Every Word Counts:
Voice and Message Banking for People With ALS

Guest Speaker:
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Every Word Counts: Voice and Message Banking for People With ALS

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Voice Banking and Message Banking

• Voice banking is the process of recording your voice for possible future use on a communication device
  – This is something that even newly diagnosed PALS may wish to consider, since it is best to make the
    recordings before significant speech or voice changes as the person needs to record phrases and
    sentences
  • The idea of losing your voice can be frightening and due to the nature of ALS, professionals can not tell is a
    person will experience communication difficulties so think of voice banking as an insurance policy
  • Current technology requires recording hundreds or thousands of phrases and sentences
    – These recordings are fed through voice analysis software to obtain a synthetic voice

• Message banking is the process of playback of recorded messages
  – Recorded messages can be programmed into a SGD and used when needed for communication
  – With this method, only recorded messages will use the person’s natural voice. Newly created
    messages, using spelling, will use the SGD’s artificial voice (i.e. synthesized speech)
What is voice and message banking?
When to voice bank

- Voice and message banking is most successful when speech is clear and easily understood but many people have been successful, even when their voice has changed substantially.

- It is important to understand that, depending on the option selected, the process of voice banking and/or Message Banking may take several hours of your time and energy over several days or weeks.

- At this time, neither Acapela nor Model Talker support the creation of a synthesized voice from past recordings.
  - In this situation, some individuals choose to have a relative or friend record the phrases for them.

- Source: https://teamgleason.org/pals-resource/voice-message-banking/
The Pros of Voice banking

• By creating a synthetic voice, the person can continue to communicate in a voice approximating their own
  – In addition, the user can type brand-new sentences they’ve never said before and the speech-generating communication device will “speak” the sentence in their own synthetic voice
    • This means the person doesn’t have to record every possible sentence they may want to say.

• The technology is improving
  – It used to take lot more work to digitally capture a voice
  – Now, a synthetic voice can be created with as few as 350 sentences. The process is more robust, meaning that even if someone has a noticeable voice impairment, it may still be possible to develop a decent synthetic copy.

Source: https://eatspeakthink.com/voice-banking-tutorial/
The Cons of Voice Banking

- The voice is synthetic, which means while it will sound close to the person’s natural voice, it will still sound somewhat artificial.

- We don’t currently have the technology to replicate emotion and intonation in the synthetic voice.
  
  - Sentences will tend to sound mechanic. The sentence “I love you” will have the same emotional quality as the sentence “I want you to leave.”

- The synthetic voice may not necessarily say the names of people and places correctly.

- Source: https://eatspeakthink.com/voice-banking-tutorial/
AAC AWARENESS MONTH

MESSAGE & VOICE BANKING

w/ Dr. Wendy L. Olsen PhD, CCC-SLP
Why to voice bank

- Data suggest 'preserving identity' is the overarching motivation in decision making for voice banking. Participants who decided to voice bank considered it would help to maintain their identity and preserve their social and work networks.

- Professionals have a role to provide people with ALS/MND with more information about voice banking in the wider context of using AAC for communication. It may be that the process of voice banking itself is seen as a positive act for people with ALS/MND, independent of how it is used later. Further research with associated professionals and stakeholders is indicated.

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The unique role of familiar voices

- The role of voice as a marker of identity is important for not only the speaker but also listeners.
- Although voices are all around us, familiar voices are special (e.g. Sidtis & Kreiman, 2012) in their evolutionary value, diffuse neurological representation (Maguinness, Roswandowitz, & von Kriegstein, 2018; McGettigan & & others, 2015), and in the unique impact they have on listeners who have a personal relationship to the speaker (Seltzer, Ziegler, & Pollak, 2010).
- Sidtis and Kreiman (2012, p. 154) describe the personal, familiar voice as an “emotional auditory event.”
- Hearing a mother’s voice, even by phone, can be similar in its effect in reducing a daughter’s stress levels (as measured by levels of oxytocin) to having direct physical contact (Seltzer et al., 2010), unlike the impact of instant message contact between mothers and daughters (Seltzer, Prososki, Ziegler, & Pollak, 2012).
- These findings suggest that the unique features of an individual’s voice help to nurture and sustain social bonds and relationships. Loss of voice, therefore, impacts not only the individual speaker but also has the potential to deprive others of emotional connectedess.

A personal process

• Voice/message banking is unique, customized, and personal
• Just as there is no one path to completing the process, there is no single outcome
• All aspects are driven by the unique wishes, personality, needs, and aspirations of the individual who chooses to record and bank messages
• Although there may be many shared experiences and challenges, the impact and meaning of those events are unique
• Banking should offer each individual hope through empowerment, by ensuring from the outset that participating in this process is about taking control
• The process offers a way to make a positive investment in the future, regardless of the losses that may be brought on by the disease, offering an element of the hope that has been highlighted as a key coping mechanism (Freer, 2010)

Equipment and space needed

- Computer
- Internet connection
- Phone/tablet
- Microphone
  - Headset is better than the built in speakers
- A quiet place to record, preferably a small room with carpeting and curtains. If the sound quality isn’t good enough, you could place a blanket over a hardwood floor, place a screen around you, or even drape a blanket around you
- Eliminate as much background noise as possible. For instance, turn off the air conditioner and make sure there aren’t any ticking clocks. Close the windows and doors. Turn off notifications on your phone
- Record in the same place and with the same equipment each time. Try to record at the same time of day. Also, your speech should be at the same level of loudness, the same rate of speech, and the same “quality” each time

Source: https://eatspeakthink.com/voice-banking-tutorial/
# Voice Bank Comparison Table

**February 2021**

<table>
<thead>
<tr>
<th></th>
<th>Model Talker</th>
<th>MOV Acapela</th>
<th>Speak Unique</th>
<th>VocalID</th>
<th>Voice Keeper</th>
<th>CereVoice M Cereproc</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process</strong></td>
<td>1575-3000 messages</td>
<td>50 messages. Can add 300 custom if desired</td>
<td>300 messages</td>
<td>1600+ messages</td>
<td>50-500 messages</td>
<td>1000+ messages</td>
</tr>
<tr>
<td><strong>Time commitment</strong></td>
<td>5-7 hours</td>
<td>10-60 minutes</td>
<td>60- minutes</td>
<td>5-7 hours</td>
<td>15-90+ minutes</td>
<td>Minimum hours</td>
</tr>
<tr>
<td><strong>Can add custom script</strong></td>
<td>yes</td>
<td>yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Bank from home</strong></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Premier before pay</strong></td>
<td>Yes. TTS</td>
<td>Yes. TTS</td>
<td>Yes (pre-scripted)</td>
<td>Yes. TTS</td>
<td>Yes. TTS</td>
<td>No</td>
</tr>
<tr>
<td><strong>Cost USD</strong></td>
<td>100</td>
<td>99 yr or 999.</td>
<td>295.</td>
<td>1500.</td>
<td>250.</td>
<td>640.</td>
</tr>
<tr>
<td><strong>Incorporate Into SGD</strong></td>
<td>yes</td>
<td>yes</td>
<td>Yes - limited iOS options</td>
<td>Limited options</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Can ‘double dip’ from Message banking</strong></td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td><strong>Languages</strong></td>
<td>English</td>
<td>16 languages</td>
<td>English</td>
<td>English</td>
<td>English and Hebrew</td>
<td>English</td>
</tr>
<tr>
<td><strong>Equipment needed</strong></td>
<td>Headset/computer</td>
<td>Headset/computer</td>
<td>Headset/computer</td>
<td>Headset/computer</td>
<td>Headset/computer Or iPhone</td>
<td>Headset/computer</td>
</tr>
<tr>
<td><strong>Will accept and process unedited legacy audio</strong></td>
<td>no</td>
<td>Yes, case by case, added fee may apply</td>
<td>yes</td>
<td>no</td>
<td>Yes* website states may be poorer quality</td>
<td>no</td>
</tr>
<tr>
<td><strong>Voice repair</strong></td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

◊**NOTE:** Time commitment based on strong voice and ease of speaking.
Voice Banking: Samples of voice created by same person using:
  Speak Unique (200 phrases)
  Voice Keeper (100, 200 & 500 phrases)
  Acapela MOV (50 phrases)

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ALS AUGMENTATIVE COMMUNICATION PROGRAM
at Boston Children's Hospital

Based on technology available as of February 10, 2021
Message Banking

- Saving a digital copy of your voice
- The process involves recording specific words, phrases, and sentences to be played back “as-is” during future conversations using a speech-generating device (SGD)
- Message banking captures your true voice
- Since these recordings are used as-is, they fully capture your voice with all of its expressiveness and personality. Your voice is such an intimate part of who you are, and message banking allows you to retain and express that self-identity
- Bank as few or as many messages as you’d like
- You can choose to record as few or as many words, phrases, and sentences as you’d like. Even if a person only banks a handful of commonly-said messages, they can be used often in everyday conversation
- There’s no charge at any point in the process
- Using the message banking program developed by John Costello’s team at Boston Children’s Hospital There’s no charge for using the message banking system, storing your messages, or downloading your messages

- Source: https://eatspeakthink.com/message-banking-tutorial/
Equipment needed for Message Banking

- Computer with internet access
- Hand-held voice recorder. You should use a good-quality voice recorder that outputs .wav files. The message banking team recommends using the [Zoom H1 recorder](https://www.mymessagebanking.com/)

- [https://www.mymessagebanking.com/](https://www.mymessagebanking.com/)
  - The system will guide you through the message banking process, help organize the messages, store the messages until they are needed, and provide ways to download the messages for use on any system that can play back those messages. Use of the system, storing messages and downloading stored messages is free for personal use

- Source: [https://eatspeakthink.com/message-banking-tutorial/](https://eatspeakthink.com/message-banking-tutorial/)
Message banking

good dog, you're such a good boy

can you give me a dog cookie

can you try to get the dog in here

could you block the porch off so the dog cannot escape

dog for a walk

good dog, you're such a good boy

have you seen that crazy dog

the dog is in his bed again

walker come here: walker

next: walker come up here

walker come here: walker
Double Dipping

- Developed by John Costello at Boston Children’s ALS Augmentative Communication Program, **Double Dipping** is a way to use your message banked messages to create a synthetic voice with Acapela
- You can use your energy to capture banked messages that you will really want to have available and then those messages can be used to create a synthetic voice
  - If one banks 800 or more good quality messages following the BCH Message Banking™ process, those may be used instead of needing to record scripted sentences into your computer. Both your banked messages and your Acapela synthetic voice may be used together in your SGD

- Source: teamgleason.org
Example of Double Dipping
I Will Always Be Me – UK only (hopefully coming to the US?)
Getting help

• Your local ALS Chapter

• Team Gleason
  – www.teamgleason.org

• Bridging Voice
  – www.bridgingvoice.org

• Tutorial: https://eatspeakthink.com/voice-banking-tutorial/
Contact information

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