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# advance

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## PRACTICE MAKES PERFECT

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## COMMUNICATION

**BREAKTHROUGH:** At the Stroke Comeback Center, Vienna, VA, patients Ken Williams (top photo, right) and Ann Brien (opposite page, top photo) practice keywords and scripts using the video assisted speech technology (VAST™) technique that was developed at the center. Using VAST™ apps, Ken, Ann and other patients with apraxia regain their ability to speak with the assistance of staff, including Suzanne Redmond, MA, CCC-SLP, member services director.



### Speech Support

Watch patients using VAST™ apps at the Stroke Comeback Center in a video at [www.advanceweb.com/Speech](http://www.advanceweb.com/Speech)

# Practice

Mobile app helps stroke survivors regain ability and confidence to speak **By Darlene Williamson, MA, CCC-SLP**

**W**hat began as a way to allow a person with apraxia of speech to practice at home has developed into a technique that is helping many people communicate independently.

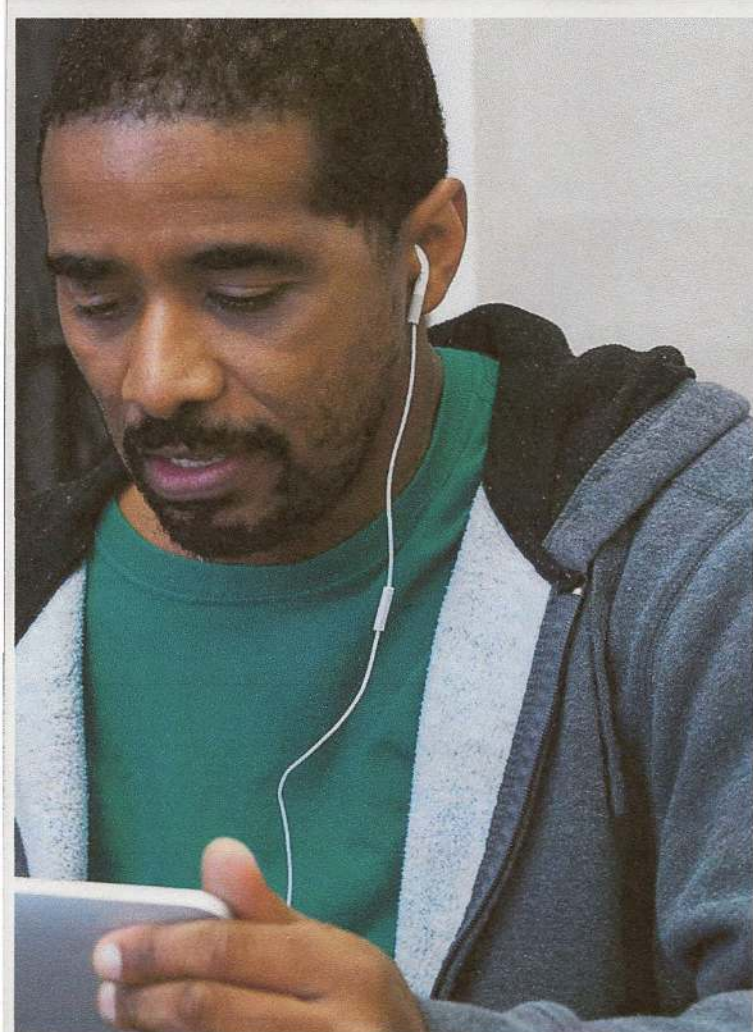
In 2007, I was working with a client who videotaped his sessions so he could continue to review and practice at home. His speech output was limited to stereotypical utterances, but by carefully following the videos not only was he able to practice, he was able

to speak entire paragraphs simultaneously with the video. After extensive practice, he was able to learn segments of the paragraph and use them spontaneously.

His success begged the question of what would happen with other individuals with apraxia of speech. I experimented with making close-up videos of my own lips carefully articulating short scripts and asking clients to try the technique. I soon found others could also follow the movements, allowing them to speak scripts fluently.

JEFFREY LEESER





# Makes Perfect

Typical scripts involved ordering at favorite restaurants, telephone messages, and a personal introductory script. A group of interested users was formed to meet weekly and practice the technique, which involves speaking simultaneously with the video while receiving both the visual cueing and auditory cueing via earbuds. Group members downloaded scripts onto iPods. This technique has been termed the VAST™ technique — video assisted speech technology.

## Studying Scripts

Members were receptive to the technique, successful using the scripts, and excited to be able to use connected speech, many for

the first time since their stroke.

Six members of the Stroke Comeback Center, Vienna, VA, agreed to participate in a structured clinical protocol designed to determine who might best benefit from using the technique, the amount of time required to successfully use the technique, and to see whether there was any generalization effect across scripts.

All of the participants presented with moderate-severe apraxia of speech as a result of a cerebral vascular accident.

Three scripts were recorded and rated in the domains of intelligibility, qualitative speech measurements of volume, vocal quality, pragmatics, and confidence mea-

surements. Two of the scripts were practiced during the trial period. One was set aside and not practiced, but used for post-practice measurement to assess generalization of the technique.

A personal script for each participant was written and recorded for use. Participants were asked questions related to personal information (where do you live, what kind of work did you do, etc.) and responses were transcribed. Scripts were then practiced for 6 weeks and the same measurements were repeated post-practice period. Participants kept daily logs of number of times the scripts were practiced and also a self-rating as to confidence with the script. ▶





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The following results were noted:

- Intelligibility of speech improved across all scripts with both familiar and unfamiliar listeners. The percent of improvement in intelligibility appeared to be affected by the length of utterance. Intelligibility was loosely correlated with a user's confidence level.
- Amount of practice was not the determining factor in mastering the production of a given script; it was speculated that the severity of apraxia of speech affected the ability to master the script.
- Amount of practice did not correlate with confidence.
- Ability to produce a script generalizes. Once a user reached a comfort level, the time required to use new scripts decreased drastically. After practicing, users were able to answer questions related to personal information without the video.
- Improved overall articulatory precision, indicating a therapeutic value in using this approach.

### There's an App for That

Experimentation with VAST™ was focused on using the videos in a functional, compensatory manner. However, observing additional users, I found individuals were deriving direct therapeutic benefit from the videos, and the clinical outcomes supported this.

Therefore, focus with using the technique at the Stroke Comeback Center has shifted to a more therapeutic use, and to expanding the population of users. Speech-language pathologists are using the technique successfully in adults with dysarthria (most notably in providing therapeutic support for intelligibility and prosody), in various aphasic presentations, in foreign dialect reduction, and, remarkably, in children with developmental motor speech production disorders.

The expanded use of the technique has been made possible through partnership with SpeakinMotion™. The California-based company produces all videos using trained professionals to ensure the videos conform to the highest standards of speech production.

In order to meet the needs of diverse populations, several applications for the iPhone/iPad have been created. The apps focus on developmental speech, building basic motor speech patterns, and therapeutic and functional uses. There are also two new song applications created in conjunction with a music therapist.

### Building upon Success

Professionals and users can learn more about the VAST™ program at [www.speakinmotion.com](http://www.speakinmotion.com) where text can also be submitted for personalized video recording. It is hoped the community of users will expand and contribute to the body of knowledge and successful uses of this innovative technique.

Meanwhile, success is measured on a daily basis at the Stroke Comeback Center where members use scripted speeches for advocacy, can be seen going out for lunch using their scripts to independently place their orders, can be heard leaving voice mails, or making their fellow members laugh by reciting a joke or a limerick. ■

*Darlene S. Williamson is the founder and executive director of the Stroke Comeback Center in Vienna, VA. For more information about the VAST™ technique, you may contact her at [dsw@strokecomebackcenter.org](mailto:dsw@strokecomebackcenter.org) or 703-255-5221.*