

The Pragmatics and Semantics of Telepractice

By: Allison Mitcham, MS, CCC-SLP, Telepractice Committee Member, and Rosanne M. Joseph, MA, CCC-SLP, Telepractice Committee Chair

Technology may be used as a tool by speech-language pathologists and audiologists to emulate face-to-face client contact. Telepractice, or providing speech-language pathology (SLP) and audiology services remotely, broadens service delivery options and is able to mitigate a multitude of client accessibility issues. Two members of the TSHA Telepractice Committee review the literature and examine how telepractice is able to deliver the same as in-person speech, language, and audiology services and articulate the methodology of delivering SLP/audiology services remotely.

[See attached glossary for specific telepractice related terms and definitions]

What does “same as in-person” mean?

To answer this question, we need to look at the variety of speech, language, and hearing services and what they look like at brick-and-mortar facilities. At the most basic level, the provider and client interact, typically verbally. Client and provider are able to see and hear each other. At times, a visual stimulus, such as a worksheet, picture, graphic, or book, is used as a shared referent.

Demonstration, object manipulation, and physical targets might be utilized to build awareness of a concept or procedure. Engagement with concrete and technical applications is typically interactive with a stimulus/response format. Reinforcements and motivation techniques may be beneficial and significant for feedback and heightened client interest. Additionally, specialized equipment may be used for diagnostic assessment and biofeedback. To deliver same as in-person services, the objectives and rationale remain the same, but the procedures are adapted to achieve the same purpose while utilizing telecommunications technology.

Does telepractice require a specific set of skills distinct from other types of speech-language and audiology service delivery options?

Basic technology knowledge is expected, mainly to troubleshoot audio-visual connection issues. If tech support is available, the provider would need to know the basic tech vocabulary to relay issues and respond to the corrective action. For example, the provider needs to be able to answer which operating system, internet provider, and platform are being used. They need to be able to respond to directives such as reboot, refresh, and close all open applications. To be proficient, the provider should be able to seamlessly screen share, give the client control of the mouse, use the annotation tools on the platform, mirror other device content to the computer, and manage any peripheral equipment utilized during the session. The provider also should feel comfortable guiding the client or individuals at the client site to perform responses, maintain connection, and troubleshoot technical issues.

Do specific definitions articulated in the Texas Department of Licensing and Regulation (TDLR) rules impact specific procedures, documentation, and ethical awareness?

Yes. For professional consistency and reference, it is important that telepractice practitioners use common terms regarding the type of telepractice model (synchronous, asynchronous, and store and forward), the individuals involved (client, consultant, facilitator, and provider), and the physical locations involved in the sessions. For example, an SLP-assistant may not be a provider but may be a facilitator. State laws demand that the client site and provider site be revealed to assure the provider has the required license to practice in the states of location.

How is client connection initiated, achieved, and maintained?

There is a technical system and process involved with any online procedure. Rudimentary knowledge is necessary because it aids in internet connection choices as well as in problem-solving any breakdowns of communication clarity (buffering, latency, and dropped connection). With telepractice, the provider and the client each have a device (laptop, iPad, computer, smartphone, etc.).

1. Each device must have an operating system (i.e., iOS, Windows, Mac, PC, etc.) to manage the hardware and software on the device.
2. An internet service provider (AT&T, Comcast, etc.) provides access to the internet. The ISP manages the wired connections to the internet that in turn affect the speed of data transfer. For telepractice, a practitioner would need to have a minimum a speed of 500 kbps (kilobytes per second) in order to have consistent, clear video and audio clarity. Greater than 1 mpbs (megabyte per second) is preferred. If videos are shared, higher speeds may be necessary to avoid latency and buffering. If the client is accessed through a network system (i.e., school, hospital, etc.), a firewall designed to block unauthorized access from outside the network may have to be addressed by the facility's tech support. The number of users using the system also may affect the speed of internet data transfer.
3. A provider has a choice of internet browsers (Safari, Chrome, Firefox, etc.), but they need to be aware that some programs or applications only work with specific browsers.
4. Finally, a video conference platform that meets the needs of the intervention procedures is chosen by the provider. The platform should be privacy-compliant (with encryption) and have tools (screen share, annotations tools, chat, etc.) that enable same as in-person interaction as indicated in the plan of care objectives. Many telepractice companies have their own proprietary platforms utilized by their contracted clinicians, and there are several independent platforms designed for telepractice that are becoming more popular.

How do you present the intervention/evaluation materials?

Evaluation materials from many major publishers (Pearson, WPS, etc.) can be accessed digitally via each company's online evaluation system. Available materials include manuals, stimulus books, and protocols. Pearson, for example, provides digital copies and administration materials through their QGlobal website, and WPS utilizes an Online Evaluation Center. These sources also frequently provide online scoring and data input for registered users. Typically, access to the manual, protocols, and stimulus materials must be purchased the same as physical copies, either by the clinician or via a contract with the telepractice company.

Intervention materials can be presented in a variety of ways, including online libraries, screen share, email, document cameras, mirroring/screen-casting, print-free materials, and duplicated materials. PDFs and images also can be used. Providers can create their own digital libraries or use libraries provided by their telepractice company (if they contract with a telepractice company). In most telepractice-specific video platforms, clients are able to drag and drop, point and click, turn flashcards, fill in blanks, draw, highlight, and underline. Clinicians can utilize BoomCards, interactive PowerPoints, and digital books. Stamps and stickers can be used to play board games or fill in digital sticker charts as reinforcement. Printable documents can be provided to paraprofessionals on-site if physical copies are necessary. It should be noted that copyright can become a concern; if a telepractice company provides a shared library of resources for their providers, clinicians should be aware of the copyright license of materials they are uploading, particularly in relation to paid materials that are authorized for a single user only.

How do you reinforce or use motivation devices like dice, spinners, and games?

Some specially designed platforms for therapy have reinforcement tools as a unique feature of their platform tools. However, it is possible to use a document camera to display the action of dice, spinners, and timers in real time. Hand gestures (such as a high five) and noise makers can be used with just the computer's microphone and camera. Screen share can be done to show a graphic, scoreboard, or sticker chart.

How are physical and tactile cueing and behavior addressed?

When providing therapy via telepractice, the on-site facilitator is crucial for these concerns. During speech sessions, the facilitator can take as active or passive a role as required for the student. While the clinician can provide a visual cue, additional training and instruction for the paraprofessional are essential so they may help provide physical cues as required. The on-site facilitator also addresses

behavioral concerns, including redirecting students, directing attention, supporting technological skills, and sometimes moving the computer or monitor as necessary to ensure the student is able to see the clinician.

How does the client respond, interact, and control devices?

A variety of interactive tools exist in telepractice platforms, including text typing, drawing tools, clicking tools, and annotation. Shared whiteboards allow for simultaneous, real-time writing between the clinician and client. Additionally, mouse functions such as drag and drop, click, and highlight allow students to engage with a variety of online activities.

How are assessments done remotely?

Remote assessments are administered in a very similar way as in-person assessments. The student is presented a stimulus and then responds. As mentioned earlier, many publishers provide digital versions of their evaluations, which makes administration very straightforward. In some platforms, the stimulus item is presented to the client while the clinician's screen also shows instructions and verbal prompts. Depending on the platform, the student may be able to click the response item, or tactile responses (touch/point) can be provided with support from the facilitator, who repeats the client's answer without noting accuracy or inaccuracy.

How are data and records managed?

Data and record management in telepractice is subject to the same preservation requirements, privacy rules, and timelines as when the services are performed face-to-face. Many telepractitioners will find a hybrid of digital and hard-copy storage. Some apps and platforms provide in-room, digital documentation and feedback that is then automatically stored via SOAP notes or other record forms. These results can be used for progress monitoring or graphic performance displays. There is a wide variety of available platforms and an equally wide variety of documentation options. Simple apps like +/- apps can be used if in-room documentation is not available, or a clinician may choose to use paper-and-pencil documentation forms. At minimum, a locking file cabinet should be used to store physical client notes, protocols, data, and records.

What types of clients are candidates for telepractice?

When considering a client for telepractice, the clinician must consider the client's ability to engage with technology and attend to digital materials as well as their ability to use the computer or tablet. Additionally, the nature of the client's impairment as well as the nature of the therapy approach must be considered. For some students, the facilitator may be able to support hands-on manipulatives, games, and prompts to help students engage. In general, a student who can engage, attend, and has a basic ability to manipulate the mouse (clicking or moving the pointer) can be a candidate for telepractice. There is no specific student profile; each student's candidacy must be considered individually and a clinical decision must be made by the provider based on whether the student will benefit from telepractice service delivery. The telepractice provider is bound by the American Speech-Language-Hearing Association (ASHA) code of ethics when determining client candidacy.

What methods are used for safety and security?

When considering client safety, privacy, confidentiality, and security while engaged in remote services, begin with considering "How are these concerns addressed during in-person connections?" The physical environment should be private and safe with locked records and authorized access. With remote services, safety plans should be articulated in a written document and reviewed with individuals at the client site. Clients should not be left alone at a location, and emergency contacts should be available. Digital data should be encrypted and password-protected to ensure authorized access only and to keep data and records secure. Utilizing telepractice-only dedicated devices adds an extra layer of privacy and promotes a stronger professional image. Services should be delivered following Health Insurance Portability and Accountability Act (HIPAA) compliance and ASHA Code of Ethics standards including privacy agreements with business associates (i.e., IT and office personnel, etc.). No system is 100-percent secure, but a plan of action for a potential security breach should be provided with an informed consent document.

What computer hardware and peripherals are necessary or recommended?

At a minimum, both provider and client must have a functioning, updated computer with a camera and audio/speaker system built in. A dedicated web-cam and audio/speaker headset may be necessary to enhance the audio quality, block background noise, and/or provide camera control (i.e., track, zoom, etc.). A document camera is a popular peripheral to display real-time documents, objects, and actions onto computer screens. Many practitioners use two computer screens to streamline the delivery process of intervention stimuli throughout the session. Other devices such as tablets, iPads, and mobile phones are often utilized to screen share and mirror their content onto the teleconference platform.

Is specific software necessary?

The provider must choose specific Voice over Internet Protocol (VoIP) videoconferencing software to meet the therapy/intervention needs. Free platforms (like Skype and FaceTime) are not recommended because they are not HIPAA-compliant. There are many video conferencing software platforms with reasonable annual or monthly fees (i.e., ZOOM, Webex, etc.). More recently, dedicated teletherapy and management platforms (called SLP-centric platforms) have become available for solo or group practices. Some examples include Blink Session, TheraPlatform, and TheraV. These platforms differ in quality, price, and feature availability. Many also have business management options (i.e., scheduling, billing, compliance records, etc.). Question 5 addresses a variety of features to consider when selecting an appropriate videoconferencing platform to meet the provider's service needs.

Are there unique responsibilities when providing services remotely?

Yes. These unique responsibilities are articulated in the TDLR's administrative rules for SLPs and audiologists. A provider of telehealth services shall be competent in both the type of services provided and the methodology and equipment used to provide the service. In addition, the provider should keep data on the effectiveness and outcome measures of services provided via telehealth. Client notification of telehealth services, informed consent, other service options, and the client's right to refuse services via telepractice needs to be on record. A specific directive applies to audiological services via telecommunications technology whereby the provider needs to be present at the provider site and be visible and audible to the client and facilitator at all times.

Glossary of Terms

Annotation tools: Clickable areas on the platform that perform an action when you click on them. For example, draw, highlight, change font, etc.

Applications: Software programs that run on a computer

Asynchronous: Electronic transmission of stored clinical data from one location to another; *Store and Forward Model*

Boom cards: Digital task cards that are purchased to play on interactive whiteboards, desktops, laptops, tablets, and mobile devices

Broadband: The amount of data a single cable can carry for high-speed data transmission

Business Associate (BA): A person or entity that performs certain functions or activities that involve the use or disclosure of protected health information for a covered entity

Buffering: Preloading data into a reserved area of memory (the buffer) before starting to play the data transmitted

Browser: A software application used to access the internet, such as Chrome, Firefox, or Internet Explorer. Some telepractice platforms are browser-specific.

Chat: A place where client and provider can type messages back and forth

Client: A consumer or proposed consumer of speech-language pathology or audiology services

Client site: The physical location of the client at the time the services are being furnished via telecommunications

Consultant: Any professional who collaborates with a provider of telehealth services to provide services to clients

Device: A unit of physical hardware or equipment that provides one or more computing functions within a computer system

Document camera: An overhead projector camera that allows users to display real-time documents, objects, and actions on a screen or television

Encryption: The process of converting data to an unrecognizable or encrypted form. It is commonly used to protect sensitive information so that only authorized parties can view it.

Facilitator: The individual at the client site who assists with the delivery of the telehealth services at the direction of the audiologist or speech-language pathologist

Features of a platform: A variety of tools available in a particular platform (i.e., screen share, mirror, whiteboard, annotation tools, reinforcement graphics [gifs, emoticons, sounds, spinners, dice, timers])

Firewall: In computing, a barrier or filter between a trusted system or network and outside connections

Hardware: The physical parts of a computer and related devices

HIPAA: Acronym that stands for the Health Insurance Portability and Accountability Act, a U.S. law designed to provide privacy standards to protect patients' medical records and other health information

Interface: Refers to how devices or users connect and control a software application

Internet service provider (ISP): Provides access to the internet. Internet access has progressed over time from dial-up to cable to fiber optic cables offering faster broadband and speed of data transfer

Latency: The delay before a transfer of data begins

Mirror: Transfer of tablet and smartphone content to the computer screen, also called screen-casting

No-print materials: Digital materials and media designed to be accessed electronically, not physically

Provider: An individual who holds a current, renewable, unrestricted speech-language pathology or audiology license under Texas Occupations Code § 401.302 and §401.304 or an individual who holds an audiology intern license under Texas Occupation Code §401.311

Provider site: The physical location at which the speech-language pathologist or audiologist delivering the services is located at the time the services are provided via telecommunications, which is distant or remote from the client site

Platform: Video conference software used to host a remote session. Platforms may provide a variety of features such as screen share, annotation tools, and chat

Reboot: All programs are closed and the computer restarts the operating system

Refresh: A computer command that reloads the contents of a window or webpage running on the computer

Screen share: Sharing access to visual screen displays (and sometimes control) remotely from one computer to another computer

Store and forward: Electronic transmission of stored clinical data from one location to another (asynchronous transmission)

Software: Computer programs and applications that are installed on your computer

Synchronous: Live, real-time interaction between the client and the provider or consultant (typically via videoconferencing, sharing computer programs, apps, and documents)

Texas Department of Licensing and Regulation (TDLR): The Texas Department of Licensing and Regulation (TDLR) provides oversight for a broad range of occupations, businesses, facilities, and equipment designed to protect the health and safety of Texans and ensure they are served by qualified professionals. Rules are adopted into Texas law.

Telehealth: The use of telecommunications and information technologies for the exchange of information from one site to another for the provision of speech-language pathology or audiology services to a client from a provider

Telepractice: The use of telecommunications technology by a license holder for an assessment, intervention, or consultation regarding a speech-language pathology or audiology client

Telecommunication: Interactive communication at a distance by concurrent two-way transmission using telecommunication technology of information, including, without limitation, sound, visual images, and/or computer data, between the client site and the provider site, and required to occur without a change in the form or content of the information, as sent and received, other than through encoding or encryption of the transmission itself for purposes of and to protect the transmission

Video conferencing software: A tool used by two parties to communicate via video and audio using an internet connection. It enables the parties to initiate and conduct live conferences and remote meetings by transmitting audio, video, and text.

Voice Over Internet Protocol (VOIP): An internet connection where data is sent using the internet protocol instead of analog telephone lines

Webcam: A videocamera; typically a small camera that either attaches to a user's monitor or sits on a desk. Most webcams connect to the computer via USB.

References

American Speech-Language-Hearing Association. (2016). Scope of practice in speech-language pathology. Available from <https://www.asha.org/policy/SP2016-00343/>

American Speech-Language-Hearing Association. (2018). Scope of practice in audiology. Available from <https://www.asha.org/policy/SP2018-00353/>

Administrative Rules of the Texas Department of Licensing and Regulation 16 Texas Administrative Code, Chapter 111 (2018). Available from <https://tinyurl.com/u5nsgtb>

Ben-Aharon, A. (2019). A practical guide to establishing an on-line speech therapy private practice. *Perspectives of the ASHA Special Interest Groups*, 4(4), 712-718. https://doi.org/10.1044/2019_PERS-SIG18-2018-0022

Boisvert, M., Hall, N. (2019). Telepractice for school-based speech and language services: A workload management strategy. *Perspectives of the ASHA Special Interest Groups*, 4(1), 211-216. https://doi.org/10.1044/2018_PERS-SIG18-2018-0004

Christensson, Per. (2019). TechTerms computer dictionary. <http://techterms.com/>

Cohn, E., Cason, J. (2016). Telepractice, telehealth, and telemedicine: Acquiring knowledge from other disciplines. *Perspectives of the ASHA Special Interest Groups*, 1(18), 19-29. <https://doi.org/10.1044/persp1.SIG18.19>

Cohn, E., Watzlaf, V. (2011). Privacy and internet-based telepractice. *Perspectives of the ASHA Special Interest Groups*, 1(1), 26-37. <https://doi.org/10.1044/tele3.1.9>

Connors, W. (2019). The ultimate guide for SLP video platform selection. <https://everythingslp.com/products/the-ultimate-guide-for-slp-video-platform-selection>

Fleming, MA., Brown, JK., Houston, KT. (2013). Putting the “tele” in telepractice. *Perspectives of the ASHA Special Interest Groups*, 3(1), 9-15. <https://doi.org/10.1044/tele3.1.9>

Gabel, R., Grogan-Johnson, S., Alvares, R., Bechstein, L., & Taylor, J. (2013). A field study of telepractice for school intervention using the ASHA NOMS K-12 database. *Communication Disorders Quarterly*, 35, 44–53. <https://doi.org/10.1177/1525740113503035>

Gladden, C. (2013). Getting started in audiology telepractice. *Perspectives of the ASHA Special Interest Groups*, 3(1), 16-22. <https://doi.org/10.1044/tele3.1.16>

Grogan-Johnson, S., Schmidt, A., Schenker, Alvares, R., Rowan, L., & Taylor, J. (2013). A comparison of speech sound intervention delivered by telepractice and side-by-side service delivery models. *Communication Disorders Quarterly*, 34, 210–220. <https://doi.org/10.1177/1525740113484965>

Iacono, T., Dissanayake, C., Trembath, D., Hurdy, K., Erickson, S., & Spong, J. (2016). Family and practitioner perspectives on telehealth for services to young children with autism. *Studies in Health Technology and Informatics*, 231, 63–73. <https://doi.org/10.3233/978-1-61499-712-2-63>

Sutherland, R., Hodge, A., Trembath, D., Drevensek, S., & Roberts, J. (2016). Overcoming barriers to using telehealth for standardized language assessments. *Perspectives of the ASHA Special Interest Groups*, 1(18), 41–50. <https://doi.org/10.1044/persp1.SIG18.41>

Swabowski, A. (May 2018). What telepractice platform features can enhance your session? Available at <https://blog.asha.org/2018/05/30/what-telepractice-platform-features-can-enhance-your-sessions/>

Visagie, A., Swanepoel, D. W., & Eikelboom, R. H. (2015). Accuracy of remote hearing assessment in a rural community. *Telemedicine and e-Health*, 21, 930–937. <https://doi.org/10.1089/tmj.2014.0243>
