

Tele-AAC: Working With What You've Got

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What is telepractice?

- Model of service delivery.
- Services are provided at a distance using videoconferencing technology.
- Link a client and clinician.

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What is tele-AAC?

- The use of telepractice specifically for individuals using AAC
- Tele-AAC includes an AAC system or replica
- The treating clinician has “eyes on” the AAC system
- The clinician is also able to share visual information effectively

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Service Considerations

- Can happen in real-time or over time (synchronous versus asynchronous services)
- Supports the involvement of team members.
- Able to “tune in” can support collaboration, generalization, and more widespread and targeted implementation, etc.
- Can enhance efficiency by reducing travel time, supporting flexible scheduling and timing.

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Services

Intervention Services

- Real-time services that replicate in-person on-site sessions
- Can involve other team members
- Can be in real time or over time (synchronous or asynchronous)

Assessment Services

- Supports collaboration
- Can be in real time or over time, depending on the individual
- Less overwhelming (but should involve on-site)

Consultative Services

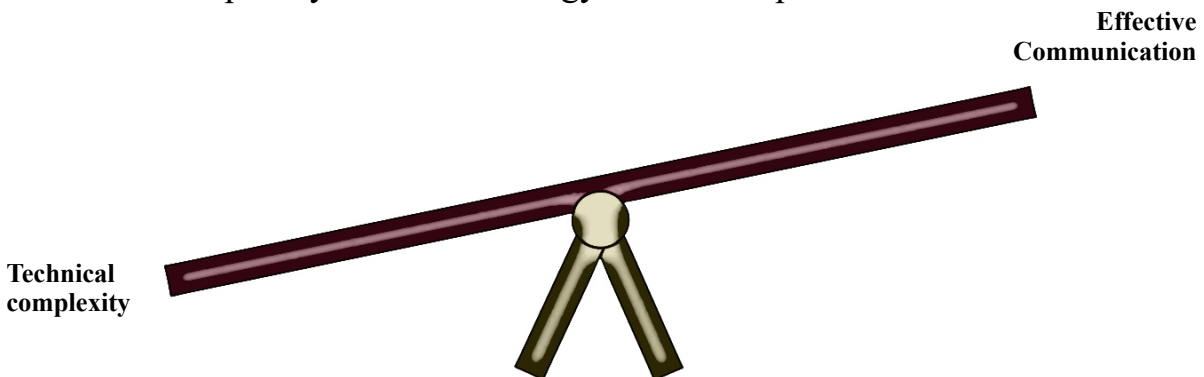
- Intensive consultation for those with little AAC experience
- Can be for supervision
- Can be "hands on"
- Synchronous or asynchronous, but are flexible and effective

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Technical Complexity

- The complexity of the technology needs to be kept low



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Privacy and Security

- Must be considered
- EU General Data Protection Regulation GDPR compliance
 - **Personal data** – any information related to a natural person or data subject that can be used to directly or indirectly identify the person.
 - Global Data Processing Addendum agreement
- Environmental considerations
 - using a private treatment area
 - being aware of who can hear
 - being aware of who can see
 - being careful about how content from the session is shared, stored, and/or secured
- Important to get consent

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Candidacy

- Consider who is a candidate
- Completing an initial tele-survey (like a needs assessment) to determine
 - the players (the individual and their communication partner(s))
 - the environment
 - the technology/platform
 - how they want to connect (synchronous, asynchronous, scheduled, etc.)

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Initial tele-survey

- Tele-technology
- AAC technology
- Tele-environment
- Communication partner
- Individual

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Initial Tele Survey

Tele-tech	AAC Tech	Tele-Environment	Communication Partner	Individual
1. How do you prefer to connect? (select all that apply) <input type="checkbox"/> email <input type="checkbox"/> live video conferencing <input type="checkbox"/> sharing recorded videos <input type="checkbox"/> video tutorials <input type="checkbox"/> phone calls <input type="checkbox"/> other: _____	1. Do you have the individual's AAC System at home? <input type="checkbox"/> YES <input type="checkbox"/> NO	2. Do you have an alternative lite-tech (paper-based version) of the AAC System at home? <input type="checkbox"/> YES <input type="checkbox"/> NO	1. Comfort level managing student's engagement and focus to task? (using token reinforcement, visual schedule) <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____	1. Ability to sustain attention? <input type="checkbox"/> 60 min <input type="checkbox"/> 30 min <input type="checkbox"/> 15 min <input type="checkbox"/> 10 min <input type="checkbox"/> 5 min <input type="checkbox"/> other: _____
2. What technology would you use (that has a webcam)? <input type="checkbox"/> phone <input type="checkbox"/> tablet <input type="checkbox"/> laptop <input type="checkbox"/> Chromebook <input type="checkbox"/> desktop <input type="checkbox"/> other: _____		3. Do you have a way of charging your AAC System at home? <input type="checkbox"/> YES <input type="checkbox"/> NO	2. Communication partner's other responsibilities at the time of tele-session? <input type="checkbox"/> siblings <input type="checkbox"/> work <input type="checkbox"/> available to focus on tele <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____	2. Need for visual schedule? <input type="checkbox"/> YES <input type="checkbox"/> NO
3. What is your comfort level with that technology? <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____		4. How familiar/comfortable are you with the AAC System? <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____		3. Need for token reinforcement or reinforcement schedule? <input type="checkbox"/> YES <input type="checkbox"/> NO
4. What is your comfort level using more than one of those technologies at once? <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____		5. How familiar/comfortable are you with supporting your child's use of the AAC System (modeling, language expansion, prompting)? <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____		4. What is your child's best access method for learning? (choose all that apply) <input type="checkbox"/> visual <input type="checkbox"/> auditory <input type="checkbox"/> tactile <input type="checkbox"/> hands on <input type="checkbox"/> other: _____
5. What platform are you familiar or comfortable with? <input type="checkbox"/> Zoom <input type="checkbox"/> GoToMeeting <input type="checkbox"/> Webex <input type="checkbox"/> Clocktree <input type="checkbox"/> Doxy.me <input type="checkbox"/> other: _____		6. How familiar/comfortable are you with troubleshooting tech-issues with the AAC System (speech output not working, frozen screen, etc.)? <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____		5. Motivating topics/engaging tasks for your child? (TV shows, movies, books, characters, places, etc.) _____
6. Internet Service Stability <input type="checkbox"/> Great <input type="checkbox"/> Good <input type="checkbox"/> sometimes patchy <input type="checkbox"/> often patchy <input type="checkbox"/> not reliable <input type="checkbox"/> other: _____		7. How familiar/comfortable are you with identifying and creating communication opportunities for the individual using AAC? <input type="checkbox"/> very comfortable <input type="checkbox"/> comfortable <input type="checkbox"/> open to training <input type="checkbox"/> not my strong suit <input type="checkbox"/> terrified <input type="checkbox"/> other: _____		
		1. Where will the tele-session take place? (closed door room, at a desk, shared space, etc.) _____		
		2. Other people around the tele-environment? (siblings) _____		
		3. Days/Times available for tele-sessions. _____		

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Tele-AAC “feature-matching”

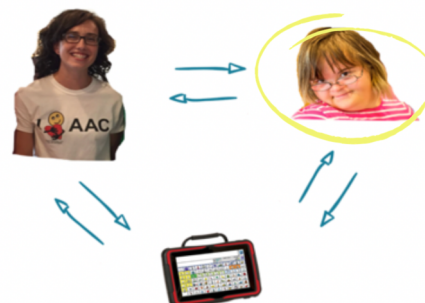
- "Feature matching" for tele-AAC service delivery
 - It is not "yes" or "no"
 - It is how are we going to provide the service

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3-Way Process of Communication

- 3-way process of communication between the individual, their communication partner, and the AAC system(s).
 - How much modeling and co-construction is needed?



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Candidacy of the Partner

- Depending on the individual's proficiency with the AAC system, the communication partner may offer more or less modeling, recasting, rephrasing, and language expansion to support the communicative process
- Comfort level with technology
 - AAC technology, and
 - Tele-technology
- Comfort with AAC modeling (as a strategy)
- Familiarity with engagement strategies (behavior modification)
- Availability for live tele-sessions



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Candidacy for Tele-AAC

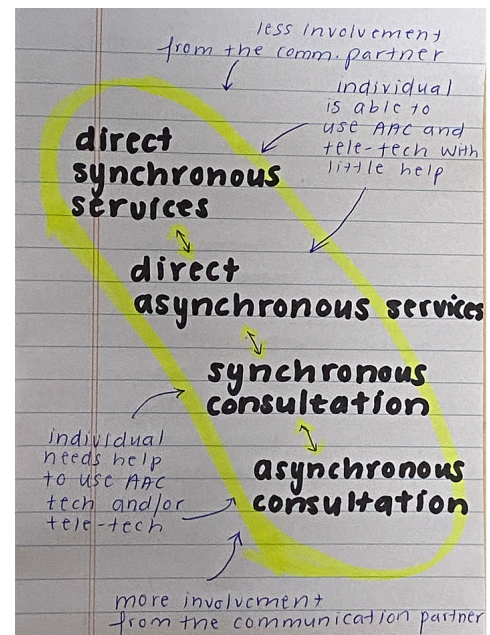
- The more the individual can do on their own managing their AAC system (and the technology necessary for tele-AAC), the more likely they could access direct synchronous and asynchronous tele-AAC service.
- Conversely, the more support needed by the communication partner, the more likely synchronous and asynchronous tele-AAC consult will serve as a more appropriate model of service delivery.

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Continuum of support

- Think about service delivery as a continuum of support ranging from direct, synchronous services to indirect asynchronous consultation.
- One is better able to visualize how someone can be supported in various ways in the context of tele-AAC.
- As well as, how one may move across services types depending on the goal of the task.



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Transparency

- The most important thing is to be **transparent** and clear about what can and cannot be done via tele-AAC.
- It is advised that clinicians obtain **informed consent** from the client and/or family regarding offering tele-AAC services from and to a private environment, as well as factors pertaining to the security of the Internet connection and other environmental factors.

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Equipment

- The equipment will vary depending on the tele-AAC service being provided and what is available at the location of the client and the clinician, but the fundamentals are:
 - A way to see information (video and content)
 - A way to share content (Internet, video-conferencing software, cameras and tripods)
 - Relevant and appropriate content to share (AAC emulation, images, tutorials, videos, etc.)

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Equipment – display screen

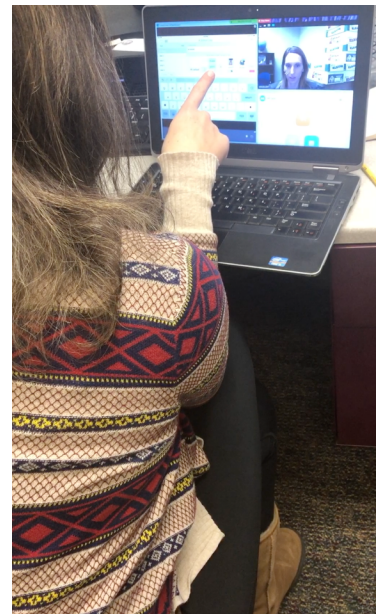
- Display screen
 - Depends what you wish to share
 - The more you plan to display the larger the screen should be
- Back-up mode of communication (to triage challenges with connectivity, etc.)

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Equipment – display software

- Display software (Zoom, GoToMeeting, etc.) – SECURITY
 - Screensharing capabilities
 - Annotation
- Multiple “seats” to accommodate different camera views if you want to show how you use a tool or how the individual is using theirs
 - if planning on using two cameras, or
 - involving more than participant
- Recording features
 - if planning of sharing the content

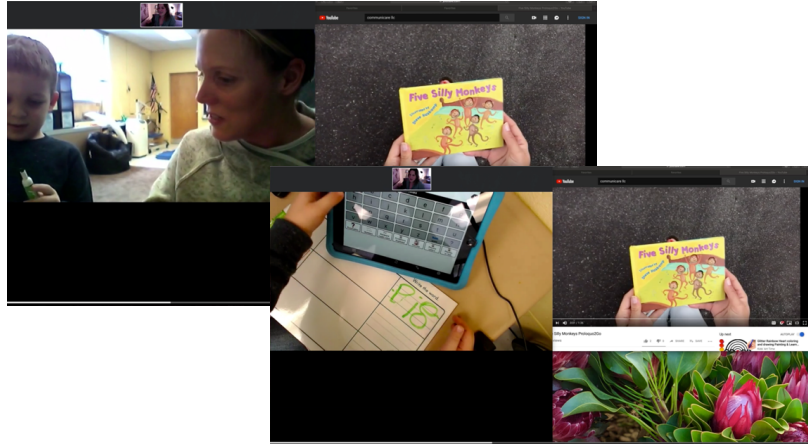


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Equipment - cameras

- Cameras
 - One
 - Two (for simultaneous viewing or with a toggle feature)
 - Maybe more depending on the service
- Tripod/mounting (hands-free ideally)



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Software Suggestions

- Managing the threshold of technical complexity
- Pictures/photos
- Videos
- Word processing/presentation tools
 - Document
 - Slides
- Interactive websites
- Consider Internet connectivity

Using headphones
might affect playback
of audio when
sharing videos or
websites offering
sound

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Direct synchronous tele-AAC services

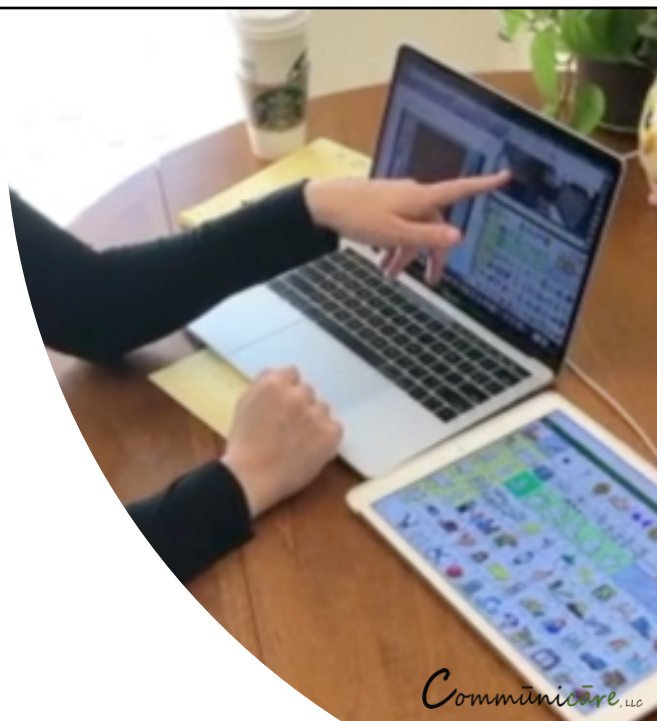
- Direct services occur with the individual using AAC
- Individuals receiving direct intervention services via tele-AAC are fairly comfortable:
 - using their own AAC systems,
 - following a model/instruction, and
 - managing the technology necessary for tele-AAC at the same time.
- Also possible that a skilled/trained communication partner in the same environment as the individual may be able to facilitate the interaction

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Direct synchronous tele-AAC services

- The clinician can screenshare a replica of the AAC system to demonstrate a target skill.
- When the clinician's selection on her iPad are presented to the individual as a cursor movement.
- There is a shared activity or referent that they are talking about.
- The clinician has computer with video-conferencing software to facilitate the real-time interaction and is screensharing an activity and replicated AAC system at the same time.

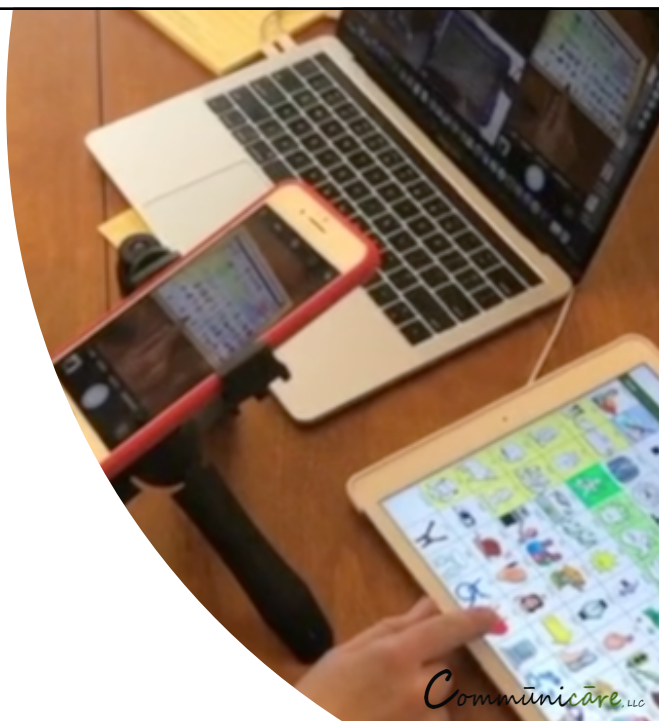


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Direct synchronous tele-AAC services

- Share the camera feature instead. This creates a projector-like set-up
- The clinician has an extra piece of equipment (the smart phone) in addition to the computer with video-conferencing software and replicated AAC system.
- Rather than sharing the activity and the replicated AAC system, the clinician is rather sharing the activity and the camera/projector view.



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Direct synchronous tele-AAC services

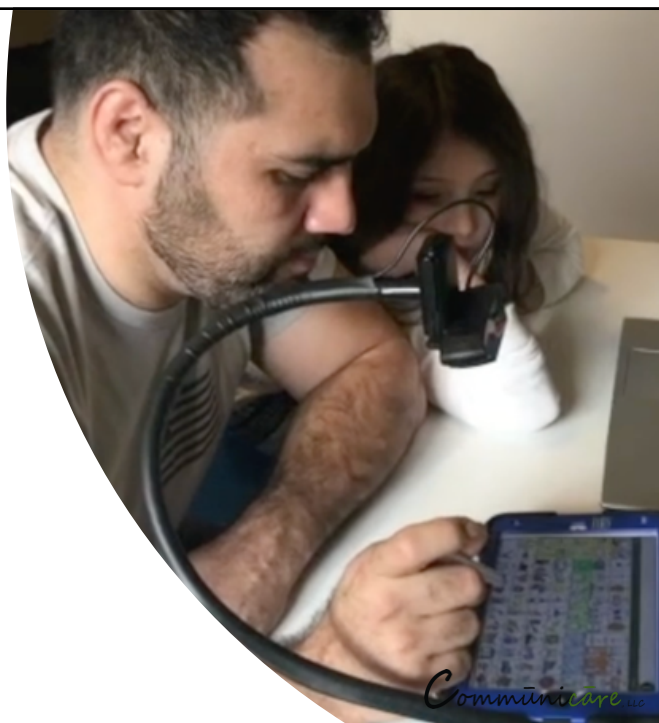
- For some individuals, once the tele-environment is set-up for them, they are able to engage with minimal support.
- There is a lot of equipment needed to make this scenario work. A laptop is connected to an external camera to offer the view of the device (and should be turned so as not to distract the individual, unless it is being used to share an activity). The white iPad is used for the face-to-face interaction between the clinician and the individual.



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Direct synchronous tele-AAC services

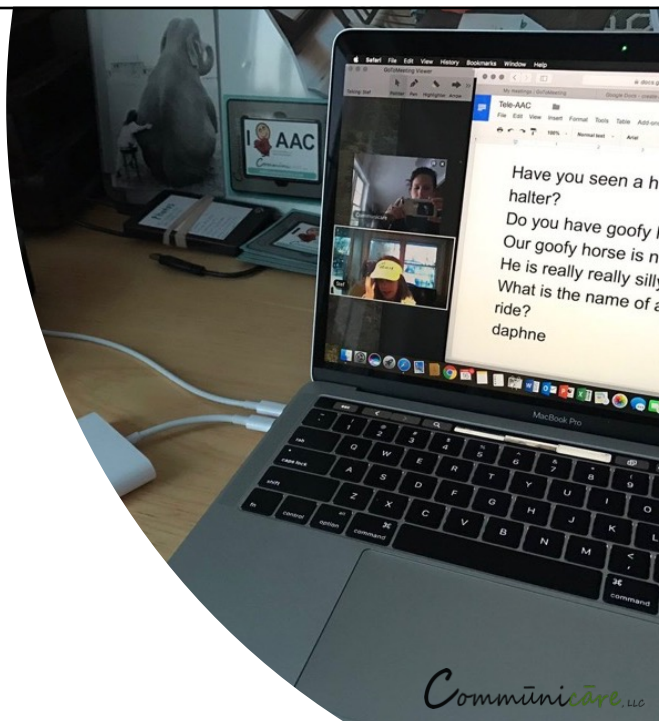
- For others, they may need a little more support from a communication partner on their end (which is also a great opportunity to support generalization).
- In this set-up the individual has access to two display options (a computer connected to the external camera, and another laptop for the real-time interaction between the clinician and the individual).
- The external camera allows the clinician to “see” how the duo is interacting with the AAC system, and the computer display is larger enough to show the clinician as well as their shared activity.



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Direct synchronous tele-AAC services

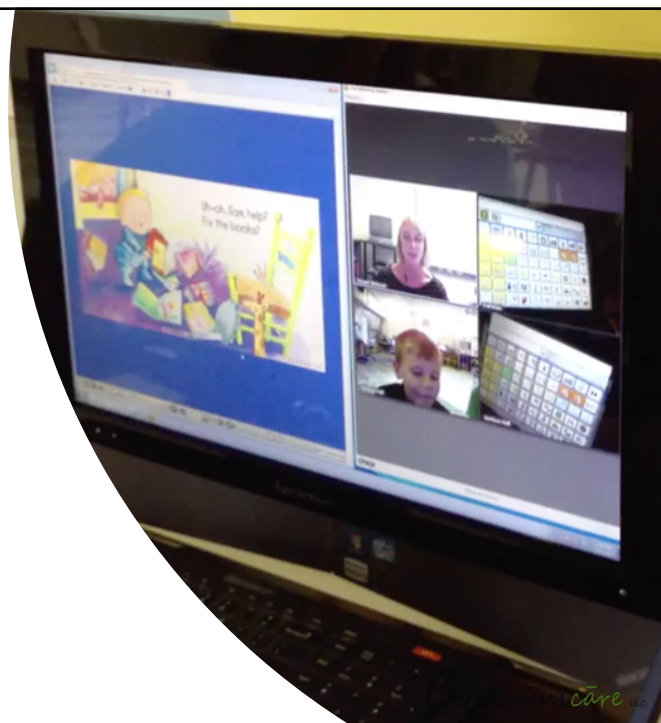
- When an individual can read using a word processing program as the joint activity.
- One computer (with a large enough display) shows the shared document, as well as the video image of the two participants.
- The individual can connect their high-tech AAC system to the computer and the AAC device then serves as a secondary keyboard.
- With many videoconferencing programs, the clinician can control who has control of the screen to support the back-and-forth messaging component.



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Direct synchronous tele-AAC services

- In some instances, and with the right equipment, the clinician and the individual can see each other at the same time, as well as their AAC systems.
- Both need to have two display options.
 - One to share their faces, and
 - another to share their systems.



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Direct synchronous tele-AAC services

- For each of these scenarios:
 - the equipment varies,
 - as does the involvement of the communication partner on the side of the individual.
- The common factor is the ability to share information about how to use an AAC system.
- The clinician needs to demonstrate as well as get information about how the individual is using their system on their end.

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Direct asynchronous tele-AAC services

- Thinking about a “flipped classroom” can help us think about asynchronous direct service delivery.
- Put simply, it is:
 - Assign and share
 - Complete and share
 - Meet to review

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Direct asynchronous tele-AAC services

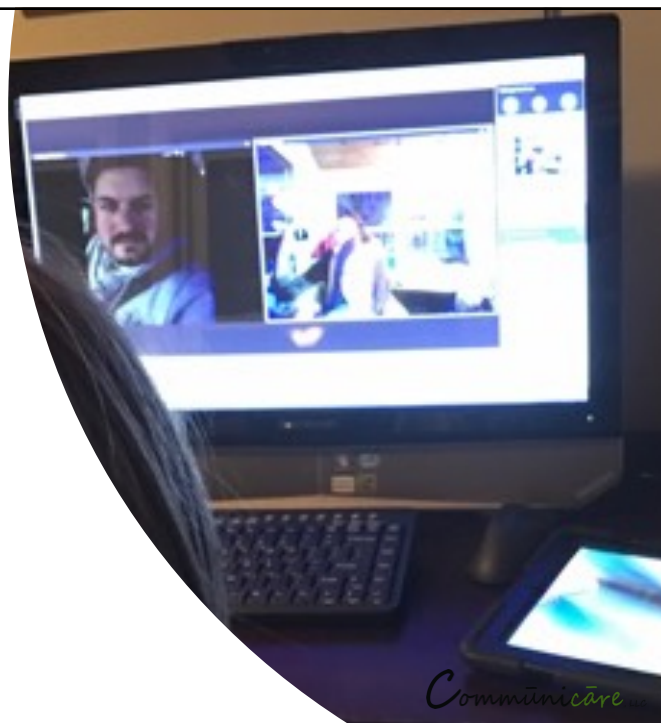
- Combo of store-and-forward paired with a real-time meeting can be good, because:
 - the pace can be controlled
 - may be better able to focus on a specific target before addressing another
 - build up their tolerance, interest or engagement working in a virtual environment
- May work better to support generalization and more widespread implementation.
- It may also be easier to schedule, or to involve important communication partners.

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Direct asynchronous tele-AAC services

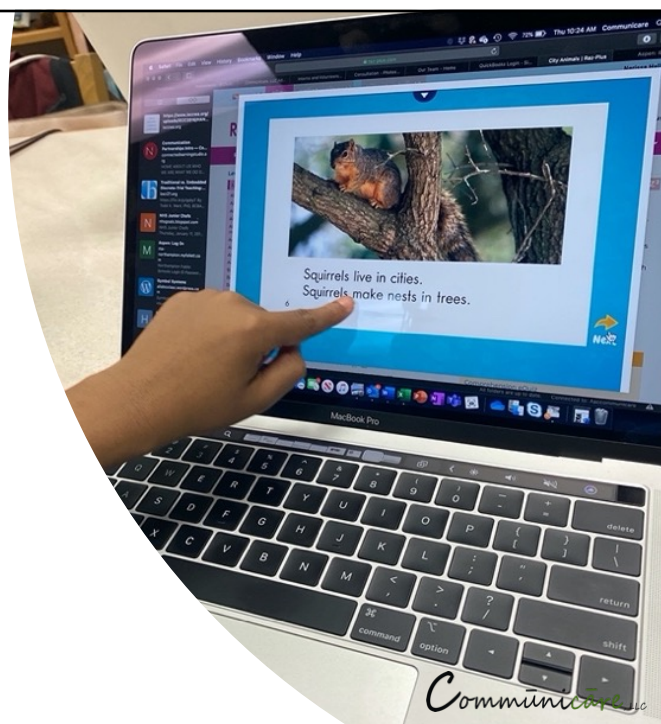
- For some individuals they can share a completed assignment with the clinician.
- The clinician is then able to coordinate a time with the individual to review the completed work, offer input and guidance, as well as modeling, and offer a refined task from there.



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Direct asynchronous tele-AAC services

- In some instances it is really important for the clinician to be able to “see” how the individual is engaging with their AAC system.
- By sharing video recordings of the individual’s use, the clinician is better able to address specific targets when they meet in real-time.



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Direct asynchronous tele-AAC services

- A lot of flexibility when it comes to asynchronous direct service delivery.
- Like a flipped classroom, the idea is to present the individual with tasks and information related to their goals for them to do on their own time.
- The individual then shares their work back to the clinician.
- When the clinician and the individual meet, they are able to discuss the work completed, provide and receive feedback, and advance to the next stage.
- Allows for involvement of important communication partners.

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Indirect synchronous tele-AAC services

- Indirect services or consultation is a powerful and effective way to support generalization of skills across communication partners and environments.
- Can incorporate other specialists and team members.
- Offers flexibility in the delivery by using either synchronous service delivery (real-time) or asynchronous delivery (store and forward) or a combination of the two. The focus is with the communication partner and team members to build up competencies in supporting communication especially through lite-tech and high-tech AAC.

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Indirect synchronous tele-AAC services

- Intervention services occur during real time tele-AAC sessions.
- May include just the communication partner and the clinician, or
- May also include other team members
- This consultation services may be to review content, to model how to troubleshoot or program on an AAC System, or to brainstorm different ways to integrate use of the AAC.

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Indirect synchronous tele-AAC services

- The clinician was able to consult with the school SLP, outpatient SLP, as well as the parent through tele-AAC synchronous consultation session
- Important for all parties be a part of the consultation
- Proloquo2Go screen-casted through a cable using QuickTime.
- Annotation options make it more powerful to “see” what is being talked about.



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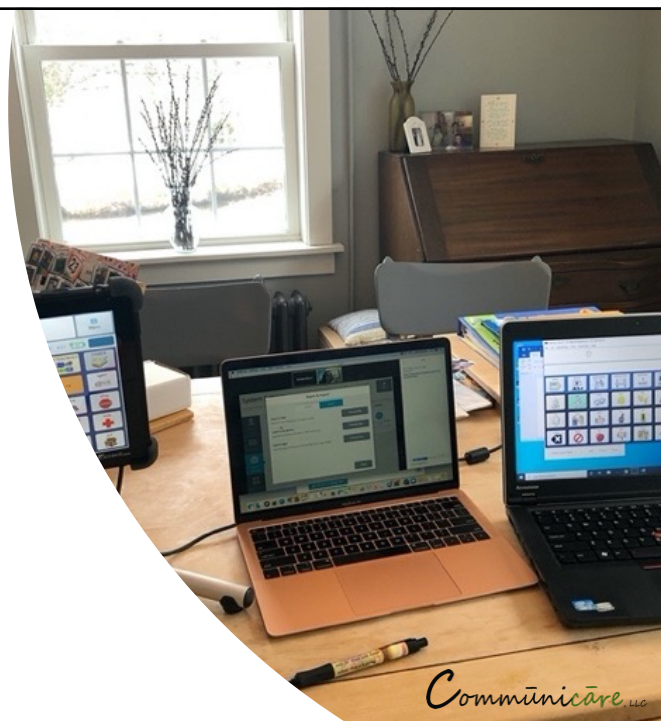
The screenshot shows a child's tablet screen. At the top left is a stick figure icon. Below it is a black bar with a white house icon and the word "Home". The main area is light gray and contains several colored blocks: an orange block, a blue block with the word "not" and a red 'X', two pink blocks with the words "want" and "have" (each with a stick figure icon), and two more pink blocks with the words "at" and "Drink" (each with a stick figure icon). There are also some yellow and green blocks on the right side. A large white curved shape is in the bottom left corner, and a green word "care" is visible at the bottom right.

- This screen shot is an extension of the consult that was shown previously.
- Annotating features more clearly illustrate thoughts and ideas to those viewing the session.
- Incorporating both the mother and the SLPs supported their understanding of the navigational changes to support their participation in programming as well as their understanding when navigating during aided language stimulation.

- Here is an example of synchronous consultation through tele-AAC.
- The team was able to quickly use video conferencing to show the clinician what exactly was going on with the equipment.
- Given the live video feed the clinician was able to diagnosis the problem with the switch interface.
- Support the partner in being 'hands-on'.

Indirect synchronous tele-AAC services

- Supporting a multidisciplinary model.
- Involved the OT and PT to help with the set-up of a newly acquired mount.
- The teacher of the visually impaired was also able to log into the video conference to check in on the placement of the mount.
- Having only two clinicians present in the room was also less overwhelming for the individual
- The clinician's that were present had to move the laptop to give alternate views.



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Indirect asynchronous tele-AAC services

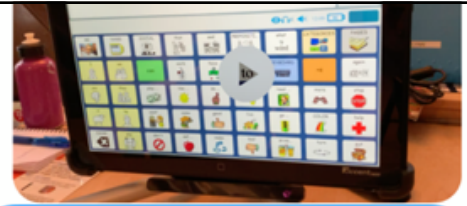
- Facilitates a more flexible schedule
- Allows for repetition of information and review.
- Examples of asynchronous consultation:
 - screen casting video of programming a button and sharing it
 - the communication partner video tapes an activity at home and forwards it to the clinician
- Similar to the idea of video modeling.
- Need to support visual attention

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Indirect asynchronous tele-AAC services

- This is to address some difficulties troubleshooting errors with the new high-tech device.
- Communication partner shared photos of the screen and typed out what she had already tried given previous feedback and recommendations from the clinician.
- With that information the clinician was able to create some video guides to send back.



Here are the videos I had made last time

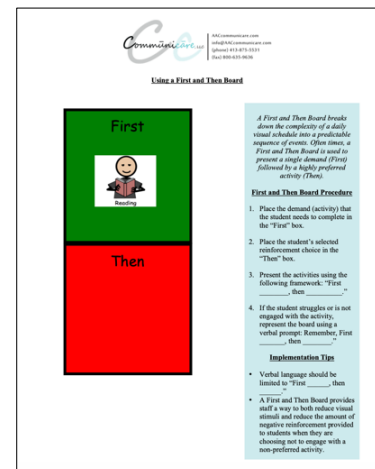
Got it!! Thank you!



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Supporting Engagement of the individual

- Need to think about how we are sharing information and empowering interaction.
- Behavior modification
- Supporting attention/focus



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




Tele-engagement: Communication Partner

- "Must-do's" before session begins
 - Clear expectations of partner's participation as support for attention and engagement (token boards, visual schedules, etc.)
 - Pre-teach what will happen during the session to support the communication partners comfort level while decreasing side conversation with parent during the session.
 - "Quiet on set" Do your best to limit environmental distractions during the session (both visual, auditorily, and items).
 - Stay positive!! Technology is bound to not work at some point. This is a great time to model how we can easily problem solve and stay calm in time of frustration.



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	Independent (I or +): The individual finds the target on their own.
	Visual Point Prompt (VP): Pointing to the vicinity of the target or directly at the target.
	Verbal Prompt (V): Describing the target or verbally encouraging use of the device. <ul style="list-style-type: none"> • natural verbal prompt: "What do you want?" • verbal mand: "You want doll. Push the 'doll' button."
	Written/Visual Prompt (WV): Using written words, picture icons, or icon sequences to show the target.
	Modeling (M): The communication partner uses the device to model/show the individual where the target is.
	Partial Physical (PP): The communication partner gently nudges the individual's hands or elbow to make a sign or push the target symbol by placing a hand on their elbow.
	Hand-Under-Hand (HUB): Physically helping the student to select a target on their device by holding underneath their hand and guiding their point/movement.
	Remember: STOP BEFORE YOU PROMPT! It may be helpful to count to 10 in your head to ensure you are providing appropriate wait time and avoiding over prompting.

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- Modeling
- Prompting
- Communication Partner Training

Review: AAC Essentials



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Tele-engagement: Clinician

- Involve motivating and engaging tasks
- Carefully manage amount of verbal information
- Use variable prompting (remember wait time)
- Create a routine, be consistent
- Use of visual schedule, reinforcement schedule or token board.
- Keep it short in the beginning. End on a positive note.
- Try to include familiar tasks into the tele session hands-on, and virtual.

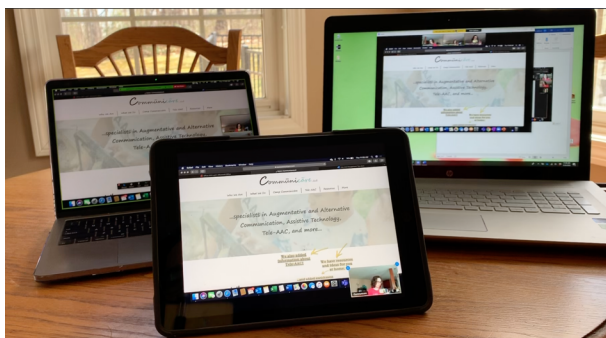
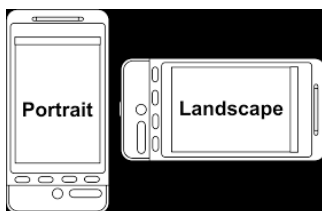
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Technology:

We are looking at a variety of:

- types of technology
- sizes
- combination of technology use



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When an individual does not have an AAC system at home

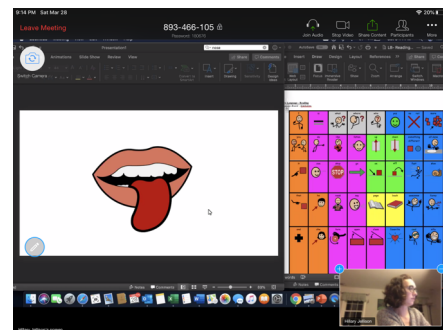
- The clinician can support access through using device emulator software with shared mouse control.
- The clinician can share a language board on her screen to model language and send the same language board home to the family to print, in the mail, or to view on a device while the communication partner provides the auditory feedback.
- The clinician can share her screen to project through airplay (with Macs) to use as doc camera of a language board, or device to show their hand for modeling.

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Tele-AAC Technology Tips

- Show your desktop as your screen as it offers more flexibility in what you can show.
- When using a phone try to use it in landscape as the images are slightly larger
- Similar with an iPad
- When sharing your screen, when on an iPad remember to swipe up to close out Zoom to show and navigate the iPad.
- If you are using more than one device in combination MUTE them except one.
- Think about when to use Gallery Mode instead of Speaker Mode for camera views.



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