Telepractice and the PLS–5 Screening and PLS–5 Spanish Screening

The telepractice information in this document is intended to support clinicians in making informed, well-reasoned decisions around remote assessment. This information is not intended to be comprehensive regarding all considerations for assessment via telepractice. It should not be interpreted as a requirement or recommendation to conduct assessment via telepractice.

Clinicians should remain mindful to:

- Follow professional best practice recommendations and respective ethical codes

- Follow telepractice regulations and legal requirements from federal, state and local authorities, licensing boards, professional liability insurance providers, and payors

- Develop competence with assessment via telepractice through activities such as practicing, studying, consulting with other clinicians, and engaging in professional development.

Clinicians should use their clinical judgment to determine if assessment via telepractice is appropriate for a particular examinee, referral question, and situation. There are circumstances where assessment via telepractice is not feasible and/or is contraindicated. Documentation of all considerations, procedures, and conclusions remains a professional responsibility.

Several professional organizations and experts have provided guidance on telepractice assessment (American Speech-Language-Hearing Association [ASHA], 2021; American Psychological Association Services [APA Services], 2020; Grosch et al., 2011; Stolwyk et al., 2020) to assist clinicians in decision making and ethical and legal practice issues.

The Preschool Language Scales Screening Test, Fifth Edition (PLS–5 Screening; Zimmerman et al., 2012) and the Preschool Language Scales Spanish Screening Test, Fifth Edition (PLS–5 Spanish Screening; Zimmerman et al., 2012) are for children from birth–2:11 (or children functioning at that age range) and allow clinicians to evaluate observations of interactions between the caregiver and child. When testing, the clinician should also encourage caregivers to tell them about any additional behaviors they may remember.

A spectrum of options is available for administering this assessment via telepractice; however, it is important to consider the fact that the normative data were collected via in-person assessment. Telepractice is a deviation from the standardized administration, and the methods and approaches to administering it via telepractice should be supported by research and practice guidelines when appropriate.

Clinicians can review the PLS–5 Screening and PLS–5 Spanish Screening test items at the age-appropriate start point in order to identify developmentally relevant skills. When testing children ages 12 months and older who (1) are able to sit at the computer or in front of a tablet, and (2) will respond to test items with picture stimuli, attempt to administer the items using the standardized procedure for in-person testing. If the child is not engaged in testing, discontinue the screening procedure. Refer to the Item Presentation Summary located in the Q-global Resource Library for details of test items that can provide information obtained through observations or caregiver questions. Clinicians score the behaviors they are able to observe, via telepractice, that meet a test item's pass criterion as 1 by circling Caregiver Response on the print Record Form. Test items with manipulatives, including screening items, have specific procedures that require specialized training for a facilitator at the site

Clinicians engaging in telepractice assessment may train facilitators to work with them on a regular basis to provide greater coverage to underserved populations (e.g., only two clinicians within a 500-mile radius, shortage of clinicians within a school district). If such a facilitator is well trained and in a professional role (i.e., a professional facilitator), they can be provided with training to administer test items that have manipulatives specific to PLS–5 Screening and PLS–5 Spanish Screening, as well as adjust audiovisual equipment. As noted earlier, it is not recommended that standardized scores be reported.

In times when physical distancing is necessary (such as the COVID-19 pandemic), using a professional facilitator may not be safe or feasible. If testing must occur under these conditions, it is possible for a caregiver serve as an onsite facilitator to assist the child during the test session. Caregivers may address physical needs (providing a drink of water or adjusting chair height), help maintain engagement, and/or troubleshoot technology issues. Many PLS–5 Screening and PLS–5 Spanish Screening test items require observation of the child's behaviors when interacting with a caregiver. For children functioning at a communication level from birth–2:11, the caregiver is often asked to "administer" the test item to their child based on typical interaction routines that will likely elicit the target behaviors. Involvement of the caregiver is a standardized test procedure for children functioning at a communication level from birth–2:11. Refer to the prompts given to caregivers that are provided in the Screening Test Manual. While testing, make sure that the caregivers position the computer camera or an external camera where you can observe the child's behaviors.

An initial virtual meeting should occur in advance of the testing session to address issues specific to testing via telepractice. This initial virtual meeting is described in the administrative and technological tasks portion of the Examiner Considerations section and referred to in various sections of this document. The examiner should consider best practice guidelines, the referral question, and the examinee's condition, as well as telepractice equivalence study conditions to determine if this is possible and appropriate. Examinee participation may not be possible or appropriate, for example, for young children.

Professional and nonprofessional facilitators typically remain in the room with very young children throughout the testing session. The facilitator must remain in the room, monitoring and addressing the examinee's practical needs, as well as any technological issues as necessary. The facilitator's role should be defined clearly by the examiner. The facilitator should only perform those functions the examiner approves and deems necessary.

This approach does not allow for calculation of scores for the Auditory Comprehension or Expressive Communication scales, but clinicians can use observations and information provided by the caregiver to inform their clinical opinion. The term "informed clinical opinion" appears in the regulatory requirements for the implementation of Part C of the Individual with Disabilities Education Act (IDEA) as an integral part of an eligibility determination. Using quantitative and qualitative information from the PLS–5 Screening and PLS–5 Spanish Screening along with information on the child's developmental history, interviews with parents, and information from medical providers, social workers, and educators, clinicians can make recommendations about the child's current developmental status and the potential need for early intervention.

Conducting Telepractice Assessment

Conducting a valid assessment in a telepractice service delivery model requires an understanding of the interplay of a number of complex issues. In addition to the general information on Pearson's telepractice page, examiners should address five factors (Eichstadt et al., 2013) when planning to administer and score assessments via telepractice:

1. Telepractice Environment & Equipment

2. Assessment Materials & Procedures

3. Examinee Considerations

4. Examiner Considerations

5. Other Considerations

1. Telepractice Environment & Equipment

Computers and Connectivity

Two computers with audio and video capability and stable internet connectivity—one for the examiner and one for the examinee—are required. A web camera, microphone, and speakers or headphones are required for both the examiner and the examinee. A second computer screen or split-screen format on a large computer monitor for the examiner is helpful to allow a view of a Pearson-delivered digital manual or administration directions, but the examiner can also use the paper format manual or administration directions. The second computer screen or large screen also tends to make sharing test content more straightforward for the examiner.

Image/Screen Size

When items with visual stimuli are presented, the digital image of the visual stimuli on the examinee's screen should be at least 9.7" measured diagonally, similar to an iPad® or iPad Air®. Because some teleconferencing software shrinks the size of images, the image size should be verified in the initial virtual meeting. It is recommended that computer screens used for teleconference assessment be at least 15" measured diagonally. Smaller screens, such as those of iPad minis, small tablet PCs, and smartphones, are not allowed for examinee-facing content, as these have not been examined empirically and may affect stimulus presentation, examinee response, and validity of the test results. Similarly, presenting stimuli on extremely large screens has not been examined, so the same precaution applies. At the beginning of the testing session, the examiner may ask for a peripheral camera or device (as described later in this section) to be aimed at the examinee's screen to ensure that the examinee's screen is displaying images in the correct aspect ratio and not stretching or obscuring the stimuli image.

Audio Considerations

High-quality audio capabilities are required during the administration. An over the head, two-ear, stereo headset with attached boom microphone is recommended for both the examiner and examinee. Headphones with a microphone may be used if a headset is not available.

The examiner should test the audio for both the examiner and examinee in the initial virtual meeting and at the beginning of the testing session to ensure a high-quality audio environment is present. Testing the audio should include an informal conversation before the administration where the examiner is listening for any clicks, pops, or breaks in the audio signal that distort or interrupt the voice of the examinee. The examiner should also ask if there are any interruptions or distortions in the audio signal on the examinee's end. Any connectivity lapses, distractions, or intrusions that occurred during testing should be reported.

Audiovisual Distractions

As with any testing session, the examiner should do everything possible to make sure the examinee's environment is free from audio and visual distractions. If the examiner is unfamiliar with the examinee's planned physical location, a visual tour of the intended testing room should be given during the initial virtual meeting. The examiner can then provide a list of issues to address to transform the environment into one suitable for testing. For example, remove distracting items, silence all electronics, and close doors. The examiner should confirm that these issues have been addressed at the time of testing. If possible, the examinee should be positioned facing away from the door to ensure the examiner can verify through the examinee's camera that the door remains shut and can monitor any interruptions. The examiner should confirm that all other applications on the computer, laptop, or peripheral device are closed, the keyboard is moved aside or covered after the session is connected, and alerts and notifications are silenced on the peripheral device. Radios, televisions, other cellular phones, fax machines, smart speakers, printers, and equipment that emit noise must be silenced and/or removed from the room.

Lighting

Good overhead and facial lighting should be established for the examiner and examinee. Blinds or shades should be closed to reduce sun glare on faces and the computer screens.

Teleconferencing Software

Teleconferencing software is required. Screen-sharing capability is required if anything other than items with verbal stimuli and responses are administered.

Video

High-quality video (HD preferred) is required during the administration. Make sure the full faces of the examiner and the examinee are seen using each respective web camera. The teleconferencing software should allow all relevant visual stimuli to be fully visible to the examinee when providing instruction or completing items; the view of the examiner should not impede the examinee's view of visual test stimuli.

Peripheral Camera or Device

A standalone peripheral camera can be used to provide a view of the session from another angle or a live view of the examinee's progress. Alternately, a separate device (e.g., a smartphone with a camera or another peripheral device) can be connected to the teleconference and set in a stable position to show the examinee's pointing or written responses. The device's audio should be silenced and microphone should be muted to prevent feedback. The examiner should guide positioning of the peripheral camera/device test items that require observations of behaviors and interactions, item that elicit pointing or gestured responses (refer to Table 1) so that the examiner can see that the examinee's real-time responses are captured.

In a typical telepractice session, it is more feasible to make a document or moveable camera available in the examinee's location. However, while physical distancing is necessary, the only camera available may be a stationary camera integrated into the examinee's laptop or computer screen. It is unrealistic to expect examinees to have document cameras within their homes. It may be necessary for examiners to think creatively about how to use a smartphone or other device in the examinee's location to gain a view of the examinee's progress in a response booklet or when pointing at a screen. Before attempting this with an examinee, the examiner should work to become fluid and competent at directing examinees in these methods, which can require extensive practice with varied individuals and types of devices. In addition, this requires planning and practice in the initial virtual meeting to prevent technical difficulties, and so the examinee feels confident doing this when it is time.

Online instructional videos (e.g., here) demonstrate how a smartphone may be used with common household objects (e.g., a tower or stack of books, paper weight, ruler, and rubber band or tape) to create an improvised document camera for use during tasks involving response booklets. Similarly, for multiple choice tasks, examinees will point to responses rather than say the number or letter corresponding to their response, and other tasks (see Table 1) require the examinee to point at the stimuli. In this situation, other everyday household objects (e.g., books) could be used to form an

improvised stand upon which to position the device to provide a second-angle view of the examinee pointing at the screen. A simple mirror behind the examinee has been used successfully to observe pointing responses. Typically, devices provide the best view of the examinee's screen and pointing responses when positioned in landscape orientation. While using additional cameras or devices/objects may not be an optimal solution for telepractice, it can be functional if executed well.

Screen Sharing Digital Components

Digital components such as the PLS–5 Screening Picture Manual can be shared within the teleconferencing software as specified in Table 1. There are two ways to view digital components in the Q-global Resource Library: through the pdf viewer in the browser window or full screen in presentation mode. Always use full screen (i.e., presentation) mode for digital components viewed by the examinee. This provides the cleanest presentation of test content without on-screen distractions (e.g., extra toolbars). Refer to *Using Your Digital Assets on Q-global* in the Q-global Resource Library for complete directions on how to enter presentation mode.

2. Assessment Materials & Procedures

Test Item Security

The examiner is responsible for ensuring test item security is maintained, as outlined in the Terms and Conditions for test use. The examiner should address test security requirements with the examinee (and facilitator, if applicable) during the informed consent process. The examiner should make it clear to the examinee/caregivers that the video should not be captured, photos should not be taken, and stimuli should not be copied or recorded, as this is a copyright violation. The examinee must agree that they will not record (audio or visual) or take photos or screenshots of any portion of the test materials or testing session, and not permit anyone to observe the testing session or be in the testing room (except for a facilitator, when necessary). Any test-related materials used in the testing session must be returned to the examiner.

Disruptions

The examiner should record any and all atypical events that occur during the testing session. This may include delayed audio or video, disruptions to connectivity, the examinee being distracted by external stimuli, and any other anomalies. These can be noted on the record form or in the notes section on Q-interactive, if applicable, and should be considered during interpretation and described in the written report. Refer to Other Considerations for guidance on report writing.

Manipulatives

For children ages 3–7:11, no manipulatives are needed. For children birth–2:11, clinicians typically use toys and objects that are easily found in the child's environment. For telepractice, the clinician should review and approve the manipulatives chosen in the initial meeting with the onsite facilitator, whether professional or caregiver.

Digital Assets

The examiner should practice using the digital assets until the use of the materials is as smooth as an in-person administration. It is not recommended that the examiner display items from paper stimulus books on a camera. Refer to *Using Your Digital Assets on Q-global* in the Q-global Resource Library for complete directions.

Gesturing

When gesturing to the stimulus book is necessary, the examiner should display it as digital asset on-screen and point using the mouse cursor. Refer to Table 1 for specific instructions by test item.

Content Considerations

Review Table 1 for the specific telepractice considerations for each subtest to be administered.

Table 1. Specific Telepractice Considerations

Subscales	Considerations
Auditory Comprehension, Expressive Communication, and Articulation Screening	• Requires high-quality video for examinee and examiner • Train professional facilitators on presentation of the test items with manipulatives • Requires a print stimulus book in the examinee's location or the digital stimulus book on a tablet approximately 9.7" diagonally
Auditory Comprehension	• Some items may elicit reactions to sound or words, pointing responses, placing objects in specific places or order, or specific communication and/or play behaviors • Peripheral camera/device should be placed in a stable position to show examinee's pointing responses
Expressive Communication	• Requires vocal, gestural, or verbal responses to verbal or picture stimuli • Tasks include spontaneous word combinations, naming pictures, answering questions with and without verbal stimuli, story retell, use of specific grammatical forms, repeating words and sentences, language arts task such as rhyming words, completing analogies, naming letters, and naming categories
Articulation Screening	• Task includes naming pictures that require correct production of age-appropriate target phonemes

Evaluating Equivalence Evidence

Examiners should review the current research available on equivalence between different modes of administration before proceeding to use remote administration of a standardized assessment with normative data collected via in-person assessment (e.g., Anderson, 2014). When reviewing the literature, the examiner should consider the input and output requirements for each task, and the evidence available for telepractice equivalence for the specific task type. Direct evidence of equivalence for a specific task may be available because the task was researched in a study with results indicating no significant difference between telepractice and in-person assessment. Indirect evidence may also be reported in the literature for a task that is similar in construct and input/output demands to the standardized assessment being considered for remote administration and may help determine the examiner's level of confidence in applying the norms. Examiners can have more confidence that the normative scores are valid when tasks have direct evidence showing equivalency between modes.

In reviewing the literature of telepractice–in-person and digital–traditional investigations, clinicians should also be mindful of the age range and population (e.g., clinical group) of the research study to consider relevancy for the examinee. Greater caution is recommended when only indirect evidence of equivalency is available for a task, or when equivalence has not been established for a particular examinee's age range and clinical condition. However, it can be informative to consider any such available evidence when considering impact of remote administration on results and interpretation. Pearson Clinical Assessment is tracking and aggregating the relevant equivalence evidence for our assessments, including the age range, population, direct evidence, and indirect evidence (see Evidence for Remote Assessment).

Table 2 lists the input and output requirements of each task. The abbreviations in the Input and Output column correspond to the various input and output requirements of each task, and a key appears at the bottom of the table. For example, brief spoken directions as an input requirement is abbreviated as BSD.

Table 2. Input and Output Requirements

Task	Input[a]	Output[b]
Auditory Comprehension	BSD, PS, SP, SS	MC, OE, PR
Expressive Communication	BSD, PS, SS	BSR, OE, SPR
Articulation Screening	BSD, PS	BSR

Note. [a]Input abbreviations are: BSD = Brief spoken directions, PS = Pictorial stimuli, SS = Spoken stimuli.

[b]Output abbreviations are: BSR = Brief spoken response, OE = Open ended, PR = Pointing response, SPR = Spoken response.

3. Examinee Considerations

Appropriateness

The examiner should first ensure that a telepractice administration is appropriate for the examinee and for the purpose of the assessment. Clinical judgment, best practice guidance for telepractice (e.g., ASHA, 2021; APA Services, 2020; ASPPB, 2013; IOPC, 2020), information from professional organizations and other professional entities (e.g., licensing boards, legal resources, professional liability insurance providers, payors), consultation with other knowledgeable clinicians, existing research, and any available federal or state regulations should be considered in the decision-making process. Consideration should be given to whether the necessary administrative and technological tasks involved in a telepractice session can be accomplished without influencing results.

Also, when testing very young children, consider if timing is appropriate for engaging the child and/or family members in assessment. It is important to consider the mental and emotional wellness of the family, as well as the health and stability of family routines to obtain an accurate representation of the child's communication abilities.

Preparedness

Before initiating test administration, the examiner should ensure that the examinee is well-rested, able, prepared, and ready to appropriately and fully participate in the testing session.

Facilitator Role

If using a facilitator, the role of the facilitator must be explained to the examinee so participation and actions are understood.

Headset

It may not be appropriate or feasible for some examinees to use a headset due to behavior, positioning, physical needs, or tactile sensitivities, or if a headset is not available. Clinical judgment on the appropriate use of a headset in these situations should be used. If a headset is not utilized, the examiner's and examinee's microphones and speakers should be turned up to a comfortable volume.

Mouse

On some teleconferencing software, the examiner can pass control of the mouse to allow the examinee to point to indicate responses; this is an option if it is within the capabilities of the examinee. However, best practice guidelines provide cautions about this. For example, the IOPC guidelines suggest examiners be alert throughout administration, resume control of the screen once the task is finished, and never leave the computer unattended while the examinee has control over the examiner's computer (IOPC, 2020).

4. Examiner Considerations

Practice

During the telepractice setup, and before administering to any actual examinee, the examiner should rehearse the mechanics and workflow of every item in the entire test using the selected teleconferencing software so that the examiner is familiar with the administration procedures. For example, a colleague could be used as a practice examinee.

Standardized Procedures

The examiner must follow the administration procedures of in-person administration as much as possible. For example, if a spoken stimulus cannot be said more than once in in-person administration, the examiner must not say it more than once in a telepractice administration unless a technical difficulty precluded the examinee from hearing the stimulus.

Real-Time Troubleshooting

In order to conduct a smooth telepractice session, audiovisual needs and materials must be managed appropriately. The initial virtual meeting involves the examiner, examinee, and/or the facilitator (if used), and is the opportunity for the examiner to provide information about the audiovisual needs and materials. During the initial virtual meeting, the examiner should provide training in troubleshooting audiovisual needs that arise during the testing session, including camera angle, lighting, and audio checks. The examiner should provide verbal feedback to guide camera adjustment, checking the on-screen video shown by the peripheral camera/device to provide information about how to reposition it until the proper view is shown. The examiner should emphasize that no materials should be opened until the examiner provides instructions to do so, if applicable. The examiner should also expect to provide verbal guidance about these issues during the testing session. Refer to the Telepractice Environment & Equipment section and to Table 1 for specific subtest telepractice considerations.

Collaborating With Facilitators

If used, the facilitator is to assist with administrative and technological tasks and not to manage rapport, engagement, or attention during the testing session. The examiner should direct them not to interfere with the examinee's performance or responses. Any other roles and responsibilities for which an examiner needs support, such as behavior management, should be outlined and trained before the beginning of the testing session. The examiner is responsible for documenting all behaviors of the facilitator during test administration and taking these into consideration when reporting scores and performance.

5. Other Considerations

There are special considerations for written reports describing testing that takes place via telepractice. The clinician completing the written report should state in the report that the test was administered via telepractice, and briefly describe the method of telepractice used. The clinician should also make a clinical judgment, similar to an in-person session, about whether or not the examiner was able to obtain the examinee's best performance. Clinical decisions should be explained in the report, including comments on the factors that led to the decision to conduct testing via telepractice and to report all (or not to report suspect) scores. In addition, it is recommended that the report include a record of any and all atypical events during the testing session (e.g., delayed video or audio, disruptions to connectivity, extraneous noises such as phone ringing or loud dog barking, person or animal unexpectedly walking into room, the examinee responding to other external stimuli). List and describe these anomalies as is typical for reporting behavioral observations in the written report, as well as any observed or perceived impact on the testing sessions and/or results, and consider these in the interpretation of results.

An example of a written report might include:

> "*The PLS–5 Screening was administered via remote telepractice using digital stimulus materials on Pearson's Q-global system, and a facilitator assisted the child with basic needs, [managed the telepractice equipment], [and was/was not trained to administer test items with manipulatives during the live video connection using the [name of telepractice system, e.g., Zoom] platform. The remote testing environment appeared free of distractions, adequate rapport was established with the examinee via video/audio, and the examinee appeared appropriately engaged in the task throughout the session. No significant technological problems or distractions were noted during administration. Modifications to the standardization procedure included: [list]. Tasks similar to PLS–5 Screening tasks administered to this examinee, have received initial validation in several samples for remote telepractice and digital format administration [OR PLS–5 Screening tasks have not been validated with children below age 3]. Test results are/are not considered a valid description of the examinee's skills and abilities [based on….].*"

Notes may be recorded about any testing issues on the record form or in the notes section on Q-interactive.

Conclusion

This test was not standardized in a telepractice mode, and this should be taken into consideration when utilizing this test via telepractice and interpreting results. For example, the examiner should consider relying on convergence of multiple data sources and/or being tentative about conclusions. Provided that the examiner has thoroughly considered and addressed the factors and the specific considerations as listed above, the examiner should be prepared to observe and comment about the reliable and valid delivery of the test via telepractice. Materials may be used via telepractice without additional permission from Pearson in the following published contexts:

- PLS–5 Screening and PLS–5 Spanish Screening manuals and digital stimulus books on Q-global

- PLS–5 Screening and PLS–5 Spanish Screening via a Pearson-licensed telepractice provider/platform

Any other use of this test via telepractice is not currently recommended. This includes, but is not limited to, scanning the paper stimulus books, digitizing the paper record forms, holding the stimulus books physically up in the camera's viewing area, or uploading a manual onto a shared drive or site.

References

American Psychological Association Services (APA Services). (2020). *Guidance on psychological tele-assessment during the COVID-19 crisis.* (2020). https://www.apaservices.org/practice/reimbursement/health-codes/testing/tele-assessment-covid-19?fbclid=IwAR1d_YNXYS2Yc5mdIz_ZIYSkrrJ_6A9BQeKuIHxEEjjRh1XDR6fOYncM3b4

American Speech-Language-Hearing Association (ASHA). (2021). *Considerations for speech, language, and cognitive assessment via telepractice*. https://www.asha.org/slp/clinical/considerations-for-speech-language-and-cognitive-assessment-via-telepractice/

Anderson, A. (2014). *Web-based telerehabilitation assessment of receptive language* [Master's thesis]. Washington State University.

Eichstadt, T. J., Castilleja, N., Jakubowitz, M., & Wallace, A. (2013, November). Standardized assessment via telepractice: Qualitative review and survey data [Paper presentation]. Annual meeting of the American Speech-Language-Hearing Association, Chicago, IL, United States.

Grosch, M. C., Gottlieb, M. C., & Cullum, C. M. (2011). Initial practice recommendations for teleneuropsychology. *The Clinical Neuropsychologist*, 25, 1119–1133.

Individuals With Disabilities Education Improvement Act of 2004 (IDEA Reauthorized), Pub. L. No. 108-446, U.S.C. A. 118 et seq. Stat. 2647 (2004).

Stolwyk, R., Hammers, D. B., Harder, L., & Cullum, C. M. (2020). *Teleneuropsychology (TeleNP) in response to COVID-19*. https://event.webinarjam.com/replay/13/pyl2nayhvspsp09

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). *Preschool Language Scales Screening Test* (5th ed., *PLS–5 Screening*). Pearson.

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). *Preschool Language Scales Spanish Screening Test* (5th ed., *PLS–5 Spanish Screening*). Pearson