions.

Contextualising the current study

Telepractice requires access to a device and stable Internet connectivity both for the student and the client/caregiver. In South Africa, the digital divide, fuelled by societal inequalities, poses challenges for many citizens, especially in resource-limited areas. Issues include high data costs, unreliable connectivity, poor network coverage, disruptions in electricity supply and limited access to devices other than a smartphone (often with a small screen). The gap is further widened by differences in device type, internet connectivity, educational system gaps and poor digital literacy levels among some citizens (Cariolle, 2021; Department of Basic Education, 2023; Hanekom, 2020).

Recognising gaps in the literature in terms of empirically based research on the topic of telepractice in the speech-language therapy (SLT) field, this pilot study examined student-led online therapy practices in a South African university clinic, focussing on video-recorded paediatric speech-language telepractice sessions. The aim was to understand the challenges and considerations for student clinicians and educators in order to promote effective telepractice.

Drawing from realist evaluation principles (Wong et al., 2012, p. 89)—'which [seek] to establish what works, for whom, in what circumstances, in what respects, to what extent'—our research question was, broadly, 'given the emergency transition to telepractice as a clinical training tool, what is and isn't working in these student-led telepractice sessions?'. We also applied Iedema et al.'s (2018) concept of 'exnovation' (which combines excavation with innovation to look more closely at everyday, taken-for-granted practices to identify opportunities for change) to add an applied question of 'how can we provide practical support to students and clinical educators who are engaging in (emergency) telepractice with clients, to ensure they are better prepared to deliver efficient telepractice services?'.

METHODS

Design

This pilot study followed an exploratory qualitative design utilizing a transcription-free observational approach of video-recorded synchronous student-led speech-language telepractice sessions. We analysed and triangulated findings from two existing data sets routinely recorded from the same clinical practical, namely:

1. video-recorded student-led speech-language telepractice sessions with paediatric clients; and
2. observation notes made by a clinical educator (JW) while observing weekly telepractice sessions from the same clinical practical.

Ethical considerations

Ethical clearance for this study was received from the university's institutional review board (clearance number: M200867) and permission was obtained from the

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university Registrar and the head of the SLT department. Student participants provided written consent to participate in the study. Caregivers/legal guardians of minors who attend therapy at the university clinic routinely provide written consent for the recording of therapy sessions for teaching and research purposes. Telepractice sessions at this clinic are recorded wherever possible and recordings are stored in a password-protected encrypted data cloud with restricted access. No clinical educators were actively involved in any of the recorded sessions that formed part of this data set and thus consent was not explicitly sought from clinical educators for this study.

To avoid potential coercion due to the lecturer–student relationship between JW and some of the students in the third-year group, this process was conducted by SM (who has no relationship with the students). Students were reassured that their identities would remain anonymous in any write-up of results and that the research team intended to examine general data trends rather than specific students' clinical performance.

Participants

The entire group of 18 third-year SLT students who provided telepractice at the time of data collection was invited to participate. Because this was an exploratory pilot study, we did not set specific inclusion/exclusion criteria but rather chose to include the recorded telepractice sessions of all students who consented to participate. The videos included six paediatric clients and six caregivers across four students (see Supplementary Table 1 for more details). The students were all female and between the ages of 20–21 years. The university's SLT clinic serves caregivers and children from diverse backgrounds in Johannesburg who typically do not have medical insurance and cannot access limited publicly funded outpatient in-person speech-language services.

The research team

To avoid bias during the analytic process and encourage a reflective process involving both insider and outsider perspectives, we deliberately included people in the research team with and without SLT expertise. JW is a clinical educator who supervises clinical practicals with third-year students, including the telepractice practical described in this project. RN is an SLP who engages in telepractice in her private practice and has experience as a clinical educator. SM and JB are psychologists with experience in clinical and research work. MS is a genetic counsellor with experience in telepractice.

The research setting

Students at the University of the Witwatersrand obtain a four-year undergraduate professional degree in SLT. As part of their training, they typically start engaging in clinical practicals with paediatric clients in various settings (primarily via school-based therapy) from the second-year level. The university's clinic offers opportunities for students to conduct assessments and provide SLT intervention to clients under the supervision of clinical educators. Before the COVID-19 pandemic, intervention took place exclusively in person, but due to the pandemic, telepractice practicals were introduced. Some of the clients attending this practical had received in-person sessions at the clinic before the pandemic. In 2021, the clinic was able to reintroduce a small in-person clinic, but most clients at this clinic continue to receive telepractice. Clients who do not have data or Wi-Fi access are provided with data by the clinic to attend their sessions online, but they must make use of their own device to connect to the session (sometimes a laptop, sometimes a smartphone).

The data sets

The first data set comprised recorded telepractice sessions conducted by third-year students. At a second-year level, students would typically engage in in-person school-based practicals; during 2020 however, this class of third-year students received limited in-person therapy experience and engaged largely in case-based discussions and asynchronous online activities with clients as part of their clinical training. The telepractice practical conducted by this group of students in 2021, from which this data set was obtained, was the first time the clinic had offered a synchronous telepractice service, albeit under emergency conditions. Given the swift transition to online practicals, the preparation of clients and caregivers, students and clinical educators for this practical was minimal apart from a rudimentary introduction to telepractice.

The recorded sessions were conducted between March and June 2021. They comprised a random set of 28 video-recorded telepractice sessions (a total of 16 h of recordings). The paediatric cases were an average of 33 min long, with the shortest session at 12 min (due to connectivity problems) and the longest at 51 min. The sessions involved assessment and therapy for articulation, phonology, language and literacy-based impairments for pre-primary and primary school-aged clients. Many clients who attend this clinic are English additional language speakers, including several clients observed in this study.

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The second data set comprised 61 supervision notes made by JW while supervising this clinical practical between the same period of March to June 2021 with a group of six students. Each note averaged half a typed page. Observations of sessions ranged from 5 to 15 min and notes were made while the sessions were in progress. These notes were shared with students immediately after their therapy session to provide them with guidance on their therapeutic skills. There was some overlap across the data sets since two of the students who consented to their recordings being analysed were also in JW's supervision group.

The low number of responses to our invitation to participate in this study was attributed in part to general research fatigue trends noted across other studies conducted with students in the department around the same time, as well as global sentiments in this regard (Patel et al., 2020). In addition, although students are encouraged to conduct therapy via Zoom or Microsoft Teams to facilitate the recording of sessions, many clients do not have access to these apps nor the technical know-how to operate them. In instances of poor connectivity, WhatsApp is often a more stable platform. At the time of data collection, WhatsApp did not have a built-in recording option, however; thus, several students were not able to record their sessions and the pool of available recordings was limited.

Data analysis

We analysed the set of recordings via a transcription-less approach (described in Penn & Watermeyer, 2018), also referred to in the literature as 'scribing' (Eaton et al., 2019). The data set was divided randomly amongst the research team for individual analysis of the allocated recordings via repeated viewing. Approximately 25% of the data set was analysed by two team members to promote trustworthiness.

We started with a broad analytic approach, looking at the following features of online therapy in each recorded session:

- What are the most salient features of telepractice in this session?
- What's working? (i.e., what aspects appeared to have a positive impact on the efficiency of the session and/or achievement of therapy goals and/or the relationship between client and student)
- What's not working? (i.e., what aspects appeared to have a negative impact on the efficiency of the session and/or achievement of therapy goals and/or the relationship between client and student)
- What specific adaptations/strategies for online work are evident?
- How does online work impact relational aspects with the client and/or caregiver?

Each team member maintained reflective notes based on their observations of each recording. These notes were organized in the form of tables or spreadsheets, documenting the session's content (e.g., assessment or intervention and specific goals and tasks the student appeared to be working on), and responses to the analytic questions. Additionally, team members made note of specific examples highlighting certain behaviours, accompanied by comments on how these behaviours influenced session efficiency, the achievement of therapy goals and the dynamics within the therapeutic relationship. Our analysis was informed by our experience with a hybrid sociolinguistic analytic approach (summarized in Penn & Watermeyer, 2018), drawing from Conversation Analysis principles and incorporating talk-extrinsic data and contextual aspects to understand interactional processes.

The research team decided early in the project to try not to comment on the 'correctness' of the students' therapy during the analytic process in terms of what would be expected of a third-year student on a clinical practical but rather to focus on facilitators and barriers to telepractice in the data. This proved to be a challenge initially for JW and RN, both of whom have extensive experience as clinical educators in the field; however, some reflective debrief discussions between the two of us during the initial stages of the analytic process facilitated a clearer analytic focus.

All students involved in this clinical practical routinely receive written and/or verbal feedback on their therapy sessions and sessional plans from their respective clinical educators. The set of supervision notes based on JW's observations of her student-led telepractice sessions was anonymised. Thereafter, JW used principles of thematic analysis (as described by Braun et al., 2019) to analyse the data using Atlas.ti (version 9.1.2). Each note was read through with a specific focus on issues related to online work, again making use of the list of analytic questions mentioned above to guide this process. Codes were then generated across the data set and organized into themes and sub-themes.

Analysis of the two data sets was followed by two peer debrief discussions with all research team members. Each team member was asked to share those features that stood out as most prominent in the recordings they had scribed. JW also shared findings from her analysis of her supervision notes, enabling triangulation of the findings across the two data sets. Group consensus was reached on a set of preliminary overarching themes. To confirm these themes, SM and JB conducted separate independent detailed analyses of the team's set of scribed reflective notes from the recorded sessions via reflexive thematic analysis principles

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(Braun et al., 2019). JW then consolidated and organized the codes from the analysis of the scribed notes of the recorded sessions and the supervision notes. There was good congruence between the themes identified across the two data sets. Lastly, group consensus was reached on this consolidation of themes and sub-themes in relation to the set of preliminary overarching themes.

Trustworthiness

Trustworthiness was achieved in several ways, using Shenton's (2004) suggestions. Credibility was achieved via the consolidation of various analytic viewpoints and multiple data sets. This project forms part of a larger project looking at online therapy experiences, allowing for triangulation of the findings with other data sources including student and clinical educator perspectives explored in Watermeyer et al. (2022). Transferability was encouraged through purposive sampling of data collected from a particular group of students, a description of the context of data collection and a thorough description of the methods of analysis. Dependability was achieved through meticulous documentation of the research process via meeting notes and a research journal. Confirmability was achieved via an audit trail and careful checking and consolidation of thematic analyses by the team of researchers. The Standards for Reporting Qualitative Research (SRQR) checklist was followed.

RESULTS

As reported in another paper based on stakeholder perspectives of this telepractice practical (Watermeyer et al., 2022), students and clinical educators felt that this clinical practical had been largely successful as a clinical training opportunity and clients had shown progress in their speech-language-communication skills.

We identified four overarching themes across the two data sets, namely: (1) online work requires specific preparation, (2) technological issues need to be navigated and anticipated, (3) targeted caregiver involvement is critical, and (4) promoting engagement with clients online takes work. There were some overlaps across these themes and, as we will describe, the themes influenced each other.

Related to each of the four themes, in Supplementary Tables 2 and 3 we present a detailed overview of observed aspects of telepractice sessions that appeared to have a positive or negative impact on efficiency and/or achievement of therapy goals and/or relationship between clients and students. Importantly, the themes and results we present in this paper often occurred more on a continuum than in a binary way. Aspects that 'worked' and aspects that 'did not work' frequently occurred within the same telepractice session. Many of the identified aspects were present in multiple sessions we observed, while some occurred less frequently. For the sake of achieving our second research question and as a starting point for presenting some research-based evidence to support more effective telepractice, we felt it may be useful to student clinicians in particular to present our detailed findings included in these tables in a more binary way—mirroring a list of *do's and don'ts*. This runs the risk of being prescriptive and simplistic but anecdotal feedback from students in our department is that they value specific and practical input along these lines.

Online work requires specific preparation

'The devil is in the details', so to speak, when it comes to preparing for online therapy sessions. Our analysis highlighted that telepractice requires a significant amount of preparation over and above what would typically be required for in-person therapy sessions. This preparation included aspects such as navigating the online platform and device during specific activities, considering the positioning of the student/client/caregiver, liaising with caregivers beforehand to set up activities and adapting tasks and activities for telepractice.

Telepractice requires significant preparation in terms of practical aspects such as ensuring optimal seating in relation to the device (preferably with the client seated at a table and the device in a stationary position), good lighting so faces are clearly visible, access to adequate screen size wherever possible to share images and see faces clearly, ideal distance from the camera (not too close or too far away), a quiet and confidential environment and a good 'spot' in the house or room for optimal internet connectivity. This needs to happen on both ends of the session. In some instances, clients had to work in spaces that were not quiet, private or confidential out of necessity since the dwelling only had one room. Sometimes students faced similar challenges and had to go onto campus to work in a quiet space and access reliable Internet.

Other aspects that require consideration for online work include, for example, the colour of items in reality versus on-screen. In one case, for example, a student made use of a green cup that appeared yellow on the client's/caregiver's screen, resulting in confusion between the student and the client/caregiver when the student repeatedly corrected the client's apparent error in naming the colour.

Some students showed great creativity in planning for telepractice sessions and making use of tools such as videos, online games, screen sharing, etc. Others stuck to drill-type tasks with limited appeal or else tended

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towards overuse of picture-based screen-share activities. We observed that the use of more traditional tools and materials—typically used during in-person sessions—such as physical objects, toys and paper-based activities seemed to hold the clients' attention for a longer time compared to some of the screen-based activities, which sometimes tended to become repetitive. However, camera angles and the lack of a clear video connection frequently made it difficult for the student to monitor the client's written work, especially in instances where a caregiver was not available to assist. Students appeared to struggle with preparation for written work (e.g., often neglecting to implement simple adaptations such as using a thick black pen rather than a ballpoint pen) as well as problem-solving when the written work was not (clearly) visible on screen.

Online work also requires considerable adaptation of tasks that may be relatively straightforward to carry out in in-person therapy sessions. For example, receptive assessment tasks requiring the client to select one picture from a set became problematic online. The student could not see what the client was pointing to and/or the client was not able to name the pictures and provide a verbal response. In such instances, students tended to rely heavily on caregivers to verify the client's response, which was problematic since some caregivers were not fluent in English or were not available to assist the client. A multi-modal approach to therapy activities seemed to work better when the audio connection in a telepractice session was unclear, especially for specific types of therapy that required precise auditory discrimination such as auditory processing tasks and articulation/phonology therapy.

Technological issues need to be navigated and anticipated

The smooth running of sessions often depended on a solid Internet connection with a good audio and video signal. Internet connectivity was frequently problematic and required problem-solving skills on the part of the students to guide caregivers and try to maintain the continuity of the session. Students had to become acquainted with the use of technology across various online platforms including Microsoft Teams, Zoom and WhatsApp, depending on the client's access to technology, familiarity with apps, as well as stability of Internet connection (although cumbersome at times, WhatsApp often provided the most stable connection). Some students appeared quite proficient with navigating technology while others struggled.

Using technology required familiarity with basic functions such as how to share the screen and display tools like a PowerPoint presentation containing pictures, how to maximize the size of the pictures for optimal on-screen viewing, how to zoom in/out, and how to share a YouTube video and play it successfully on the online platform being used. In cases where online therapy worked particularly well, it was clear the students had taken time to prepare and consider the nuances of technology use. Overall, however, screen-share options were under-explored and interactive games and tasks were not used optimally.

In some instances where students had not trialled these aspects ahead of the session, time was wasted while they scrambled to get the technology to work and the pace and flow of the therapy session were interrupted. Sometimes, students had not considered the client's particular device in relation to their choice of stimulus items and pictures—for example, using small pictures that were not easily visible on the caregiver's smartphone screen. In other sessions, students held up printed images that appeared blurred on a screen particularly when the video connection was unclear.

Targeted caregiver involvement is critical

Typically during in-person practicals at a third-year level, which take place in mainstream and special needs schools, students do not have much if any contact with caregivers. Telepractice demands more of the caregiver–student relationship however and good preparation is important. As was evident in the interactions, when students engaged and planned with caregivers ahead of time, the sessions tended to run more efficiently.

Caregiver involvement in paediatric telepractice is crucial to ensure the smooth running of sessions. The student needs to be in touch with the caregiver ahead of time to determine the availability of materials and set up activities. It was clear in some of the sessions we observed that this process had taken place, but in other instances, students seemed to have made superficial contact or had not liaised at all with caregivers to explain the goals and activities for the session and brief the caregiver on their required role in the session. They also missed valuable opportunities to explain what had been done in the session and suggest home practice tasks to facilitate carryover of the session's goals.

The degree of caregiver involvement required in a telepractice session varies depending on the age of the client and the nature of the activities and therapy goals. Caregivers need to be involved to assist young clients with managing the device and the online platform and sometimes also with facilitating activities within the therapy session—particularly because objects and materials cannot be provided and shared as they would in a physical in-person therapy space and using techniques such as articulation placement cues may be difficult to achieve

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without the student being physically present. The student also needs to rely on the caregiver's feedback regarding the client's performance on tasks and activities, particularly when the client's work is not visible on camera or when the nature of the task requires caregiver verification of client performance.

Having the opportunity to engage with caregivers is possibly one of the biggest 'wins' of telepractice for student training, given that students may not have this opportunity at school-based practicals, certainly in our context—caregivers were able to see what was being done in therapy sessions and thus more easily implement carryover tasks at home. However, this relationship requires careful navigation through experiential learning and discussions around expectations and outcomes with the caregiver.

Establishing good rapport and a collaborative relationship with the caregiver while also maintaining control during the session seem key skills for students to master. We observed several different patterns in this regard. In some sessions, students communicated beforehand or during the session what input they required from the caregiver and in these instances, caregivers generally maintained the role of assistant or co-therapist and took care not to become overly involved. In other sessions, however, caregivers provided too much assistance to the client, even when the student attempted to discourage this, to the extent that the student became a passive observer while the caregiver took over the direction of the session. Alternatively, caregiver input was inconsistent or even absent, which made it difficult for the student to run the session effectively without this support, especially when it came to maintaining the client's attention.

Promoting engagement with clients online takes work

In sessions during which clients appeared engaged and focused, students tended to make use of strategies such as setting a clear agenda for the session, ensuring the client understood task requirements, taking regular breaks, giving frequent and specific verbal reinforcement and creatively using media and online tools to hold the client's attention. As we have already mentioned, the use of physical objects and paper-based activities appeared more successful at securing clients' attention, although some of the screen-share activities we observed also worked effectively.

Keeping clients motivated and focused seemed particularly challenging in many of the telepractice sessions we observed, however. Sometimes the student's chosen activities tended to take the form of drill-like exercises with limited opportunity for interaction, there was minimal motivation on the client's part, and/or the student did not build on the client's responses.

While some students brought positive, tangible energy into the session and made active attempts to build rapport with clients—for example, by asking the client to show and talk about their favourite toy—we observed several instances in which rapport building was negatively affected by the features of telepractice. Technological challenges interrupted the flow and pace of sessions, leading to disruptions and disjointedness that affected relationship building and the client's ability to focus during the session. In some instances, these challenges led to frustration on the part of the student and/or client. Sometimes clients became fixated on and distracted by watching themselves on screen. Camera angles and the position of the device made it difficult to monitor the client's performance. Active engagement was dependent on the applications available and the competence of both clinician and client in using them.

Students sometimes had limited control over the client's environment, which was not always conducive to participation and concentration during online sessions. This included aspects such as the positioning of the client and device, distractions in the client's home environment and the amount of caregiver input. The possibility also exists that because the client is in their familiar environment rather than in the clinic, the locus of control during the session shifts away from the student clinician.

One of the biggest challenges that students seemed to face was finding ways of offering tangible reinforcement to clients during an online session. During telepractice sessions, students relied heavily on generic verbal reinforcement (e.g., 'well done') and sometimes deferred to asking the caregiver to offer food-based rewards such as sweets or crisps to clients—which often became a distraction rather than achieving desired behaviours. In some instances, although students attempted to use tools such as videos to motivate the client and provide tangible reinforcement, this was time consuming and they did not use the video as an opportunity to engage with the client or reinforce the concepts being taught.

DISCUSSION

Working in an online therapy space can be challenging for students, particularly under emergency conditions where preparation for telepractice is minimal. Although an emergency approach to implementing telepractice is not ideal (Grogan-Johnson, 2021), this has been the reality for many students and clinical educators who were not already engaging with telepractice as a clinical training and service delivery model pre-pandemic. Limited exposure to clinical

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practice and a lack of (evidence-based) guidance may have exacerbated these challenges.

Our overall findings and themes are consistent with those in current telehealth literature in the field, both before and during COVID-19, indicating similar experiences across the globe with implementing (student-led) telepractice. Other authors have described, for example, the need to include caregivers and the client's environment in therapy (Grillo, 2017) and navigate this relationship carefully (Page et al., 2021), the need for guidance on how to select appropriate telepractice materials (Overby, 2018), challenges with engaging clients online (Overby, 2018), limitations in terms of preparation of students for telepractice (Bhattarai et al., 2022) and challenges related to using technology effectively (Page et al., 2021; Roman et al., 2021)—all of which are evident in the findings of our study. Many of the challenges we identified are generic to both telepractice and in-person therapy sessions—for example, setting appropriate goals, selecting and preparing suitable activities/material, providing clear instructions, offering specific feedback and reinforcement, optimizing client interaction, managing time efficiently and encouraging rapport and relationship building. We argue, however, that in a context such as ours, there are additional aspects to navigate in telepractice, related to factors such as language diversity, limited technological proficiency, inconsistent Internet connection, and navigating the caregiver relationship which can be difficult given cultural and intergenerational differences between students and caregivers.

Several key points emerge from our study, indicating that telepractice adds layers of complexity to what is an already multifaceted process for students learning to provide paediatric SLT; the preparation required to provide effective telepractice is more nuanced than what is suggested by the literature; there is a lack of technological familiarity amongst students and caregivers; and telepractice requires students to be skilled, flexible problem solvers.

Ekberg et al. (2019) indicate that the success of telepractice depends on the SLP's adaptation of activities for online platforms. Based on our findings, we would argue that several additional elements need to be considered and carefully prepared for when engaging with clients in online spaces—in particular, navigating caregiver involvement and learning how to manage technology and online platforms in relation to selected activities and goal setting. Telepractice also requires students to work harder at 'creating a virtual presence' (Millstein & Chaiyachati, 2020) and engaging clients online.

Although other studies have highlighted differences in the groundwork needed for telepractice versus in-person sessions—in particular, the additional time required for preparation of telepractice sessions (Page et al., 2022)—our study reveals that time is not the only factor involved. Preparation for telepractice requires students to consider a range of additional details such as screen size, seating, lighting, use of objects and props, management of Internet connectivity and online platforms, types of materials and activities, liaising with caregivers, etc.

Technological challenges appeared to have a significant impact on the efficiency of the sessions we observed as well as on aspects such as rapport building and maintaining the client's attention. Such challenges have been reported in other contexts around the world (e.g., Fairweather et al., 2016), although the number of incidents of poor Internet connection as well as electricity outages may arguably be more frequent and more disruptive in Global South contexts where resources are inadequate.

Our observations showed that while some students are familiar with technology and the nuances of various online platforms, others are not. These findings are confirmed in our study of student and clinical educator perspectives of this telepractice practical (Watermeyer et al., 2022). While the findings align with those of some international studies indicating that students may struggle with e-health provision (e.g., Lam et al., 2016), they contradict the results of studies in other (Global North) contexts (e.g. Roman et al., 2021). Our findings suggest it is erroneous to assume that so-called Generation Z students can manage the technical aspects of telepractice with ease. We did not see, for example, the use of features such as filters and emojis provided on some online platforms to achieve goals such as reinforcement of the client's behaviours—confirming that students are not as familiar with the functionality of online platforms as might be assumed. Again, these findings may relate to working in a context with inherent challenges of Internet access that may have affected the students' prior experiences of working with technology. Clinical educators, therefore, may need to be able to provide students with guidance in this regard and students should be encouraged to practice their selected activities on particular online platforms before conducting a telepractice session.

Despite the presence of some significant challenges in telepractice provision identified in our data, we also observed some highly creative ways in which students were able to engage with both clients and caregivers. However, a significant amount of preparation before the session seems essential—in particular, working with the caregiver to ensure they can set up activities and assist young clients, manage the device and online platform, and in some instances act as a co-therapist.

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CLINICAL IMPLICATIONS

Our findings have implications for clinical teaching and telepractice pedagogy. If telepractice continues to be used as a method of service delivery in the field (and it arguably should be, particularly in contexts like ours where access to in-person services may be restricted), then student clinicians must be adequately prepared and clinical educators equipped to support students to learn how to offer effective SLT services via this platform.

Learning how to provide therapy to clients is arguably a lifelong process of honing the ability to juggle various layers of complexity in therapy sessions. While there are similarities between in-person and telepractice models of service delivery, as acknowledged by students in other studies (Page et al., 2022), our findings highlight some aspects that are distinctive to telepractice which require additional attention and preparation—for example, learning basic technological skills, engaging the caregiver as a co-therapist, and promoting engagement with a child in an online space. We would argue that these aspects need to be explicitly addressed in curricula and supported practically through clinical supervision.

Recording telepractice sessions provides valuable opportunities for student learning via replaying and reflecting on sessions at a later stage. While some training institutions use post-hoc video reflexivity routinely (Lewis et al., 2015), our university does not. Video reflexivity can make the invisible work in care more visible, directing practitioners towards change in their practice (Iedema et al., 2018). Clinical educators can view recordings with students to analyse and reflect on their skills, reassess decisions, encourage new ways to build on existing knowledge, identify in situ layers of complexity and view progress over time.

LIMITATIONS AND FUTURE RESEARCH

This pilot study included a small set of recorded telepractice sessions from only four students, which arguably limits opportunities for transferability. We have explained the reasons for this small number earlier in the paper. Given the relatively small group of potential participants for this study as well as the general unwillingness of students to participate may mean that they are what Tourangeau (2014) refers to as a 'hard to sample' population. The sessions were also not evenly spread across the student participants. In addition, it should be borne in mind that the students who participated in this study possessed only a small amount of clinical experience coming into the telehealth clinic, which may have affected their ability to engage with the telehealth environment relative to more experienced students or qualified practitioners.

Further research is needed to understand the complexities of online therapy and apply it to clinical training and curriculum development. Analysing student-led telepractice recordings in established non-emergency conditions can provide evidence-based guidance for clinical educators and students. Determining the potential impact of telepractice training and preparation for students is also crucial.

This study provides a preliminary analysis of a complex data set. In future studies utilising similar methods, we hope to delve deeper into analysing and understanding particular phenomena—for example, managing caregiver–student relationships and supporting students in navigating caregiver involvement in telepractice sessions. We analysed paediatric telepractice sessions only; observations of telepractice with adult clients could add novel perspectives to this growing service delivery modality.

CONCLUSION

Despite the small number of students sampled in the video recordings, the addition of a set of supervision notes from the same practical yielded rich opportunities for understanding some of the strengths and facilitators of student-led telepractice in a Global South context. This study is one of very few interactional studies that reports on observations of recorded telepractice sessions rather than on stakeholder perspectives and experiences of telepractice, and quite possibly the only published study that describes observations of student-led telepractice in the SLT field. These observations reveal the at-times chaotic complexities of real-world interactions and unpack the nuances and challenges of this service delivery model for clinical training.

The findings of this pilot study can be used by clinical educators and students alike to enhance telepractice and ensure that students are better prepared for such practicals going forward. This study focused on telepractice as part of student clinical training in the SLT field, but our findings may apply to students and clinical educators in other health professions that utilise telepractice for service delivery. The analysis of recorded telepractice sessions also offers potential insights rooted in empirical research for practitioners engaging with telepractice.

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CONFLICT OF INTEREST DISCLOSURE STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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