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Telepractice Delivery of Speech and Language Services:

Basics, Logistics, Guidelines, Evidence Based Practice

April 20, 2020
10:00 a.m. - 12:30 p.m.

The Live Webinar will begin shortly

Please mute your microphone and turn off camera

Telepractice Delivery of Speech and Language Services:

Basics, Logistics, Guidelines, Evidence Based Practice

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University of Massachusetts Amherst

April 20, 2020

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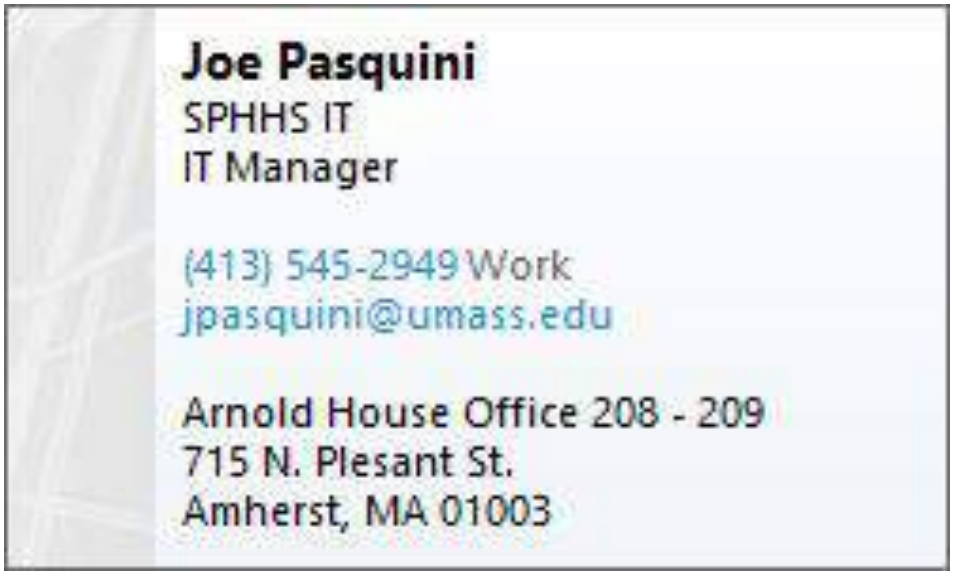
Special Thanks to



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Plan for Webinar

I. Webinar Logistics

II. Agenda

III. Panel Presentation

IV. Survey

Webinar Logistics: How to Ask Questions

1. Type in you question in the chat box and raise hand in Zoom tool bar

2. Question themes will be summarized by the Moderator

3. During Q+A break, Moderator will present questions to the Speakers

Webinar Logistics: Copyright Material

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Organization of Content

- Evidence Based Practice of Telepractice
- Basics of Telepractice
- Logistics of Telepractice
- **Question + Answers**
- Hardware, Software, Videoconferencing Platforms
- Issues Related to Security, Compliance
- Guidelines for Telepractice
- **Question + Answers**
- Training in Telepractice
- Data Collection and Outcome Data
- Case Studies
- Panel Presentation
- **Question + Answers**

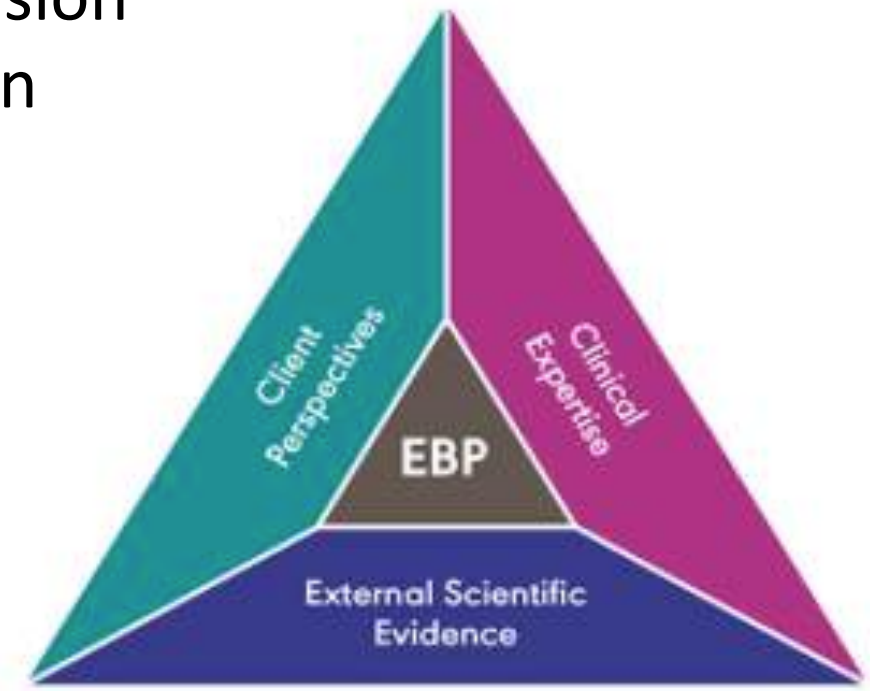
"The use of Telepractice to deliver Speech Language Pathology services has skyrocketed; however, we need to establish its evidence-based practice".

Andrianopoulos, 2012

EVIDENCE BASE PRACTICE TELEPRACTICE

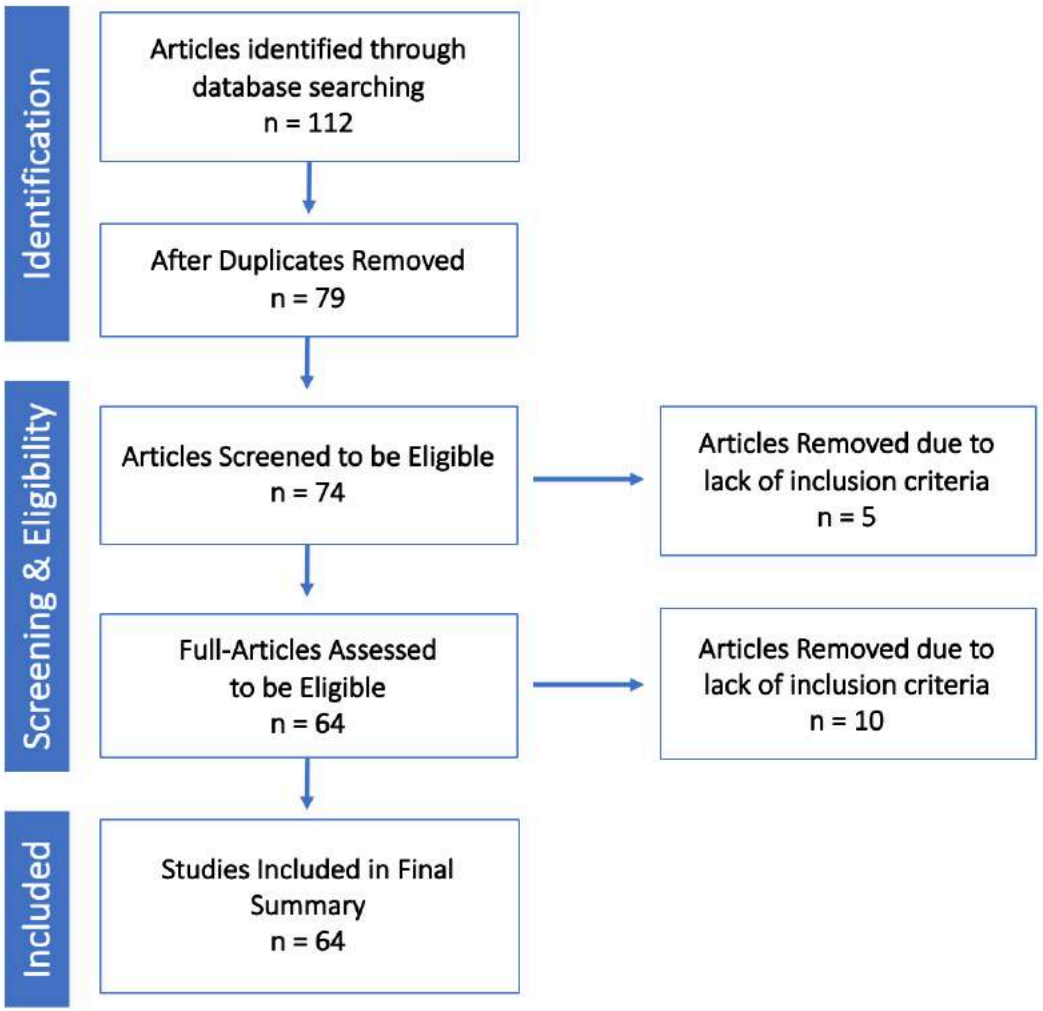
We need to demonstrate EBP on several levels…

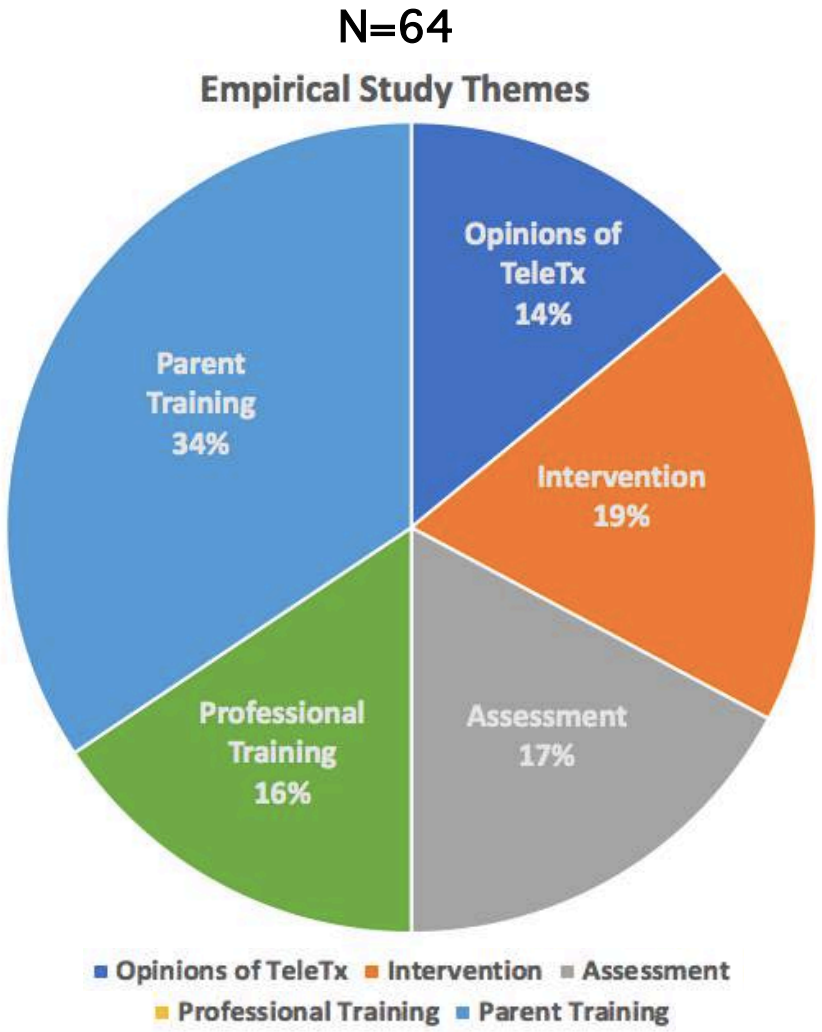
- Models of Service Delivery
- Clinical Training and Supervision
- Assessment and Intervention



ASHA (2005)

Telepractice + ASD Services



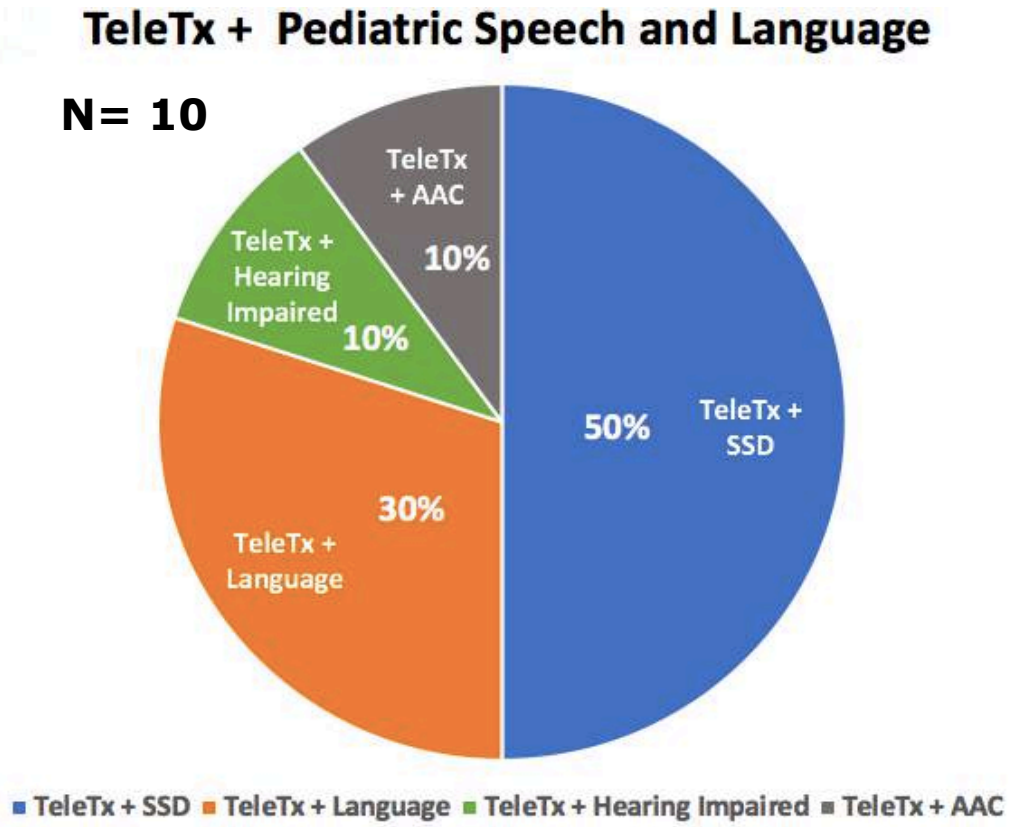


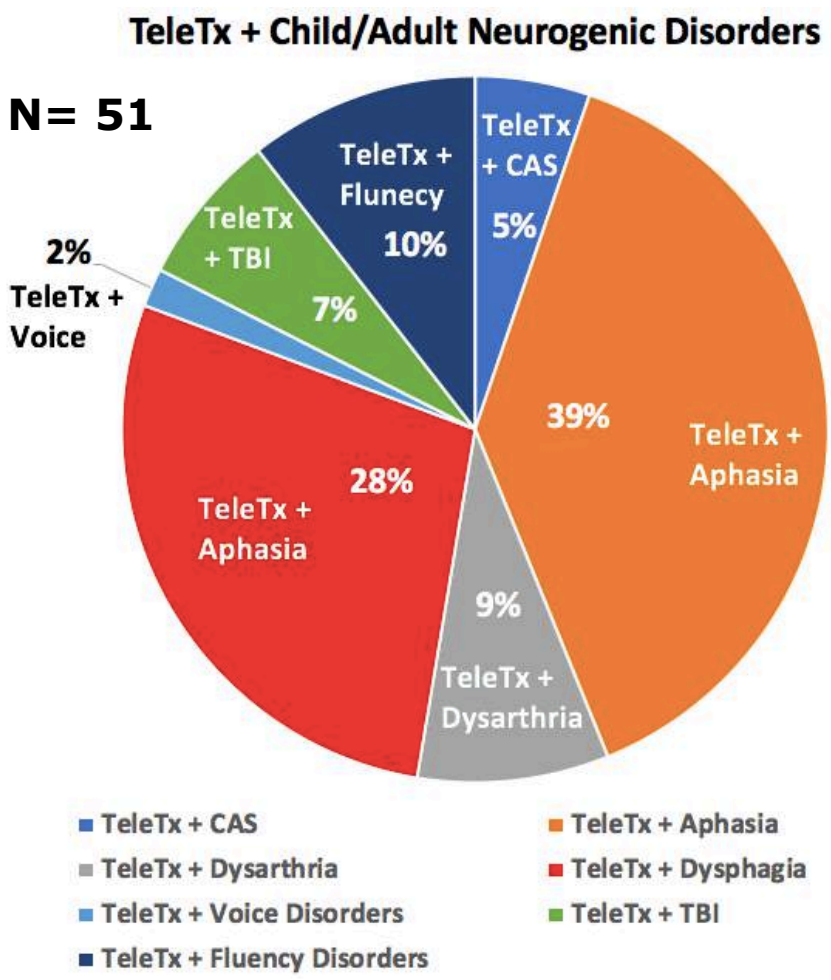
Telepractice + ASD Services

Categories	Studies	Child Participants*	Age Range	Service Model**	Outcomes
Intervention	12	n = 320	18 months - 32 years	Synchronous = 8 (66%) Asynchronous = 3 (25%) Hybrid = 1 (9%)	Teletherapy for children with ASD found to be acceptable alternative to in person therapy; favorable form of SLP intervention for individuals with ASD; clinically significant reduction of problem behavior; extended evidence for efficacy of remote FCT, MET, and CBT models
Assessment	11	n = 180	18 months - 17+ years	Synchronous = 8 (73%) Asynchronous = 1 (9%) Hybrid = 2 (18%)	Most studies noted successful feasibility in telehealth assessments with minimal difference to in-person assessments. One study noted variability in clinicians' confidence during assessment. Overall satisfaction was determined for telehealth assessment programs.
Parent Training	22	n = 292	18 months - 12 years	Synchronous = 11 (45.5%) Asynchronous = 4 (17%) Hybrid = 9 (37.5%)	Use of teletherapy for training parents to utilize parent-mediated ASD intervention is predominantly positive for all service models in comparison to in-vivo therapy; improved efficacy and feasibility; often linked to quality of clinician coaching.
Professional Training	10	n = 96	20 months - 12 years	Synchronous = 7 (70%) Asynchronous = 0 (0%) Hybrid = 3 (30%)	Articles that investigated the effectiveness and/or fidelity of using a telehealth program to train professionals in a specific skill/program all found positive results. Many studies demonstrated significant and marked gains and demonstrated a high degree of fidelity.
Opinions of Tele Tx	9	n = 926	19 months - 16 years	Synchronous = 5 (72%) Asynchronous = 1 (14%) Hybrid =1 (14%)	Parents and practitioners were satisfied with teletherapy; Teletherapy demonstrated good efficacy, has potential to increase collaborations between specialists, to be used for consultations with specialists, and provide services to isolated/ rural areas.

*= When mentioned; **=Some articles used multiple service models

Empirical Study Themes





Categories	Studies	Child Participants*	Child Age Range	Service Model**	Outcomes
Tele Tx + SSD	5	1,928	4;10 - 15 years	Synchronous = 4 (80%) Hybrid = 1 (20%)	Overall, results support the use of teletherapy for speech sound disorders
Tele Tx + Language	3	85	8 - 12 years	Synchronous = 1 (50%) Hybrid = 1 (50%)	Findings support the use of telehealth in the language assessment of school aged children using both synchronous and hybrid service model for both monolingual and bilingual communities.
Tele Tx + Hearing Impaired	1	14	M = 2;4	Synchronous = 1 (100%)	Early intervention AVT via telepractice may be as effective as delivery In-Person for children with hearing loss
Tele Tx + AAC	1	Not stated	Not stated	Hybrid = 1 (100%)	Findings show preliminary evidence for mobile AAC app; users agreed that app is usable alternative treatment to communication rehabilitation

*= When mentioned; **=Some articles used multiple service models

Telepractice + Neurogenic Disorders

Categories	Studies	Participants	Age Range	Service Model**	Outcomes
Tele Tx + CAS	3	25	5 - 11 years	Synchronous = 1 (33%) Asynchronous = 1 (33%) Hybrid = 1 (33%)	Caregivers and clinicians were satisfied with telehealth treatment, SLPs should carefully consider suitability of caregiver-provided ReST treatment & increase telehealth delivery of ReST
Tele Tx + Aphasia	22	515	37 - 83 years	Synchronous = 14 (64%) Asynchronous = 4 (18%) Hybrid = 4 (18%)	Overall, teletherapy for aphasia was found to be effective and feasible. Administration of WAB-R was highly correlated; Evidence supporting group therapy, script training, eSALT, treatment for alexia, word finding treatment
Tele Tx + Dysarthria	5	89	42 - 78 years	Synchronous = 4 (80%) Asynchronous = 1 (20%)	Evidence supports the use of teletherapy for LSVT and e-REST; evidence supporting use of teletherapy with patients with Parkinson's Disease
Tele Tx + Dysphagia	16	745	6 - 74 years	Synchronous = 9 (56%) Asynchronous = 4 (25%) Hybrid = 3 (19%)	Evidence supports use of teletherapy as an alternative to in-person intensive swallowing treatment; teletherapy found to be feasible and effective for pediatric patient; use for evaluation found to be safe and effective; patients were satisfied overall with teletherapy
Tele Tx + Voice	1	14	Not stated	Synchronous = 1 (100%)	Flow phonation exercises can be used for patients with MTD using TeleTx.
Tele Tx + TBI	4	327	16 - 90 years	Synchronous = 3 (100%)	Evidence supports use of teletherapy for treatment with patients with TBI; evidence supporting communication partner training, social communication skills therapy, facial affect recognition training
Tele Tx + Fluency	6	149	3 - 39 years	Synchronous = 6 (100%)	Teletherapy was found to be a viable replacement to in person fluency treatment; patients were satisfied overall

**=Some articles used multiple service models

"Telepractice is not a different service, but rather a different method of service delivery."

-J.Brown, 2010

GENERAL OVERVIEW OF TELEPRACTICE

What is Telepractice?

- "***Telehealth*** *or Telepractice service delivery models involve the application of computer-based instruction using videoconferencing platforms and high speed Internet and enables specialists to deliver services in real-time regardless of geographical distance".*

  (Andrianopoulos, 2020)

- ***Telepractice*** has *proliferated* in past 8 years in SLP and Audiology and in the past 1 month due to COVID-19

Telepractice Models of Service Delivery

Synchronous

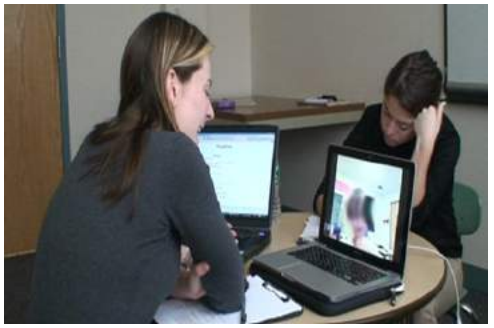
Asynchronous

Telepractice Modes of Service Delivery

Hybrid

Synchronous Delivery Model

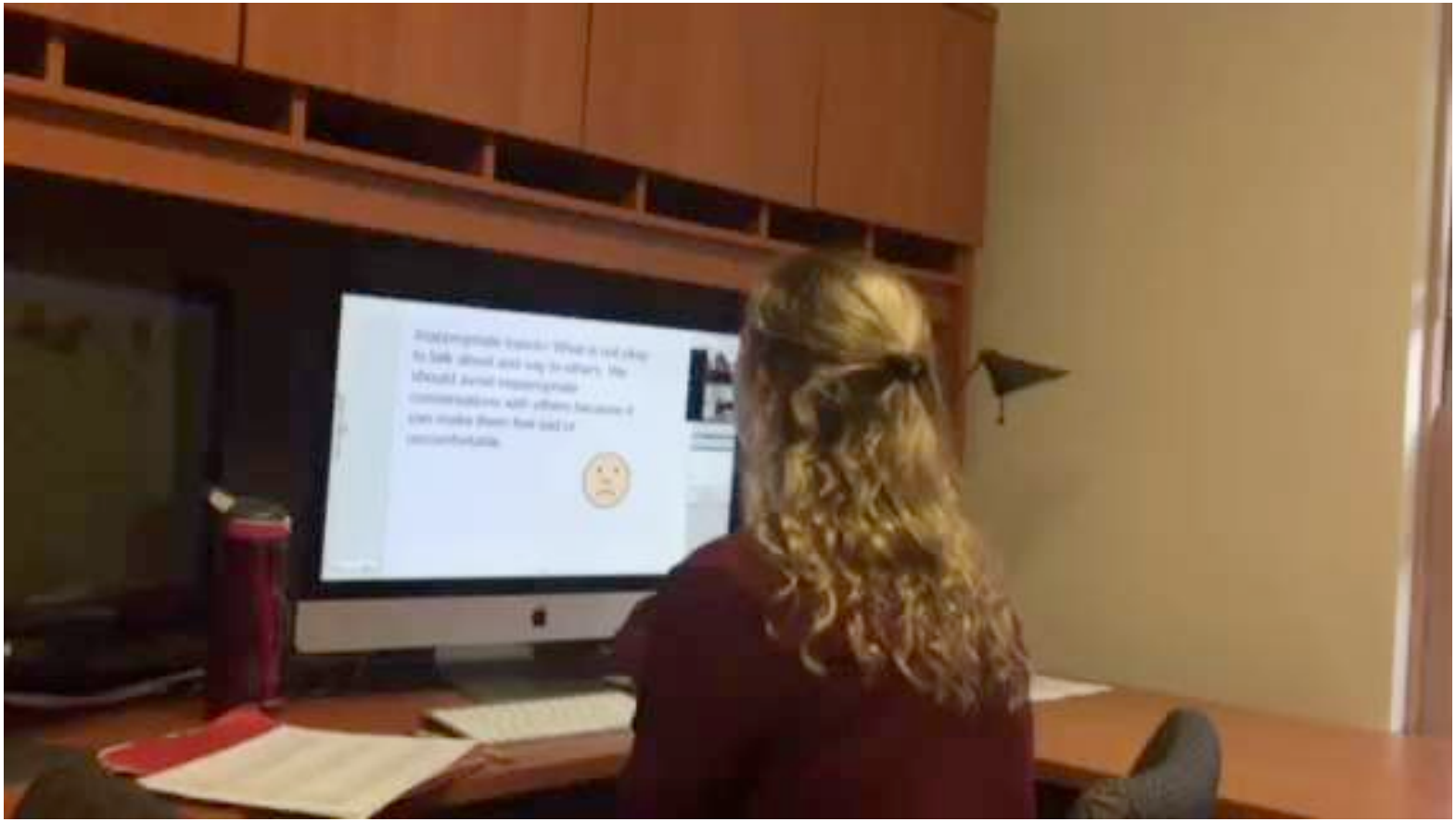
- Live, interactive audio and video connection delivered via videoconferencing platform in real time.



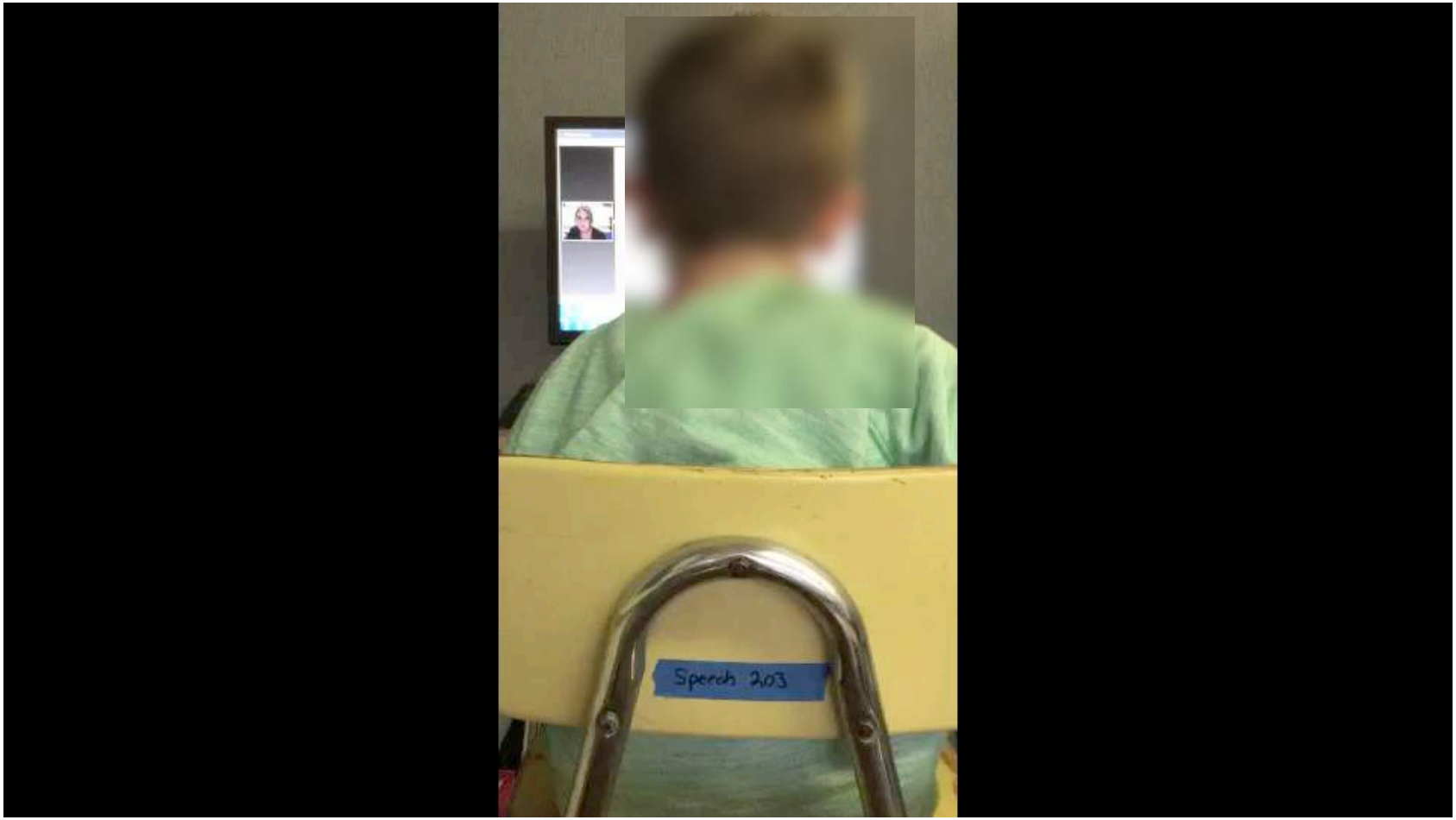
- **Specialist and Client, Student are present at the same time, but not in the same location.**

- Communication is facilitated using secure digital videoconferencing.

Synchronous Delivery Model

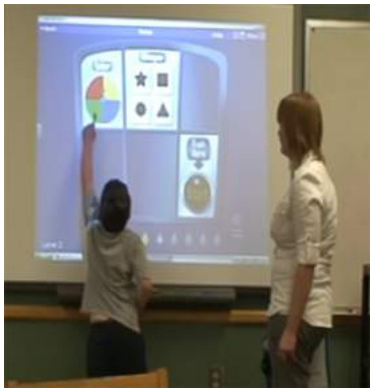


Synchronous Delivery Model



Asynchronous Delivery Model

- **Store-and-Forward** consultation



- Information captured and **"stored"** in a digital file at one location and then transmitted or "forwarded" to another location for evaluation
(Telehealth Resource Center, 2013)

- Examples: treatment session recorded and viewed later, transmission of voice clips, audiologic testing results, etc.

Hybrid Delivery Model

- Both live, **interactive** and **store-and-forward** consultations

- Advantage: use of all technologies to diagnose, treat and consult client and team
  - not limited to a single communications channel

- Examples of hybrid approaches include:
  - Remote Monitoring
  - Distance Supervision
  - Active Consultation

Use of Technology During the COVID-19 Pandemic

Benefits of Telehealth

- When appropriately implemented, a Telepractice service delivery models promote:
  - Free + appropriate public education
  - Additional, more consistent direct + indirect service opportunities
  - Enables real-time collaboration
  - Complements traditional, on-site services and may energize student learning (Juenger, 2009)
  - Can be cost effective
  - Reduces geographical barriers
  - Extends clinical expertise

Benefits of Telehealth

Project REMOTE (US DOE HR325K120327) and Project iPREP (US DOE HR325K180163) at the UMass Amherst are focused on not only training the next generation of SLP graduate students in providing SLP services using a TeleTx model, but in demonstrating Evidence-Based Practice of TeleTx

There is empirical evidence that Telehealth models are effective in delivering SLP services, but more well-controlled studies are needed.

UMass Project REMOTE Research Outcomes

The majority of our research findings indicate that there is no meaningful difference between service delivery models

TeleTx = On-Site

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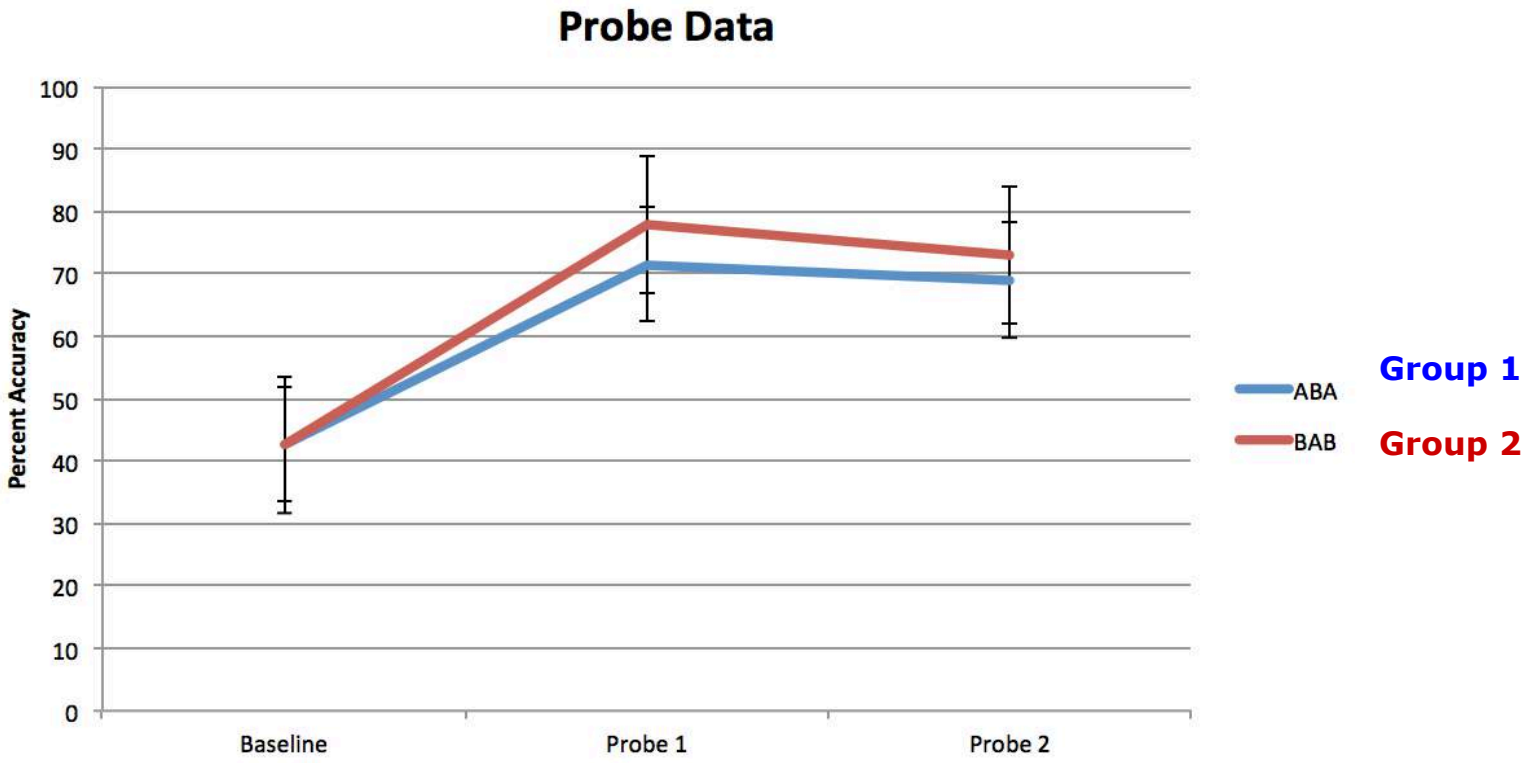
Study 4: Results (Project REMOTE, 2016-2017)



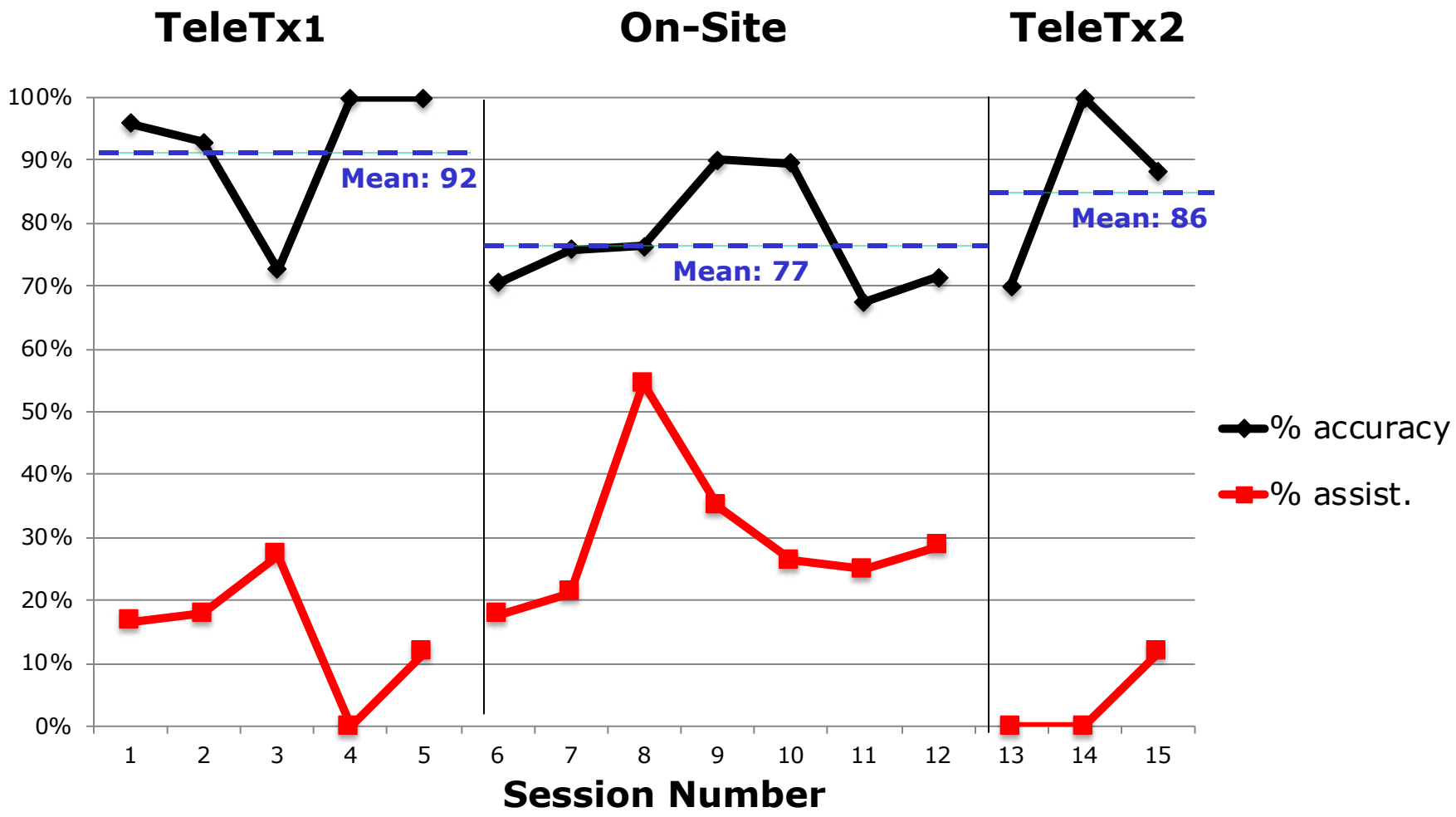
- **40%** of participants' Tx goals showed a significant or trending change (Baseline to Phase 1, either TeleTx or OnSite) **(p<0.05; P 0.06-0.10)**
- **100%** of goals showed no significant change from Phase 2→ Phase 3 because learning plateaued **(p< 0.05)**

UMass Project REMOTE Research Outcomes

Our current research also supports that some students with diverse learning styles and special needs show an affinity for technology

Our research supports some students with ASD receiving SLP interventions using Telepractice were more focused, predictable, and needed less prompting compared to when SLP services were delivered on-site.

Subject 1, A; Objective 1- The student will initiate, engage in, and exit conversations appropriately in 8/10 opportunities and faded prompting.



Limitations to Telehealth

- ✓ **Space**
- ✓ **Budget**
- ✓ **On-site Support**
- ✓ **Broadband**
- ✓ **Security + Confidentiality Concerns**
- ✓ **Network Firewall**
- ✓ **Licensure Requirements**
- ✓ **Community and Institutional Awareness**
- ✓ **Organizational Readiness**
- ✓ **EBP-Client (Onsite vs. TeleTx services)**
- ✓ **EBP Telepractice Training Model**

EXAMPLES

NEEDS ASSESSMENT

LOGISTICS OF TELEPRACTICE

NEEDS ASSESSMENT

Needs Assessment - 8 Step Model (Chaclas et al., 2015)

- **Step 1: Scope, Purpose and Goal**
  - Caseload size, client needs, mission of TeleTx program
- **Step 2: Assessment Team**
  - Administrators, collaborators, coordinators, e-Helpers, IT support
- **Step 3: Recruitment of essential personnel**
  - Qualified, essential, and vested personnel
- **Step 4: Assessment Approach**
  - Data collection, analysis, confidentiality, security, deliverables
- **Step 5: Gap Analysis**
  - Characteristics of supports, providers, delivery capability
- **Step 6: Organizational Readiness**
  - Funding, resources for organization to shift to Telehealth
- **Step 7: Potential Barriers**
  - Technology, infrastructure, training
- **Step 8: Summary**
  - Prioritize needs, address gaps, stakeholders

"Candidacy for receiving services via Telepractice should be assessed prior to the initiation of services."
(ASHA, 2015)

CLIENT CANDIDACY

Client Selection

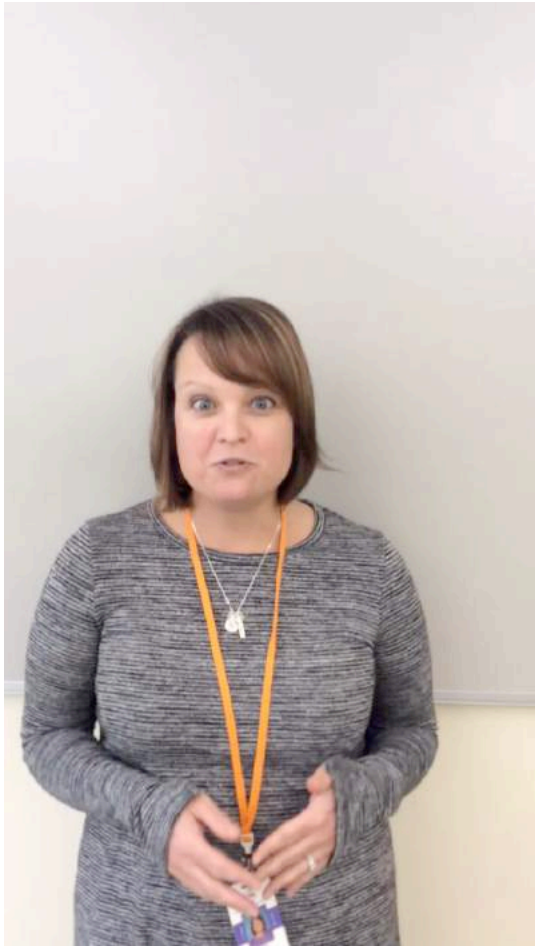
- *Some individuals may be more appropriate candidates for SLP services delivered via a Telepractice platform*.

What factors could impact the appropriateness of SLP services delivered through Telepractice?

Client Selection (ASHA 2015)

Factors to Consider	Examples
Physical and sensory characteristics	Hearing and *visual abilities*, manual dexterity
Cognitive, behavioral, and/or motivational characteristics	Ability to maintain *attention*, level of *cognitive functioning*
Communication characteristics	*Speech intelligibility* or *cultural/linguistic variables*
Support resources	Availability of *technology*, Appropriate *environment*

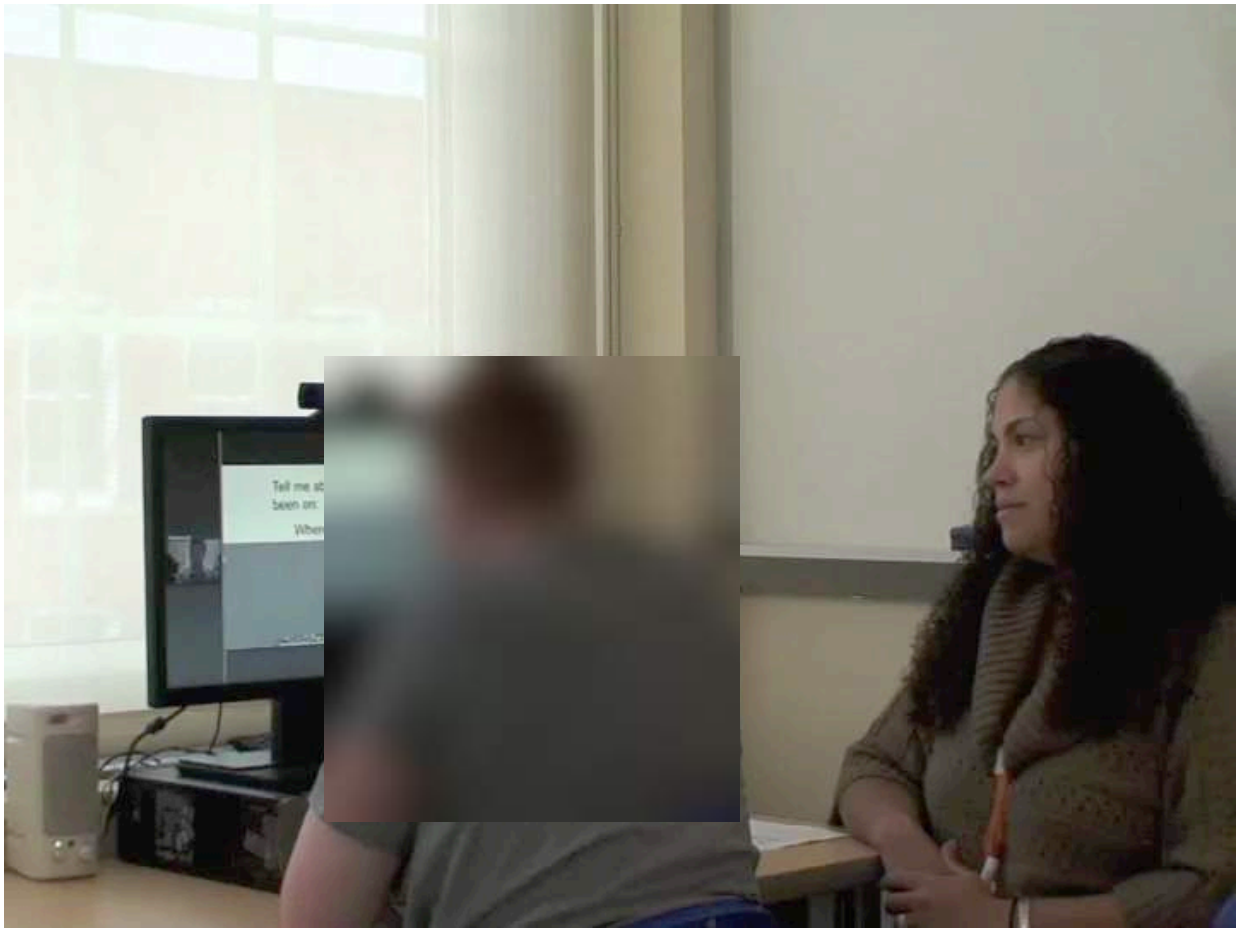
School SLP on Student Candidacy



Facilitator or e-Helper functions

- Escort child to and from therapy sessions
- Set up equipment for sessions
- Troubleshooting issues as needed
- Contact person with cell or landline to troubleshoot issues with hardware, software, connectivity
- Control child's behavior as needed
- Communicate with staff, teachers and parent about scheduling and changes

Telepractice Training: Avoid Screen Clutter



CONSENT FOR TELEPRACTICE SERVICES

What is a Telehealth Informed Consent?

- To ensure patient, client, family understands the medium through which care is going to be delivered
- Risks, benefits, limitations of treatment provided via telemedicine
- Issues related to:
  - Technical issues and interruption of services
  - Privacy, Confidentiality
  - Possible feelings of less-personalized care
  - Modifications to treatment

Language for Consent Forms (ATA, 2020)

Consent to Treatment + Release of Information
Consent obtained prior to Teletherapy services
Privacy, security measures, limits to confidentiality
Potential risks, explicit emergency plan
Storage of client information + potential breaches
Procedures for coordinating care
Conditions where Telehealth services should be terminated for in-person care

QUESTIONS

HARDWARE + SOFT WARE VIDEOCONFERENCING PLATFORMS, SECURITY

Tele-Conferencing Platforms the claim HIPAA compliance

https://www.gotomeeting.com

https://zoom.us/healthcare

https://doxy.me

https://www.updox.com

https://www.sprucehealth.com

Some vendors that claim HIPAA compliance will enter into a HIPAA Business Associate Agreement

Examples of Tele-Conferencing Platforms

- **Telepractice Platforms summarized by MSHA**

  https://www.mshahearsay.org/resources/Documents/Teletherapy%20Platforms%20-%2003.20.20.pdf

- **Telepractice Platforms summarized by Office for Civil Rights - COVID-19 Nationwide Public Health Emergency Notice**

  https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html

Videoconferencing Hardware & Software

- Hardware and software requirements may vary depending on the videoconferencing software
- **Considerations:**
  - Product description & pricing
  - Specifications:
    - ❑ Display resolution
    - ❑ Operating system (Windows vs. Mac)
    - ❑ Computer processor (speed of voice & webcam)
    - ❑ Memory

Connectivity

- **Internet Connection**
  - Reliable, fast internet connection

- **Bandwidth** = speed of online connection

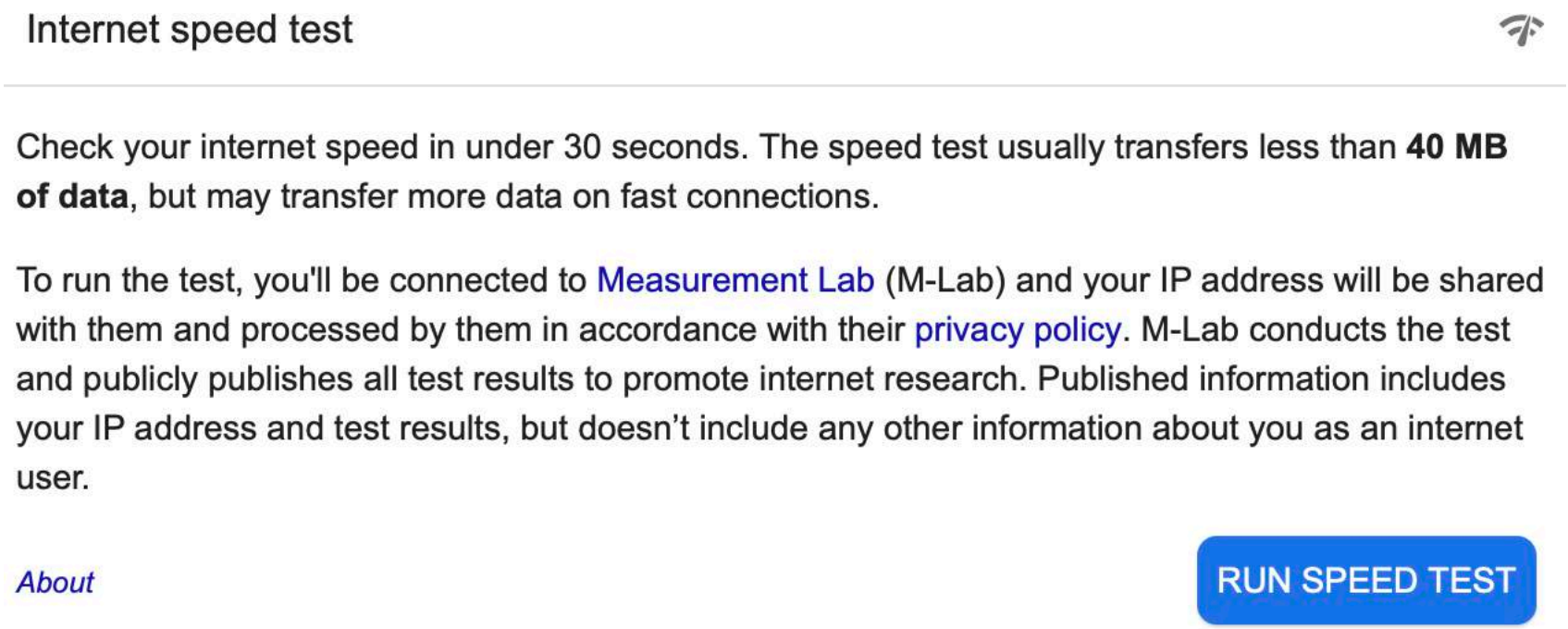
- The *minimum* bandwidth requirements for the provider and recipient in teletherapy are:
  - Incoming signal: 150 kbps (more is better)
  - Outgoing signal: 150 kbps (more is better)
  - Delay: 200 ms (less is better)

Connectivity

- ASHA recommends the following minimum upload/download speeds:
  - **3 MB** for optimal connection & screen sharing
  - **5 MB** when adding a shared video source
    - Microsoft Power Point
    - YouTube
    - Video recordings

Test Bandwidth

To test a location's bandwidth go to:
https://www.speedtest.net/run



Maximize Strength of Bandwidth

- **SCHEDULE:**
  - Schedule sessions when other school or home computers are not also accessing the internet.
- **CLOSE PROGRAMS**
  - Close all other programs on the computer, as they might slow down the computer processing speed.
- **VIRTUAL PRIVATE NETWORK (VPN):**
  - Dedicate a private internet line to the school or home that is not dependent on a community network.

Other Recommendations

- **Hard-wire connection if possible**
- **Encryption, passwords, unique meeting numbers**
- **Large Monitor**
  - Example: larger than 15”
- **Other Software**
  - Microsoft Office PowerPoint
  - Adobe Flash Player
  - SMART Notebook

Getting Ready for Teletherapy Check-off List

- ☑Use reliable and good quality equipment
- ☑Set-Up the Camera at Eye-Level
- ☑Set-Up Dedicated Space for Virtual Visits
- ☑Test Out Your Webcam.
- ☑Make Sure Your Volume's On
- ☑Test Your Microphone
- ☑Plug In Your Computer or Mobile Device

Getting Ready for Teletherapy Check-off List

- ☑Use Wired Internet Connection (Ethernet)
- ☑Close Unnecessary Programs
- ☑Use the Right Browser
- ☑Dress Appropriately
- ☑Use quiet space close to router or ethernet
- ☑Adjust the lighting

Troubleshooting Connectivity Problems

- If you cannot hear the client, walk them through the steps of finding the "unmute" button on their end.
  - "I can see you, but I can't hear you….etc."
- If you can hear the client but can't see them, walk them through the steps of finding the "share video" button.
- Ask the client frequently if they can see you and/or see what is on your screen
- Have a back-up mode of communication with the parent/guardian in case a connection is lost.

Rules, Regulations
Ethical Practice Patterns

GUIDELINES FOR TELEPRACTICE

Telepractice for Speech Language Pathologists

"Telepractice is an appropriate model of service delivery for the profession of speech-language pathology and audiology (ASHA 2005a, 2005b, 2020)"

ASHA
American
Speech-Language-Hearing
Association

ASHA Professional Practices for Telepractice

- **Code of Ethics**

  https://www.asha.org/Code-of-Ethics/

- **Scope of Practice in SLP**

  https://www.asha.org/policy/SP2016-00343/

- **ASHA Policy**

ASHA Telepractice Portal

Telepractice Venues + ASHA Practice Patterns

Venues:

- Schools
- Medical Centers
- Rehabilitation hospitals
- Community health centers
- Outpatient clinics
- Schools
- Medical Centers
- Rehabilitation hospitals
- Community health centers
- Outpatient clinics

ASHA states one…

"Must comply with national, state, institutional, and professional regulations, policies and preferred practice patterns"

ASHA Telepractice Portal

ASHA TeleSupervision for SLPs

- "The use of telesupervision as an alternative to in-person supervision may depend on the policies, regulations, and/or laws of various stakeholders such as universities, clinical settings, ASHA, state licensure boards, and state and federal laws and regulations"

- Ethical Responsibilities
- Knowledge and Skills

ASHA Clinical Education & Supervision Portal

Telepractice + Telesupervision – State-by-State

Visit ASHA's State-by-State website

for Telepractice and Telesupervision rules, regulations, definitions, guidance, and contact information

https://www.asha.org/advocacy/state/

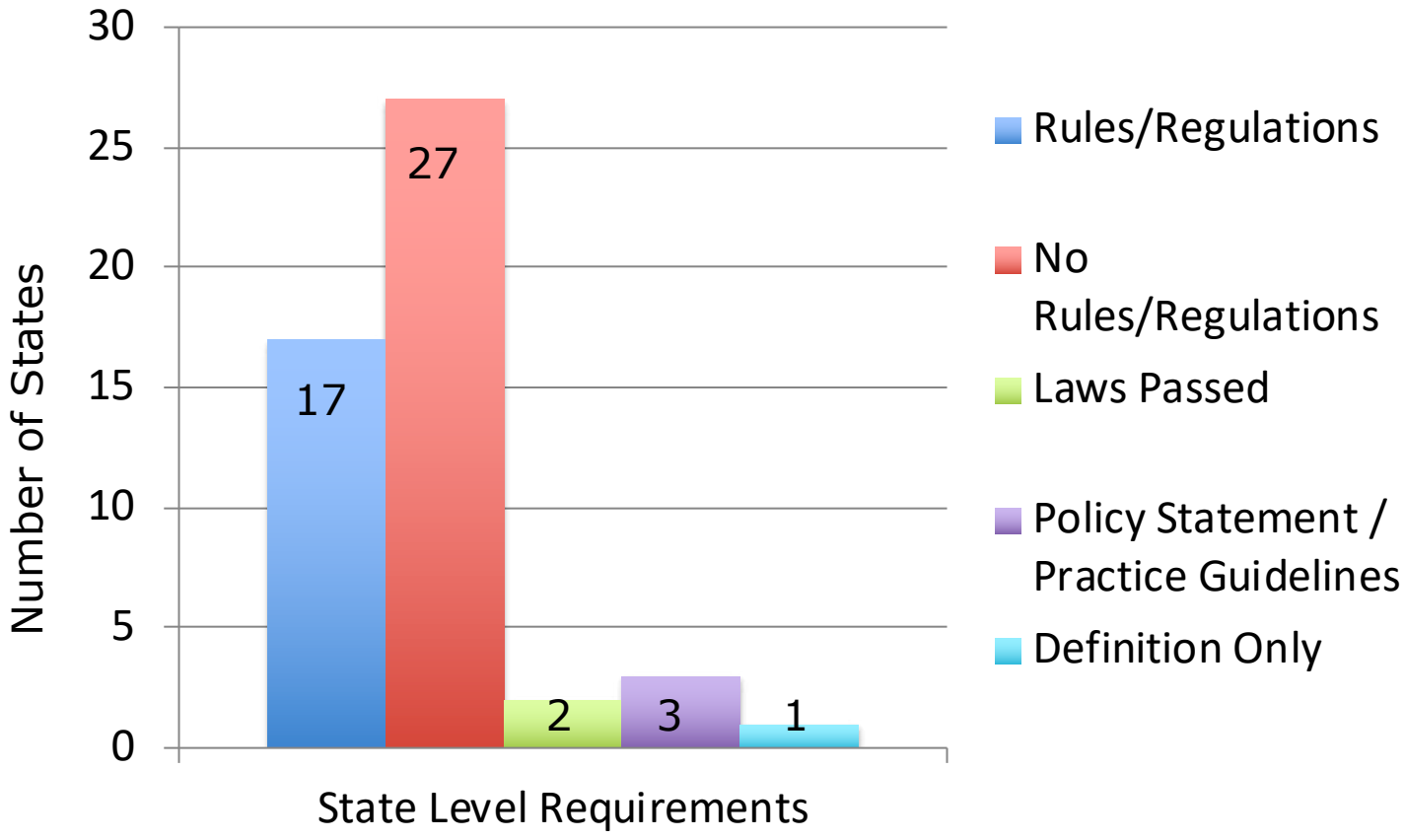
"It is critical to review federal laws, regulations and emergency guidelines"

Federal Laws and State guidelines (Licensure, HIPAA)

https://www.mass.gov/orgs/board-of-registration-for-speech-language-pathology-and-audiology

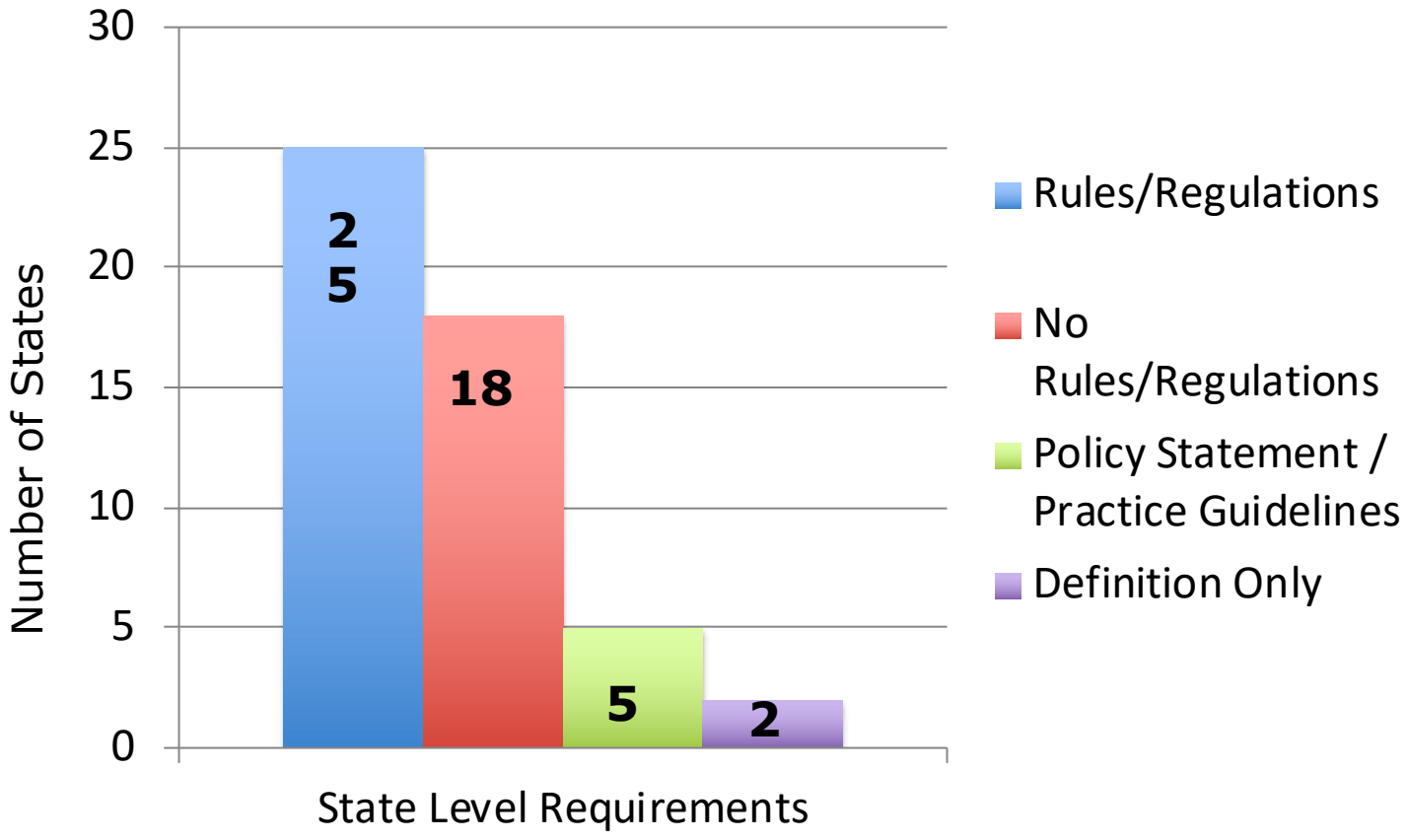
https://www.hhs.gov/hipaa/for-professionals/index.html

Telepractice Requirements – State-by-State 2017



Frailey, 2017; ASHA 2017

Telepractice Requirements - State-by-State 2020



ASHA

Massachusetts Telepractice Requirements

- Massachusetts has a policy for providing Speech-Language Pathology and Audiology Services by electronic means

- Please visit the Board of Registration for Speech-Language Pathology and Audiology

https://www.mass.gov/doc/providing-speech-language-pathology-and-audiology-services-by-electronic-means/download

Massachusetts Telepractice Standards

Standards

3. A telepractitioner must be competent in the type of services provided and in the methodology and equipment used to provide the service.

4. The scope, nature and quality of telepractice services must be equivalent to the quality of services delivered face-to-face and in-person.

5. Before providing telepractice services, a speech-language pathologist or audiologist must obtain ten (10) hours of training in telepractice in classroom courses or via distance learning.

Training must include equipment and technology, clinical practice via telepractice, security and encryption of data, and compliance with Health Insurance Portability and

Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA). Telepractitioners must maintain documentation of their training for inspection by the Board upon request.

6. A telepractitioner may begin a client relationship via telepractice following an in-person evaluation of the prospective client by a licensed speech-language patholoist or audiologist to assess the client's need for services and candidacy for telepractice, including behavioral, physical and cognitive abilities to participate in telepractice services.

**This is not a comprehensive list of the MA rules & regulations*

Massachusetts TeleSupervision Requirements

- Massachusetts has no laws or regulations for telesupervision of student interns or clinical fellows

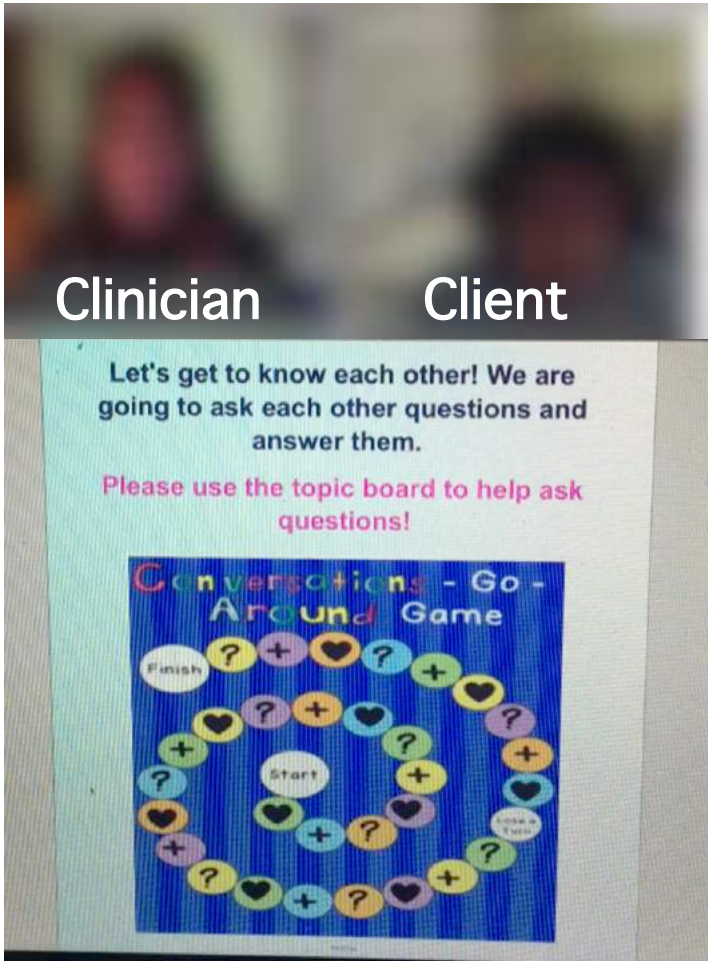
- Telesupervision permitted for *indirect supervision* of support personnel

https://www.mass.gov/doc/providing-speech-language-pathology-and-audiology-services-by-electronic-means/download

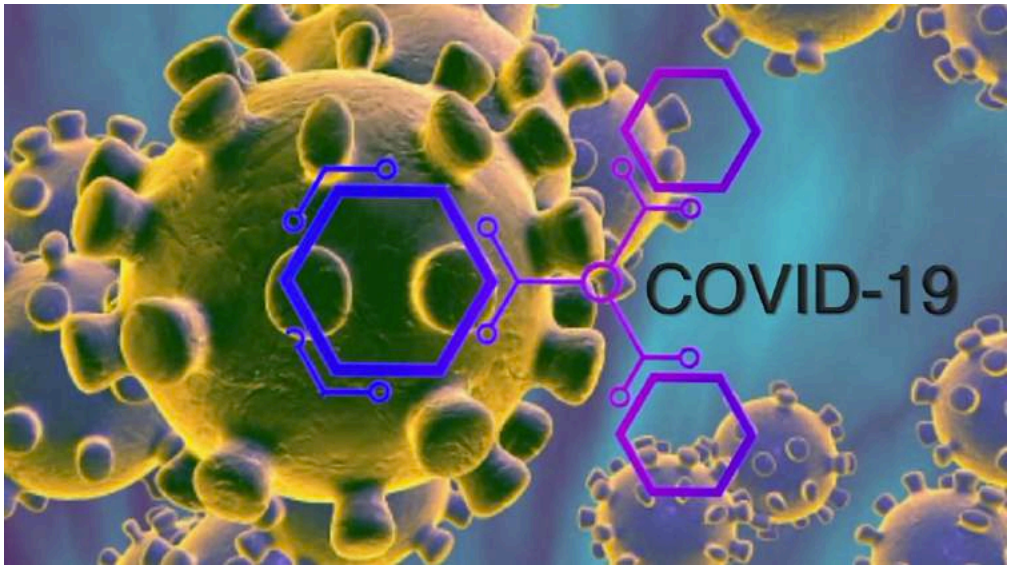
TeleSupervision Demo

- ***The supervisor is an attendee who can see the clinician*** and the ***client***, as well as the ***activity***

- The supervisor can:
  - ✓ Hide their webcam
  - ✓ Put microphone on mute
  - ✓ Establish a private chat box *within the videoconferencing platform* for real-time communication



COVID-19 State Telepractice Laws + Regulations



State-by-state information (updated frequently)

https://www.asha.org/uploadedFiles/State-Telepractice-Policy-COVID-Tracking.pdf

COVID-19 Massachusetts Laws + Regulations

The MA temporary policy will remain in effect for the duration of the state emergency

Are there temporary practice provisions for out of state practitioners?
No. MA does not address emergency provisions. https://www.asha.org/advocacy/state/info/MA/licensure/

Are there any changes to the policy during the COVID-19 outbreak?
Telepractice: The policy waives the in-person evaluation requirement and eliminates the need for training in advance of delivering telepractice services with the condition that the licensee obtain the 10 hours of training within four months of the start of telepractice. **License Renewal**: Licensees whose licenses, during the state of emergency, has expired or will expire but is otherwise in good standing, is hereby extended and shall remain valid until 90 days following the termination of the state of emergency. **Continuing Education**: Licensees whose licenses are extended and remain valid until 90 days following the termination of the state of emergency are likewise granted an extension until 90 days following the termination of the state of emergency to complete continuing education required for the renewal. https://www.mass.gov/doc/license-renewal-continuing-education-and-telepractice-during-the-state-of-emergency-for/download **Telepractice**: The Board is meeting to discuss potential changes to policies related to CFs/students/assistants. Once changes are finalized they will be reflected in this document.

COVID-19- Impact on Academic Programs

- Council on Academic Accreditation (CAA) and Council for Clinical Certification (CFCC) Guidance related to COVID-19:

  https://caa.asha.org/about/coronavirus-covid-19/

- "SLP programs are permitted to count clinical hours earned through telepractice as part of their required supervised clinical practicum hours , including those earned after January 1, 2020"

COVID-19- Impact on Academic Programs

- "At least 250 hours of the 400 clinical practicum hours must be direct services, which can be done through telepractice"

- Graduate programs decide how many hours can be earned through telepractice
  - Currently no cap for ASHA certification

COVID-19- Impact on Academic Programs

- **CFCC Allowances – Graduate Students**
  - Student clinicians in CAA accredited and/or candidacy programs may engage in telepractice services when a clinical educator provides 100% direct supervision in real-time from March 16 – August 1, 2020
  - Multiple students may participate in the same session and earn the full hour
    - Graduate program specify the number of students who can participate

COVID-19- Impact on Academic Programs

- **CFCC Allowances - Clinical Fellows (CFs)**
  - CFs can accumulate hours through telepractice from March 1 – August 1, 2020
  - Please visit CFCC for specific guidance on accumulation of hours when telepractice is and/or is not permitted in the CF setting

COVID-19- Impact on Academic Programs

- **COVID-19 resources for Graduate Programs**
- **Guidance for Graduate Programs, Students, & CFs**https://www.asha.org/Certification/COVID-19-Guidance-From-CFCC/
- **Clinical Simulation, Telepractice, & Telesupervision**
  https://caa.asha.org/about/coronavirus-covid-19/clinical-simulation-telepractice-and-telesupervision/

QUESTIONS

Core Compentencies

Data Collection + Analysis

Outcome Data

Project REMOTE TeleTx Training Program 2012-2019

Project iPREP TeleTx Training Program 2019-present

TRAINING

CORE COMPETENCIES

Core Competencies

- UMass' Project REMOTE requires that students meet **48 Core Competencies** to effectively administer SLP services using Telepractice to students with autism

Kumar & Cohn (2013). Telerehabilitation. Dordrecht: Springer; Houston, 2013; ATA

Training – Telepractice Competencies Time

Regulatory Knowledge
1) Clinician understands scope of practice and complies with all requirements of ASHA within the delivery of services.
2) Demonstrates knowledge of specialized billing codes and practices for tele therapy services within state and federal regulatory agencies and commercial insurance companies.
3) Understands copyright and intellectual property laws when creating and using digital therapy materials.
4) Demonstrates understanding of licensing laws affecting speech therapy telepractice, across state and international boundaries.

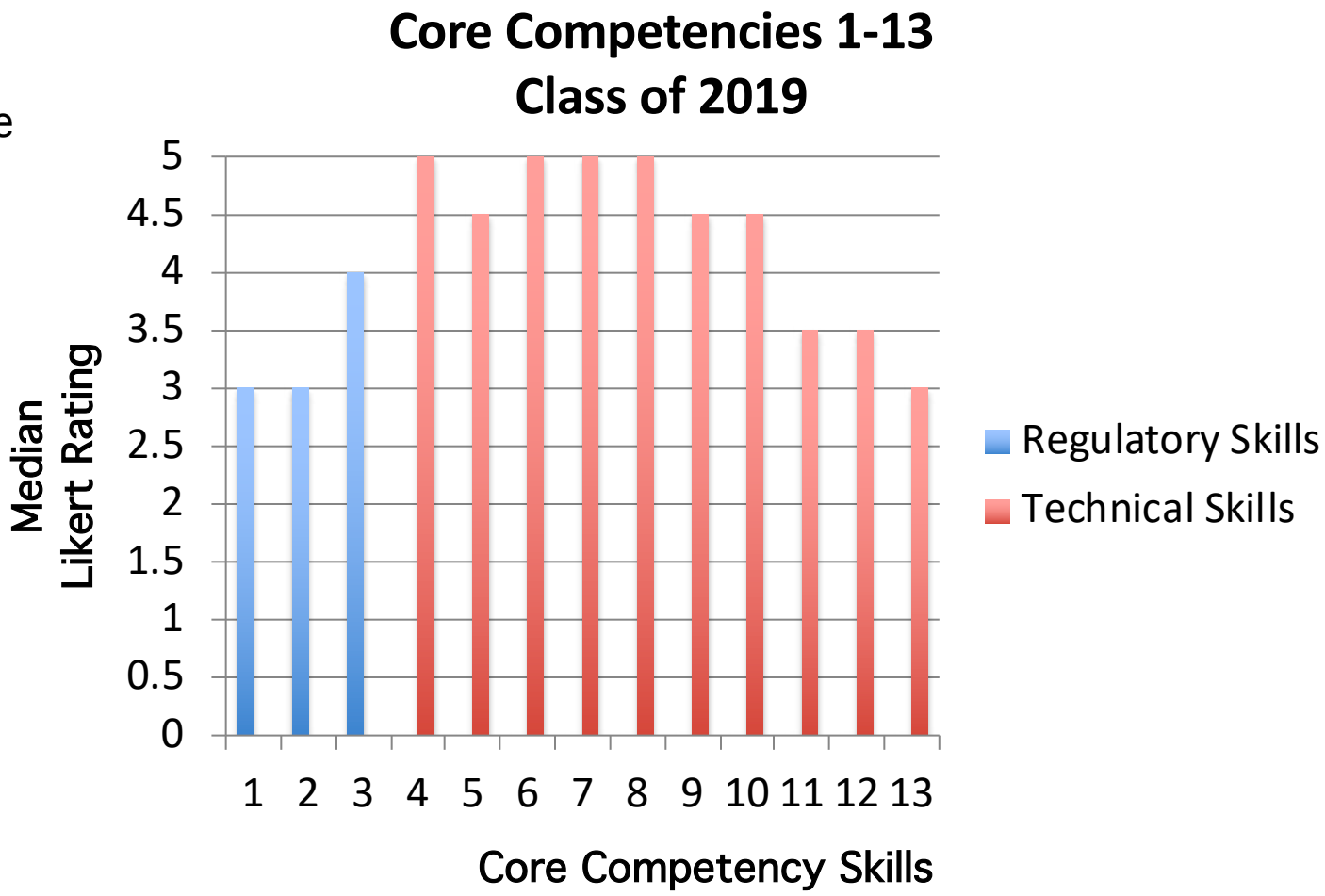
Kumar & Cohn (2013). Telerehabilitation. Dordrecht: Springer; Houston, 2013; ATA

Training – UMass Competencies

Technical Skills
5) Can e-schedule appointments and send email confirmation to site personnel.
6) Can e-schedule recurring appointments and adjust email confirmations to match the needs of site personnel.
7) Can create digital materials for use in a teletherapy session.
8) Can locate, open, and load materials for use prior to a tele therapy session.
9) Demonstrates the ability to record sessions or part of a session.
10) Demonstrates the ability to store recorded sessions and provide patients or caregivers with links to the recording.
11) Demonstrates skills in sharing whiteboard with patient.
12) Demonstrates skills in sharing desktop with patient.
13) Demonstrates skills in sharing documents with patient.

Core Competencies Survey Results – Project REMOTE Scholars 2019

Rating Scale
1= Not Very Good
2 = Below Average
3 = Average
4 = Above Average
5 = Very Good



Training – UMass Competencies

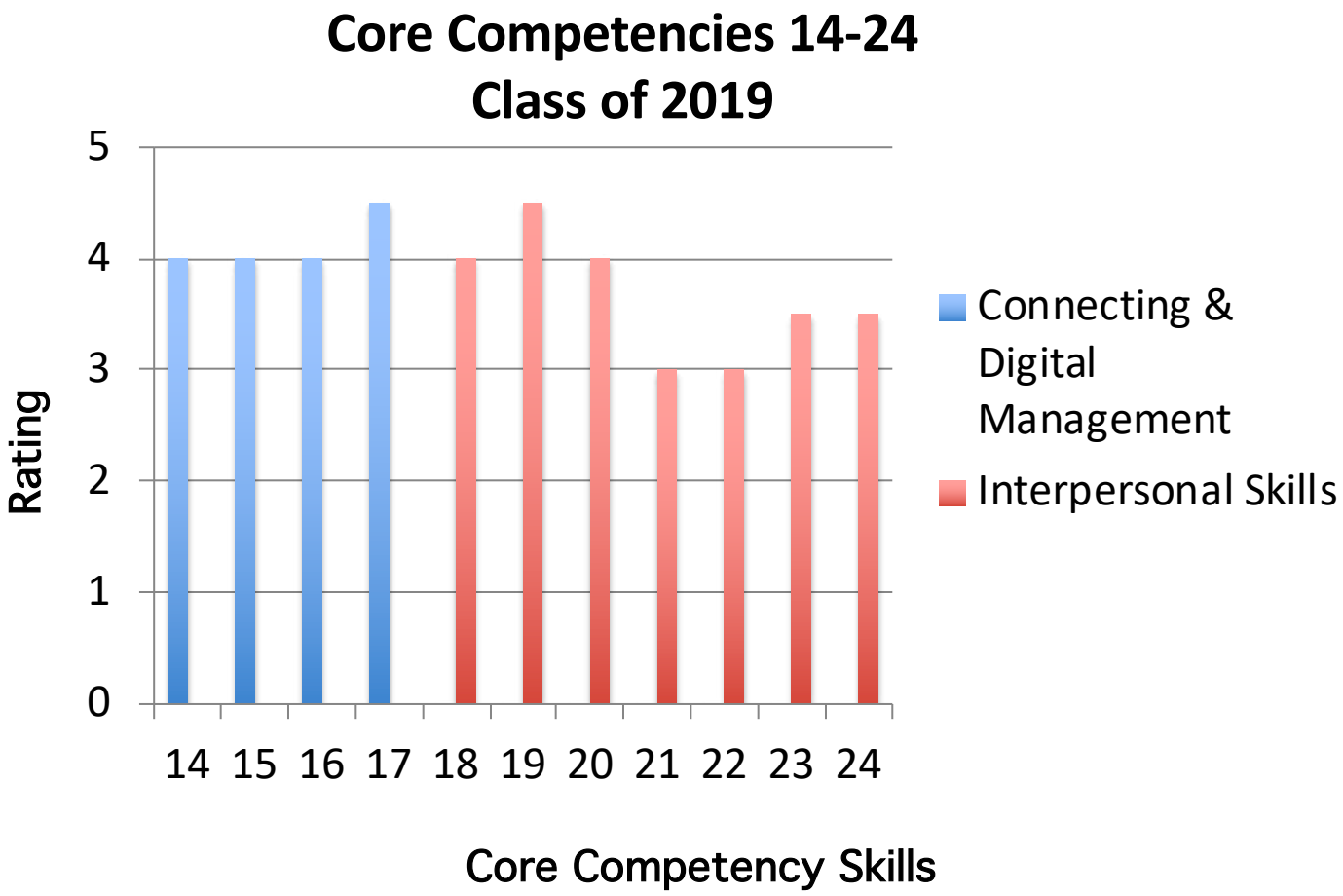
Technical Skills
14) Demonstrates skills in sharing web content with patient.
15) Demonstrates skills in sharing applications with patient.
16) Demonstrates skills in using highlighter tools within a session.
17) Demonstrates skills passing the presenter role to the patient.
18) Demonstrates skills retrieving presenter role from the patient.
19) Demonstrates skills using text tools within a lesson.
20) Demonstrates skills using pointer and electronic pen/crayon tool.
21) Demonstrates skills using eraser tools within a therapy session.
22) Demonstrates skills adjusting video quality of the image.

Training – UMass Competencies

Technical Skills
23) Demonstrates ability to password protect meetings.
24) Demonstrates ability to manage accounts, personal settings, and privacy controls in online telepractice application.
25) Demonstrates skills managing the desktop to provide optimum video for the patient.
26) Demonstrates skills ending a session by saving documents and recordings.
27) Demonstrates skills selectively using chat instant messages to the e-helper.
28) Can demonstrate cross-platform skill in providing tele therapy using Mac and PC operating systems.

Class of 2019 Survey Results Continued…

Rating Scale
1= Not Very Good
2 = Below Average
3 = Average
4 = Above Average
5 = Very Good



Project REMOTE Telepractice Training SLP Graduate Students

- REMOTE seminar (2x/month) (~10 hours)
- GoToMeeting Training (~1 hour)
- SMART Notebook Training (~2 hours)
  - SMART Exchange website
- Mock Session Training (~3 hours)
  - Lesson Planning for Mock Sessions (~ 4 hours)

Total # of Training Hours ~ 10-20 hours

DATA COLLECTION

Plan for Data Collection

Project REMOTE Data Collection

Graduate Student Clinician: _____ Date: _____

School: _____ Student Code Name: _____

Goal #: _____ Objective: _____

Performance:

+ Correct
- Incorect

Notes:

# of Trials/# correct:_____ % Correct: _____ %of Cues:_____

Project REMOTE Data Collection Score From

REMOTE Data Form Template

Student ID:
Date:

GOAL:
OBJECTIVE:
Trials 1 -10

Trial	1	2	3	4	5	6	7	8	9	10
Correct + Incorrect -										
Assist Type Circle 1	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O
Reinforcement										

Symbols: V=Visual; Vis=Visual; M=Model; O=Other (i.e, Physical, Gestural, Positional)

GOAL:
OBJECTIVE:
Trials 1 -10

Trial	1	2	3	4	5	6	7	8	9	10
Correct + Incorrect -										
Assist Type Circle 1	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O	V Vis M O
Reinforcement										

Symbols: V=Visual; Vis=Visual; M=Model; O=Other (i.e, Physical, Gestural, Positional)

Training: Environmental Assessment Project

Training Environmental Assessment Summary

iPREP Lab
Environmental Assessment

iPREP Name: Date:

Please complete the following questionnaire after you view the iPREP Lab. The questions will guide you in identifying the strengths and potential weaknesses of the current lab set-up for telepractice services.

Technology

1. What is the iPREP Lab's Internet speed (bandwidth)?
2. Is the Lab computer connected to a secure network? YES NO
3. Is the computer functioning on wireless internet or is it plugged into the wall?
4. Please click on the Apple symbol in the upper left corner of the Lab computer to answer the following questions:
    a. What type of computer does the iPREP Lab have?
    b. What is the operating system?
    c. Please specify the size of the monitor in the iPREP Lab:
    d. Please provide the iPREP Lab computer resolution:
    e. Please provide the amount of storage available:
    f. How much memory does the computer have?
5. Is there a webcam? YES NO
6. Is the webcam internal or external?
7. Please list the relevant software that the computer contains:

Physical Location

1. Is the size of the room appropriate for 2-3 professionals watching a session? YES NO
2. What furniture do we have?
3. How many windows are there?
    a. Where is the window in comparison to the computer screen?
4. Are there blinds on the window? YES NO
5. Are the outlets in a good location for computer, lights, etc.?
6. Is the room a secure and confidential place? YES NO

Environment / Acoustics

1. Is the environment clear and free of distraction?
2. Is there a carpet? YES NO
3. Is there a sound machine to protect confidentiality? YES NO

Lighting

1. Is there a light available near the clinician's face if needed? YES NO

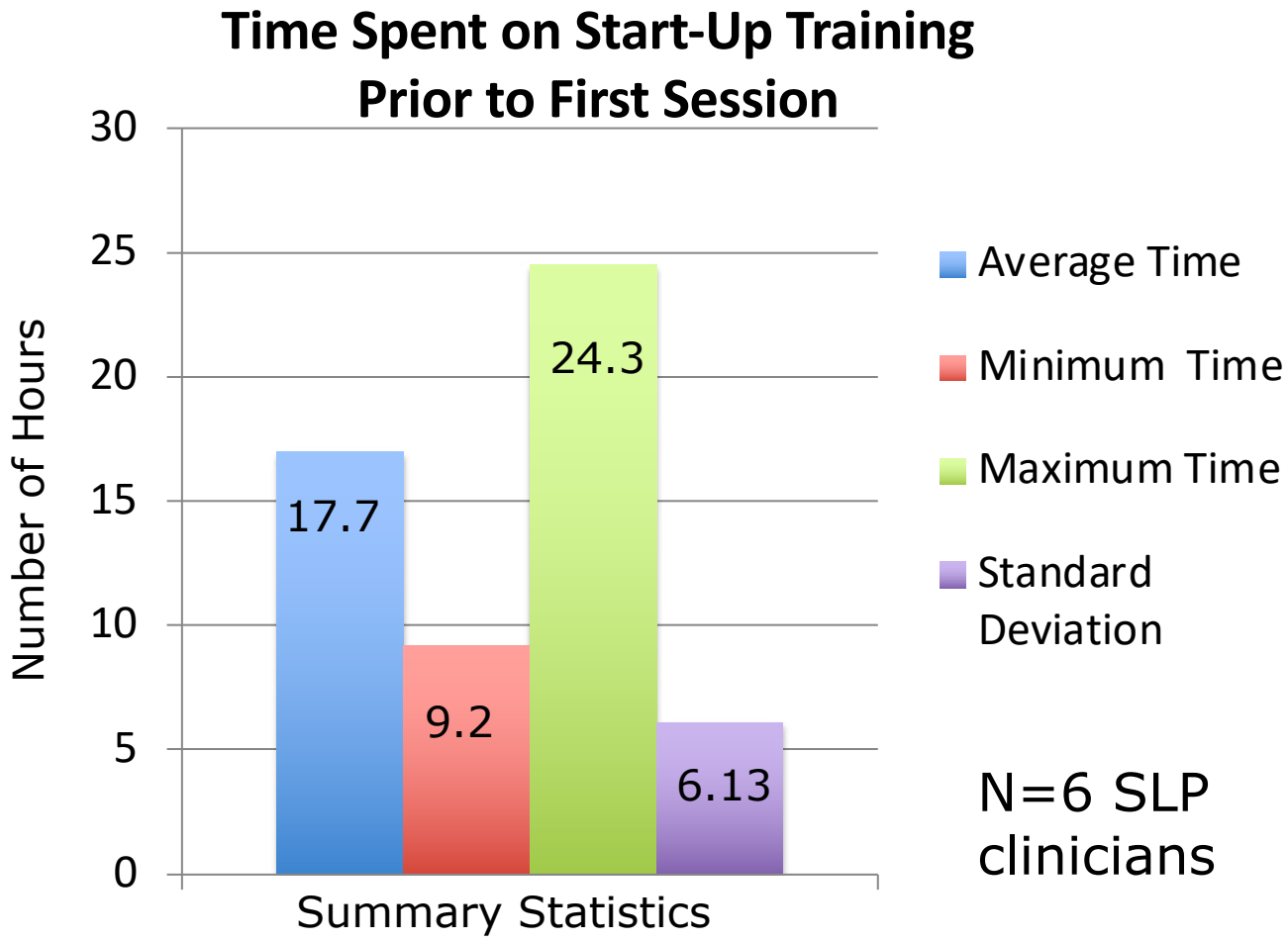
Environment / Background

1. Please describe the background behind the person sitting at the computer (i.e., is it shiny or matte, is there a pattern or no pattern, is it messy, etc.)

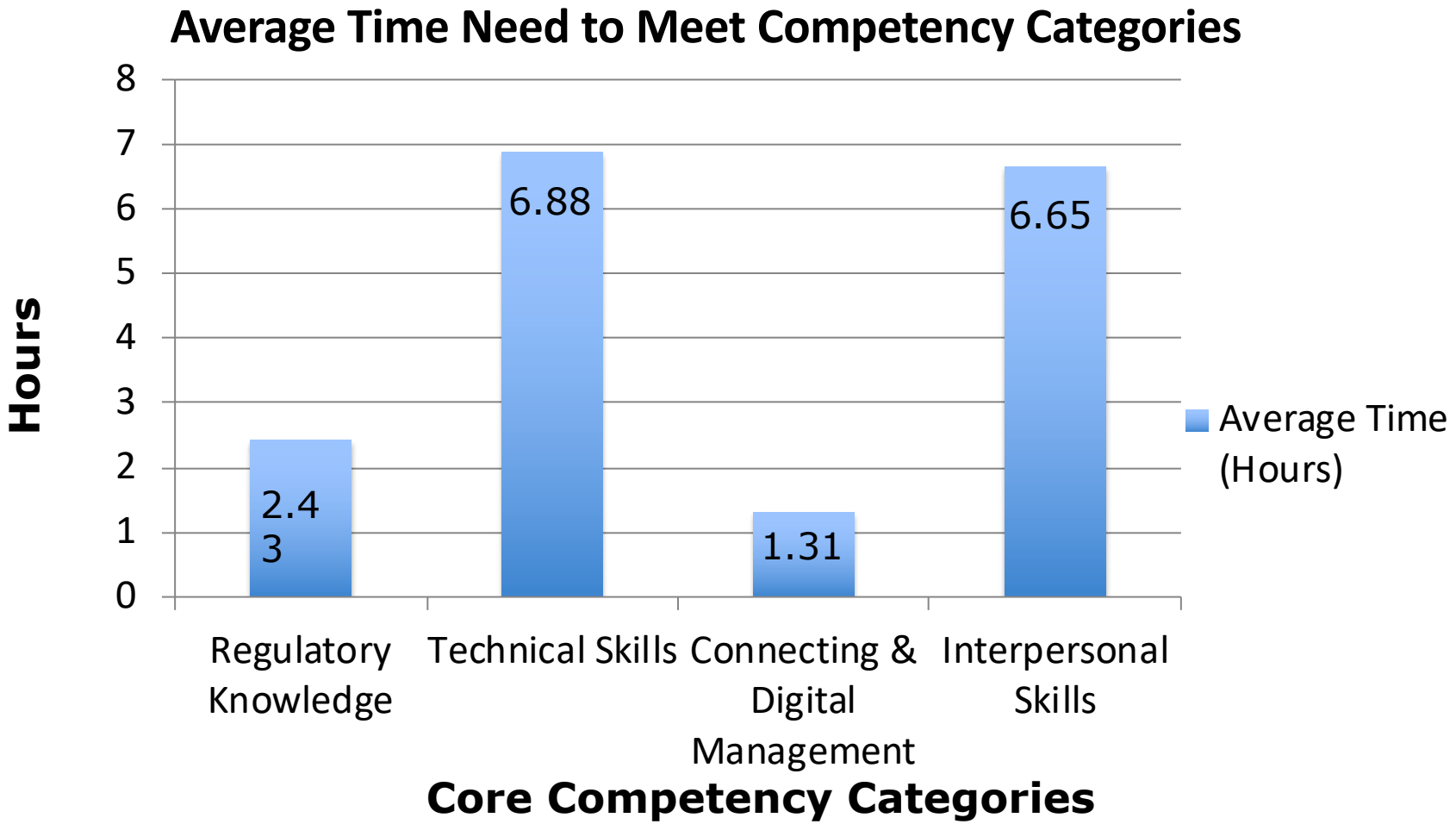
Please describe your overall impression of the iPREP lab:

Project REMOTE Training: Technology + Mock Session

Project REMOTE Start-Up Training Hours (2017)



Project REMOTE 2019 Survey Results: Hours of Training

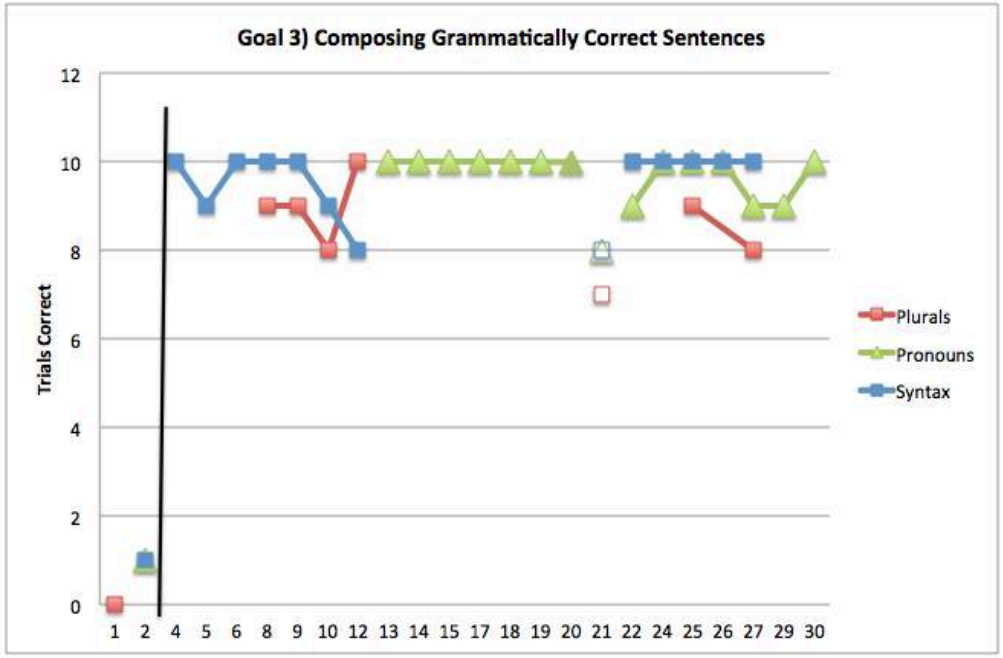


UMass Project REMOTE Intervention: Pre-Tx to Post-Tx
Generalization of Skills
Satisfaction Surveys: Clients + Clinicians

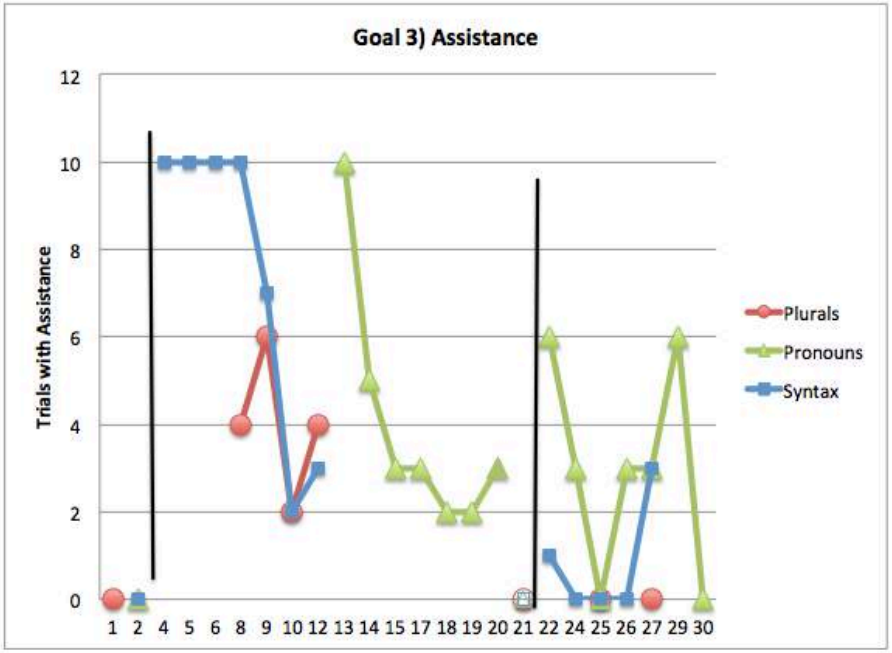
OUTCOME DATA

Graphing of Data (Project REMOTE Example)

Accuracy



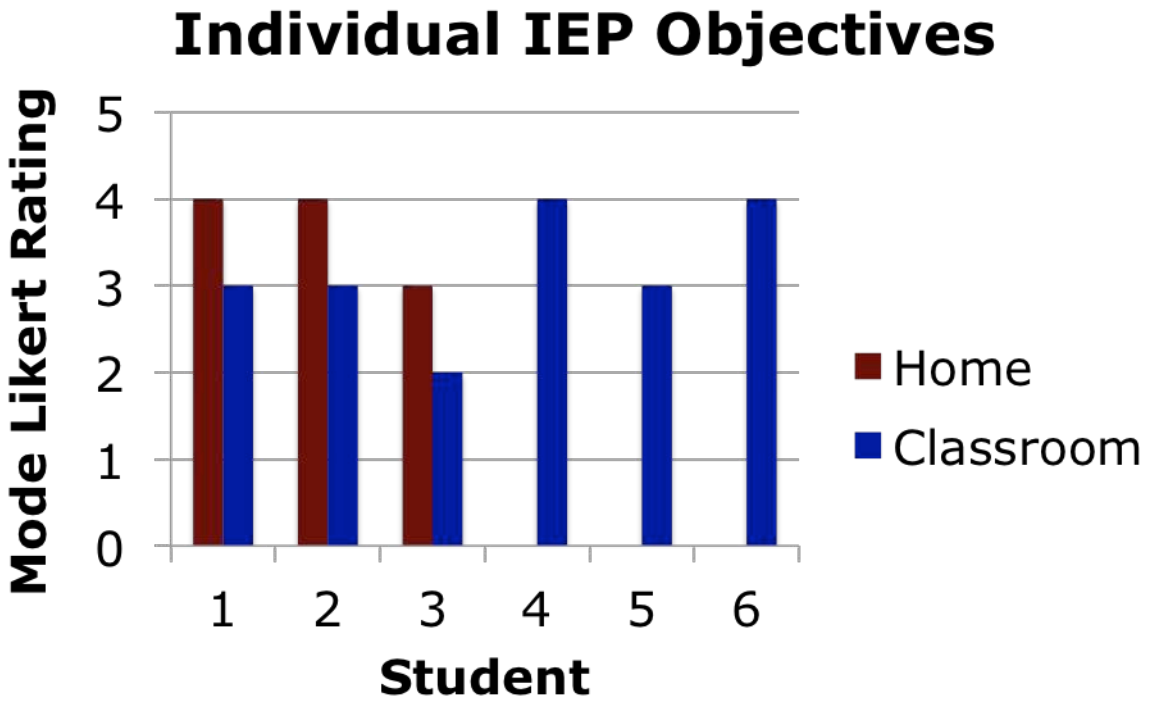
Assistance



Part I: Project REMOTE Generalization Survey Results

5-Point Likert Questions: Parents and teachers were asked a series of questions about generalization of skills unique to their student's/child's Individualized Education Plan (IEP)

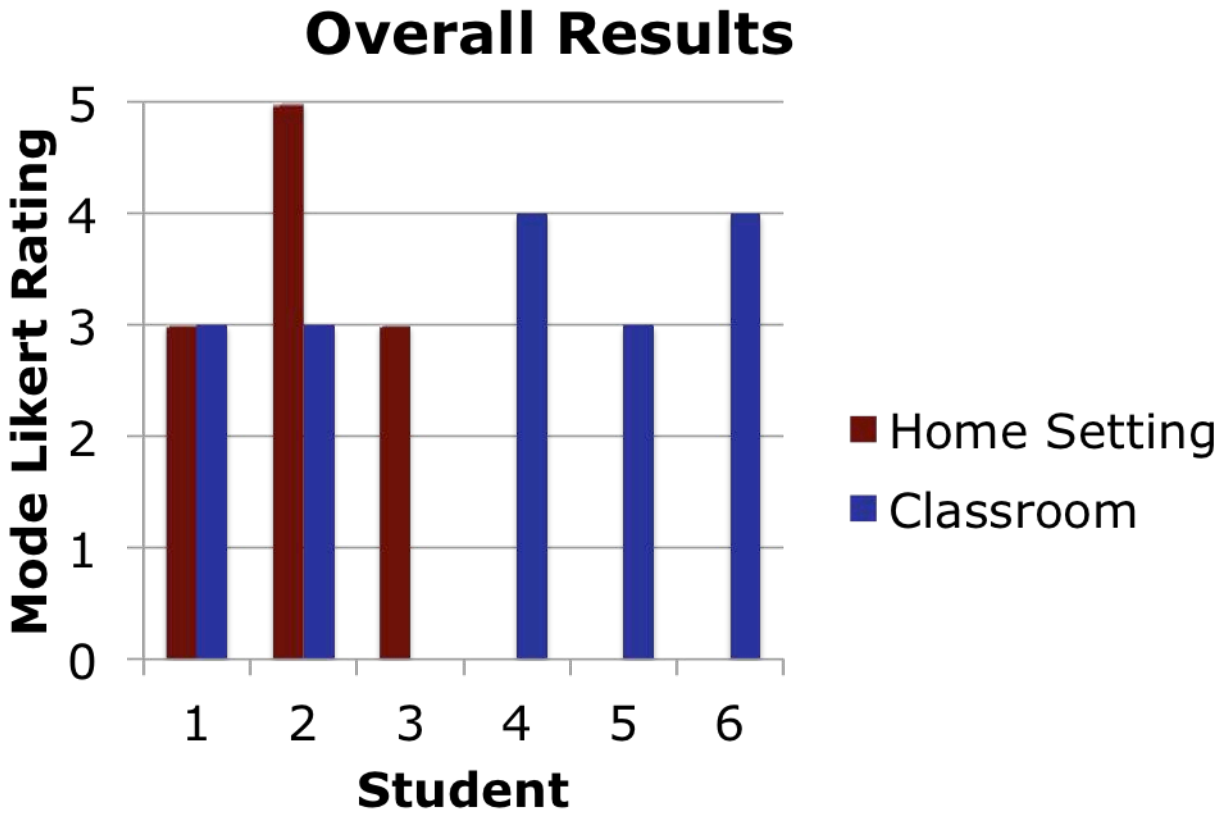
Likert Scale
1 = Never
2 = Rarely
3 = Sometimes
4 = Usually
5 = Always



Part II: Project REMOTE Generalization Survey Results

5-Point Likert Question: Overall, does your son/student use skills learned in speech therapy at home/in the classroom?

Likert Scale
1 = Never
2 = Rarely
3 = Sometimes
4 = Usually
5 = Always



Satisfaction Survey Students: Part I (TeleTx) Part II (On-Site)

Part I. Satisfaction of Speech Therapy delivered using the computer and Telepractice when the speech therapists from UMass were in their lab.

For this section, please tell me the number of the answer that best fits what you think and circle it. Please look at the smiley faces (Emoji) to help you decide which choice and number best fits your answer for each question.

Question	Scale				
	Not Very Good	Below Average	Average	Above Average	Very Good
Speech Therapy when you used the computer in the speech room and the speech therapist was on the other side at UMass.					
What do you think about speech therapy when you used the computer over the internet with the speech therapist on the other side?	1	2	3	4	5
How do you think you did on each lesson for your speech therapy when you used the computer over the internet with the speech therapist on the other side?	1	2	3	4	5
Were you able to communicate or speak with your speech therapist when you used the computer over the internet with the speech therapist on the other side?	1	2	3	4	5
What do you think about the activities (or speech therapy games) that the speech therapist prepared for you and used on the computer when the speech therapist was on the other side?	1	2	3	4	5
Did you like coming to speech therapy when you used the computer and the internet and the speech therapist was on the other side doing speech therapy?	YES	NO	OTHER: Please explain		
Any Additional Comments: Please add any additional comments for speech therapy when speech was delivered using Telepractice only.					

Part II. Satisfaction of Speech Therapy delivered using the computer when the speech therapists from UMass were in the speech room at School (ON-SITE).

For this section, please tell me the number of the answer that best fits what you think and circle it. Please look at the smiley faces (Emoji) to help you decide which choice and number best fits your answer for each question.

Question	Scale				
	Not Very Good	Below Average	Average	Above Average	Very Good
Speech Therapy when you used the computer in the speech room with the speech therapist from UMass next to you.					
What do you think about speech therapy when you used the computer in the speech room with the speech therapist from UMass sitting next to you?	1	2	3	4	5
How do you think you did on each lesson for your speech therapy when you used the computer in the speech room with the speech therapist sitting next to you?	1	2	3	4	5
Were you able to communicate or speak with your speech therapist when you used the computer in the speech room with the speech therapist sitting next to you?	1	2	3	4	5
What do you think about the activities (or speech therapy games) that the speech therapist prepared for you and used on the computer when you worked together in the speech room side by side?	1	2	3	4	5
Did you like coming to speech therapy when you used the computer in the speech room with the speech therapist from UMass was sitting next to you?	YES	NO	OTHER: Please explain		
Additional Comments: Please add any additional comments regarding SLP services delivered ON-SITE.					

Satisfaction Survey Students: Part III (TeleTx vs. On-Site)

Part III. Satisfaction of SLP services delivered using a Telepractice versus ON-SITE service delivery model only.

For this section, please asked the student which service delivery method they preferred?

Question	Selections		
	Telepractice OFF-SITE	Speech ON-SITE	Other
Which did you like better, when speech therapy was done on the computer using the internet and the speech therapist was on the other side OR when the speech therapist worked with you in the speech room sitting next to you?			
Please Explain:			
Do you think doing speech therapy on the computer using the internet when the speech therapist is on the other side is as good as when the speech therapist worked with you side by side in the speech room?	YES	NO	SOMETIMES
Please Explain:			
Do you think other students who need speech would like to do speech therapy using the computer and the internet with the speech therapist on the other side?	YES	NO	OTHER
Please Explain:			
What did you like BEST this year during speech therapy? **Please Explain:**			
What did you NOT like about speech therapy this year? **Please Explain:**			
Would you like to do speech therapy again using the computer and the internet and the speech therapist on the other side?			

Project REMOTE Ratings by Student Clients

	TeleTx	On-Site	Mann Whitney U
Q1	Median: 5	Median: 5	U=24 p < .05 (13)
Q2	Median: 4.5	Median: 5	U=22 p < .05 (13)
Q3	Median: 5	Median: 5	U=24 p < .05 (13)
Q4	Median: 4.5	Median: 5	U=27 p < .05 (13)

Project REMOTE Ratings by Graduate Clinicians

	TeleTx	On-Site	Mann Whitney U
Q1	Median: 4	Median: 3.5	U=20 p < .05 (13)
Q2	Median: 4	Median: 3	U=11 p < .05 (13)
Q3	Median: 4.5	Median: 5	U=30 p < .05 (13)
Q4	Median: 4	Median: 4	U=32 p < .05 (13)
Q5	Median: 4	Median: 3.5	U=17.5 p < .05 (13)

Project REMOTE Ratings by School SLPs

	TeleTx	On-Site
Q1	Median:4	Median:4
Q2	Median:5	Median:4
Q3	Median:5	Median:5
Q4	Median:5	Median:5
Q5	Median:5	Median:5
Q6	Median:5	Median:4

Project REMOTE Students' Perspectives on TeleTx

Did you like TeleTx?	
YES	87.5 %
NO	12.5 %

Did you like On-Site therapy?	
YES	87.5 %
NO	12.5%

Project REMOTE Students' Perspectives on TeleTx

Is TeleTx as good as On-Site therapy?	
Yes	87.5 %
No	0.00 %
Sometimes	12.5 %

Would other students like TeleTx?	
Yes	87.5 %
No	0.00 %
Neutral	12.5 %

Would you like to do TeleTx again?	
YES	87.5 %
NO	12.5 %

Project REMOTE Student 1 Satisfaction Survey Outcome

Question	Selections		
	Telepractice OFF-SITE	Speech ON-SITE	Other
Which did you like better, when speech therapy was done on the computer using the internet and the speech therapist was on the other side OR when the speech therapist worked with you in the speech room at DuPont sitting next to you?	✓		
Please Explain: Because he is at his school and not sitting next me. Yo I don't need him to sit with me			

The student's response indicates he enjoyed SLP via a TeleTx service delivery model

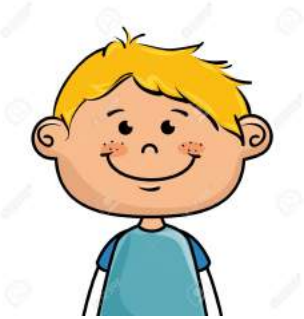
Project REMOTE Student 2's Thoughts on TeleTx

Question	Selections		
	Telepractice OFF-SITE	Speech ON-SITE	Other
Which did you like better, when speech therapy was done on the computer using the internet and the speech therapist was on the other side OR when the speech therapist worked with you in the speech room sitting next to you?	X		
Please Explain:	it was very good		

CASE STUDIES & TREATMENT MATERIALS

Project REMOTE Case Study 1: Adolescent with Autism

- Male
- Age: 11 years Grade 6



- Services under an IEP:
  - English Language Arts
  - Mathematics
  - Behavior
  - Communication

Project REMOTE Measurable IEP Objective

Objective #3:

Client will demonstrate appropriate conversation skills (e.g., asking questions, making comments) in 8 out of 10 opportunities across four sessions

Project REMOTE Service Delivery Model

- The student received SLP intervention via a TeleTx service delivery model AND in-person services

- TeleTx services (8 session)
- In-Person services (4 sessions)
- TeleTx services (5 sessions)

Project REMOTE EBP for Objective #3

- **Social Narratives**
- **Prompting**
- **Reinforcement**

National Standards Project
Evidence-Based Practice

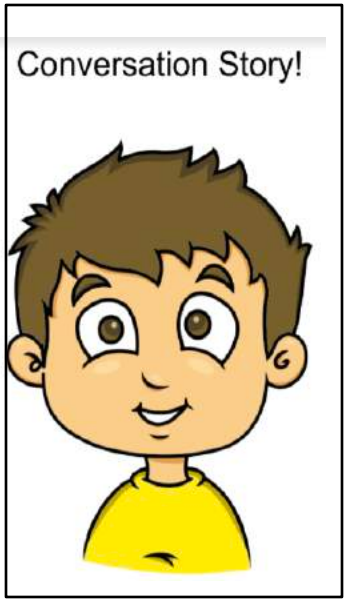
REMOTE Intervention Procedure Objective #3

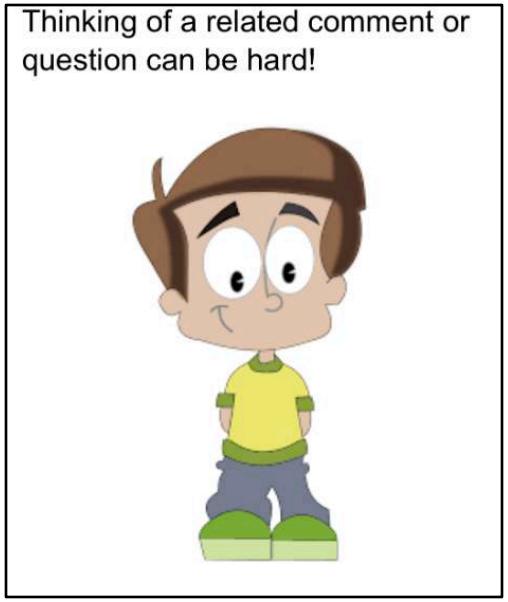
- **Social Narrative Lesson**
- **10 data trials each session**
  - "Role Play" scenarios
    - 2 conversation topics; 5 opportunities per topic

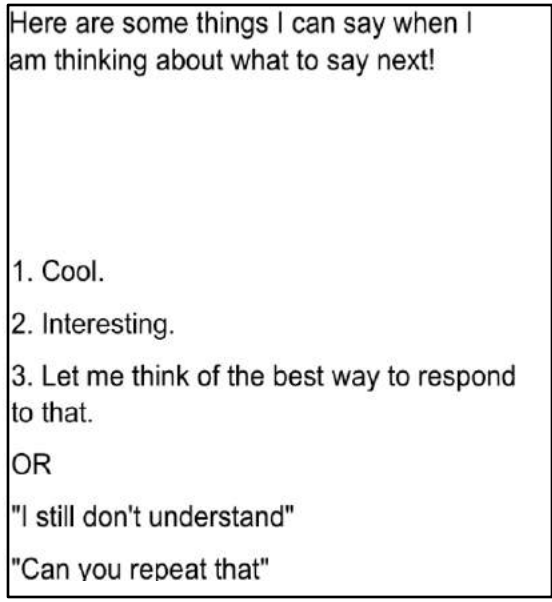
- **Independent Response Definition:**
  - Client independently generates a question or comment (5 opportunities per trial)

- **Prompting** = Least-to-most
- **Reinforcement** = Per client behavior plan

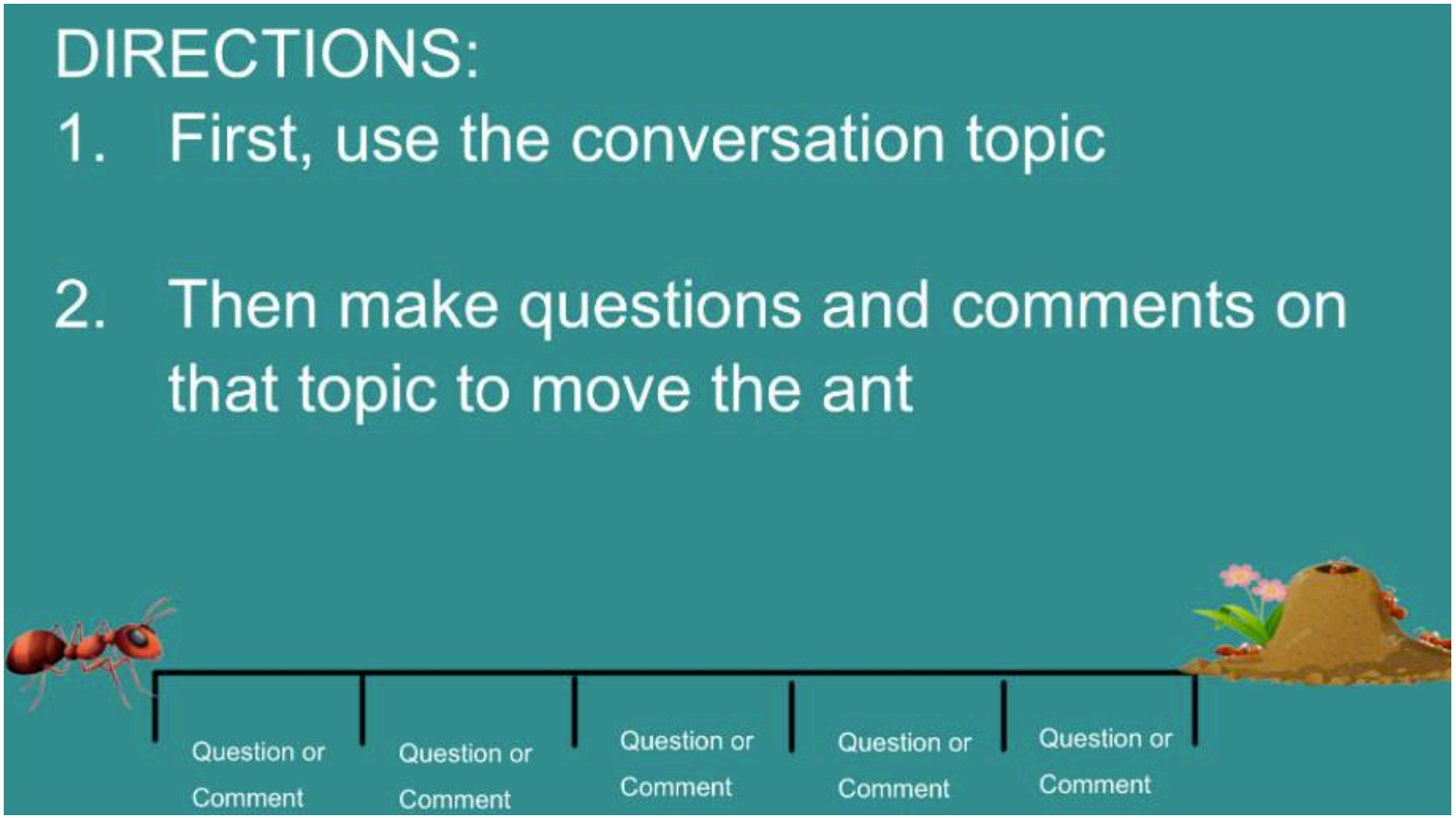
REMOTE Social Narrative Example Objective #3





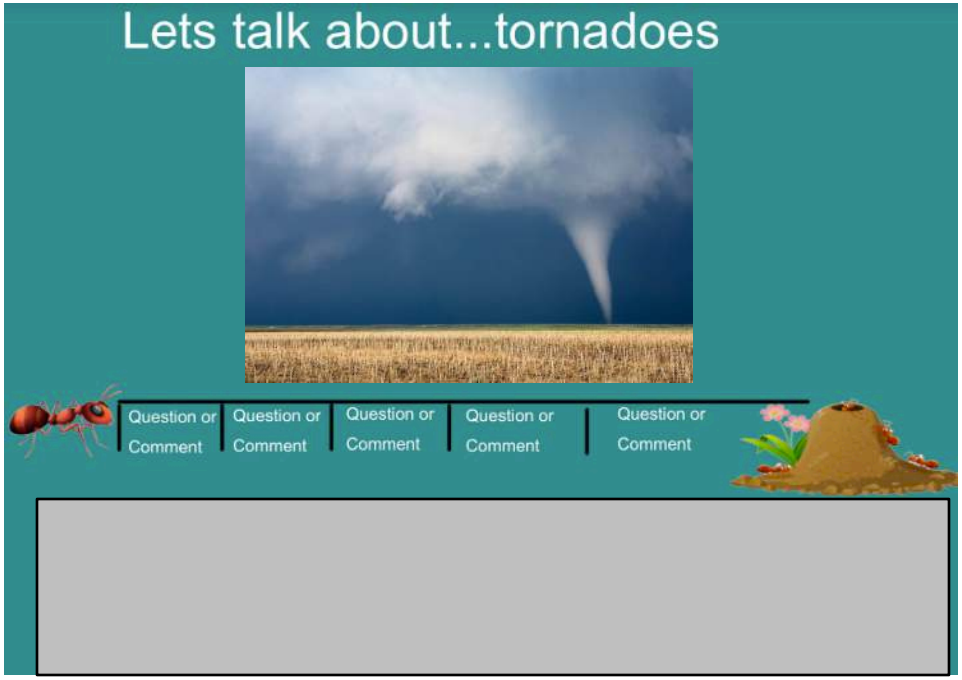


Project REMOTE Sample Stimuli for Objective #3

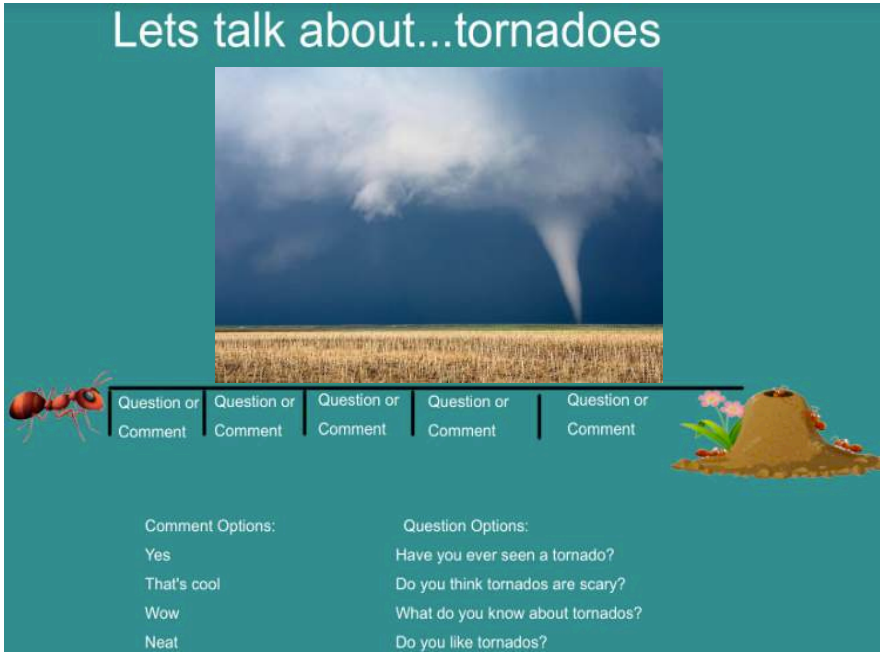


Project REMOTE Sample Data Trial Objective #3

Clinician said, “Let’s talk about tornados. Remember to take turns asking questions or making a comment.”



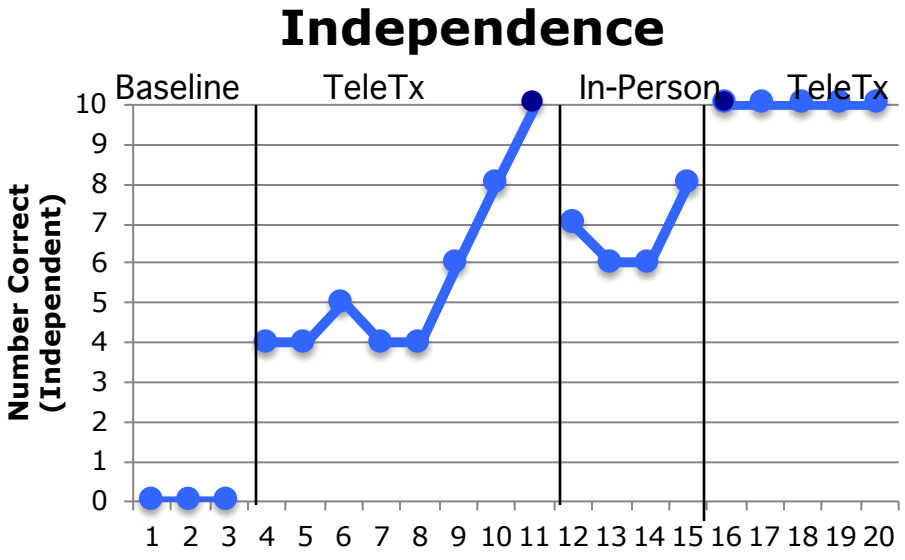
Independent Opportunity

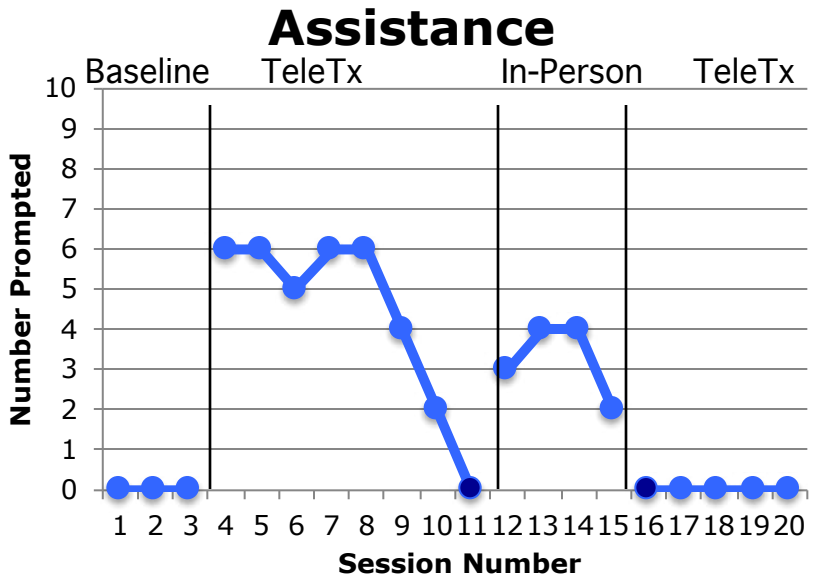


Visual Prompt Example

REMOTE Student Outcome Data Objective #3

Client will ask questions or produce comments in 8 out of 10 opportunities





Student demonstrated progress with the target skill in a structured environment

Project REMOTE Case Study 2: Adolescent with Autism

- Male
- Age: 11 years Grade 6

- Services under an IEP:
  - Gross Motor
  - English Language Arts
  - Mathematics
  - Communication

Project REMOTE IEP Objective Lesson Plan 2020

Goal + Objective (IEP)	Rationale of Activity: Specific Activity + Materials:	Prompting Schedule + Type	Reinforcement Schedule + Type
Goal Area: The student will use and understand language and express himself with appropriate intelligibility given structure in order to access the curriculum and socialize successfully. **IEP Objective #:** Given verbal and visual cues, the student will define multiple meaning words (ex., bat, light, fly, etc.)with 80% accuracy across four sessions.	**Rationale of Activity:** Individuals with autism often have difficulty deciphering words with multiple meanings. Homonyms are pairs of words that sound the same and are spelled the same, however the word has different meanings depending on its use. Individuals with autism often have executive functioning difficulties which make it difficult to inhibit unnecessary information in sentences and focus on the relevant information. This affects their ability to understand language (Henderson et al., 2011). The inability to inhibit recently encountered but irrelevant information has been documented in individuals with ASD, and inhibition deficits have been linked to comprehension difficulties since being unable to inhibit old or irrelevant information about a word interferes with one's ability to form coherent mental representations of words (Henderson et al., 2011). Happé and Frith (2006) also commented on individuals with autism's tendency to focus on details and how this leads them to fail to see the bigger picture. In terms of language, this could impact an individual's ability to incorporate context clues to interpret meaning of multiple meaning words. Happé and Frith (2006) also stated that, for people with autism, this	**Frequency:** Every trial **Type:** Least-to-most (i.e. independent, visual, verbal, modeling).	**Frequency:** Ratio reinforcement, every 3 trials regardless of performance. **Type:** Visual reinforcement at the end of each activity (i.e. check mark)

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Procedure: The activity will begin with the clinician reintroducing the topic of Multiple Meaning words by explaining that some words, even though they look and sound the same, can have drastically different meaning. Based on the context of the word, it is important to understand which meaning the speaker is referring to, or else the student could become confused. Since this lesson is to assess the student's ability to verbally express multiple semantic meanings of homonym, the student will be taught to brainstorm the different possible definitions, and to use it in a sentence in order to demonstrate an understanding of the definition and ability to use the word in context. Data will only be taken on his ability to produce definitions of the word, and will be prompted to produce sentences as exposure to using the meanings in context. Production of sentences will be limited to every few trials due to time constraints
The mini lesson will consist of 2 examples, with visual and verbal prompts if needed. The student will be presented with a word which is a homonym, along with two bubbles underneath to indicate two separate meanings. The student will be prompted to produce two separate semantic meanings for the word. A correct answer will be scored if the student is able to verbally express two semantically distinct definitions. Prompting hierarchy will consist of a visual prompt, which will be a picture representation of each definition. If continued incorrect answers, prompting will move to verbal prompts, and then clinician modeling. Single word answers will be asked to be expanded upon, and re-casted by the clinician. The main activity will consist of 10 homonyms. The student will be cued again generate multiple definitions. A correct response can only be counted if the student can verbally express the two semantically different definitions. Visual, verbal, and modelled prompts will be used as explained in the example trials.

Independent response definition: A correct response will include the student independently defining multiple meaning words without additional prompts.

Incorrect Response: An incorrect response will include either no response, expressing the incorrect semantic meaning, or an off-topic response.

Prompting: If given an incorrect response, the clinician will prompt the student, using a least-to-most hierarchy, moving from visual prompts, to verbal prompts, to written prompts, and finally modeling the correct answer for the student.

Project REMOTE Case Study: SMART Notebook Example

Project REMOTE Case Study: Microsoft PowerPoint Example

Project REMOTE Case Study: Reinforcement Demo

Project REMOTE Annotate in PowerPoint

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Additional Resources for Materials

- ASHA's 5 Steps to get Started in Telepractice

  https://leader.pubs.asha.org/do/10.1044/5-few-steps-to-get-started-in-telepractice/full/

- http://www.ric.edu/sherlockcenter/wwslist.html

- https://www.newsomatic.org/

Project REMOTE Satisfaction Survey: School-based SLP

QUESTIONS

PANEL PRESENTATION

RESOURCES PROVIDED BY DR. NERISSA HALL

Tele-AAC information available at links below

Tele-AAC webinar (currently under review for ASHA CEUs):
https://www.communicarelearning.com/tele-aac-wyg-course

On Communicare's website:
https://www.aaccommunicare.com
https://www.aaccommunicare.com/tele-aac

Initial survey:
http://www.123formbuilder.com/form-5358914/form

Consent:
https://www.123formbuilder.com/form-5389239/form

RESOURCES PROVIDED BY SAMANTHA BERNIER

Tips for Delivering Early Intervention Services Remotely

Hanen YouTube channel:

Some of the videos on this website serve as a place to start for coaching parents to facilitate communication for early intervention.

https://www.youtube.com/channel/UCHW4HIU64kO3Ec_4Sovgcvw