

Many studies have looked at aphasia therapy delivered via computers, and most have found it to be highly effective. They conclude there is Level 1/A evidence for using computer-based treatment in aphasia therapy.

Salter, K., Teasell, R., Bhogal, S., Zettler, L., & Foley, N. (2013). Aphasia. *The evidence-based review of stroke rehabilitation (EBRSR)-16th edition*. www.ebrsr.com, (59).

Taylor-Goh, S. (2005). Royal college of speech & language therapists clinical guidelines: 5.12 Aphasia. *RCSLT Clinical Guidelines*. Speechmark.

Management of Stroke Rehabilitation Working Group. (2010). VA/DOD Clinical practice guideline for the management of stroke rehabilitation. *Journal of rehabilitation research and development*, 47(9), 1.

Further evidence can be found on the ASHA Evidence Maps: <http://ncepmaps.org/aphasia/tx/comp-based/>

Using a Tablet:



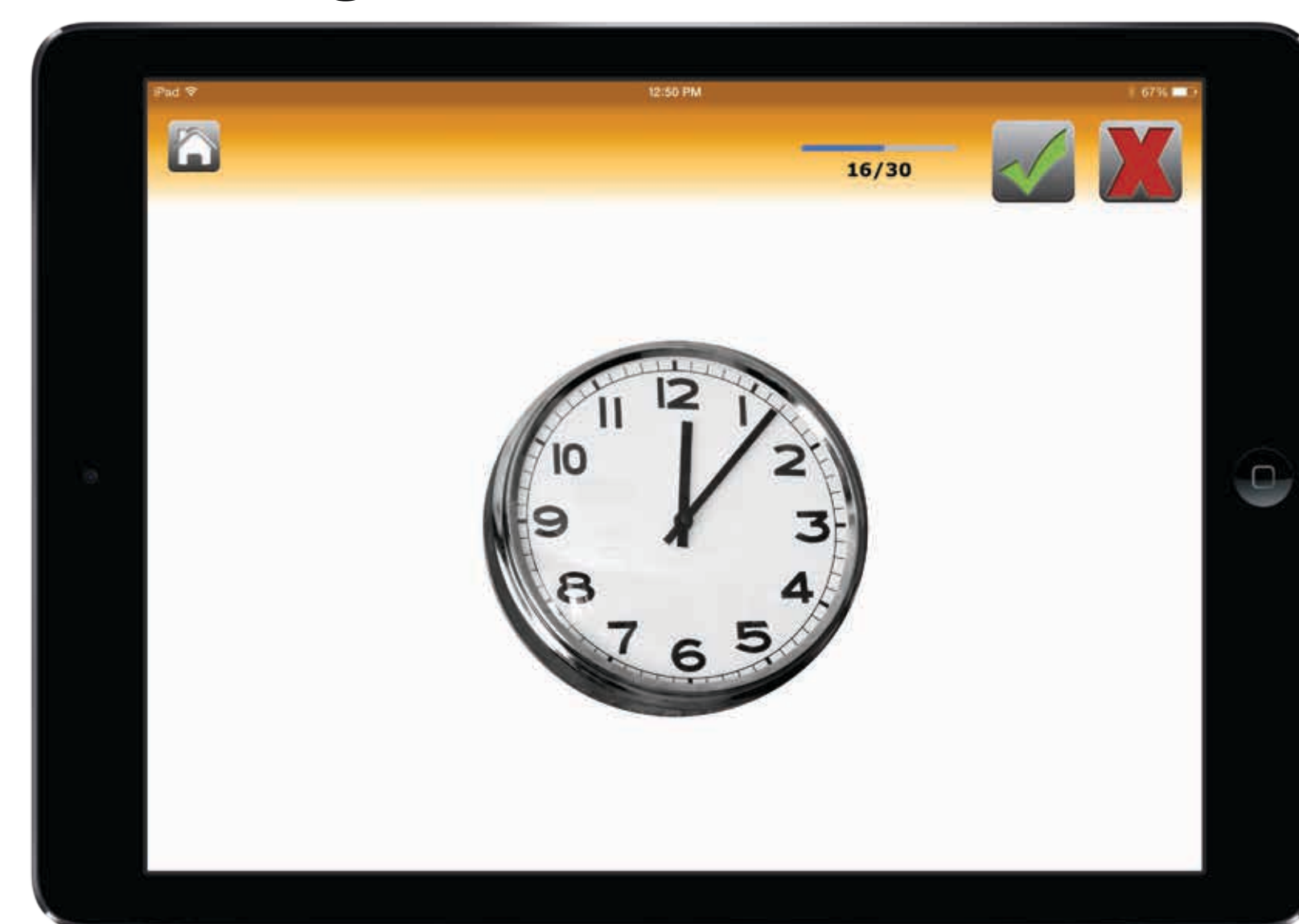
Accessibility:

Tablets and smartphones are relatively affordable technology (approx. \$200-800), designed to be easy to use with a single hand, making them accessible for stroke survivors with hemiplegia.

Naming TherAppy is available for download on Apple and Android devices, including iPhone, iPad, Kindle, and GalaxyTab.



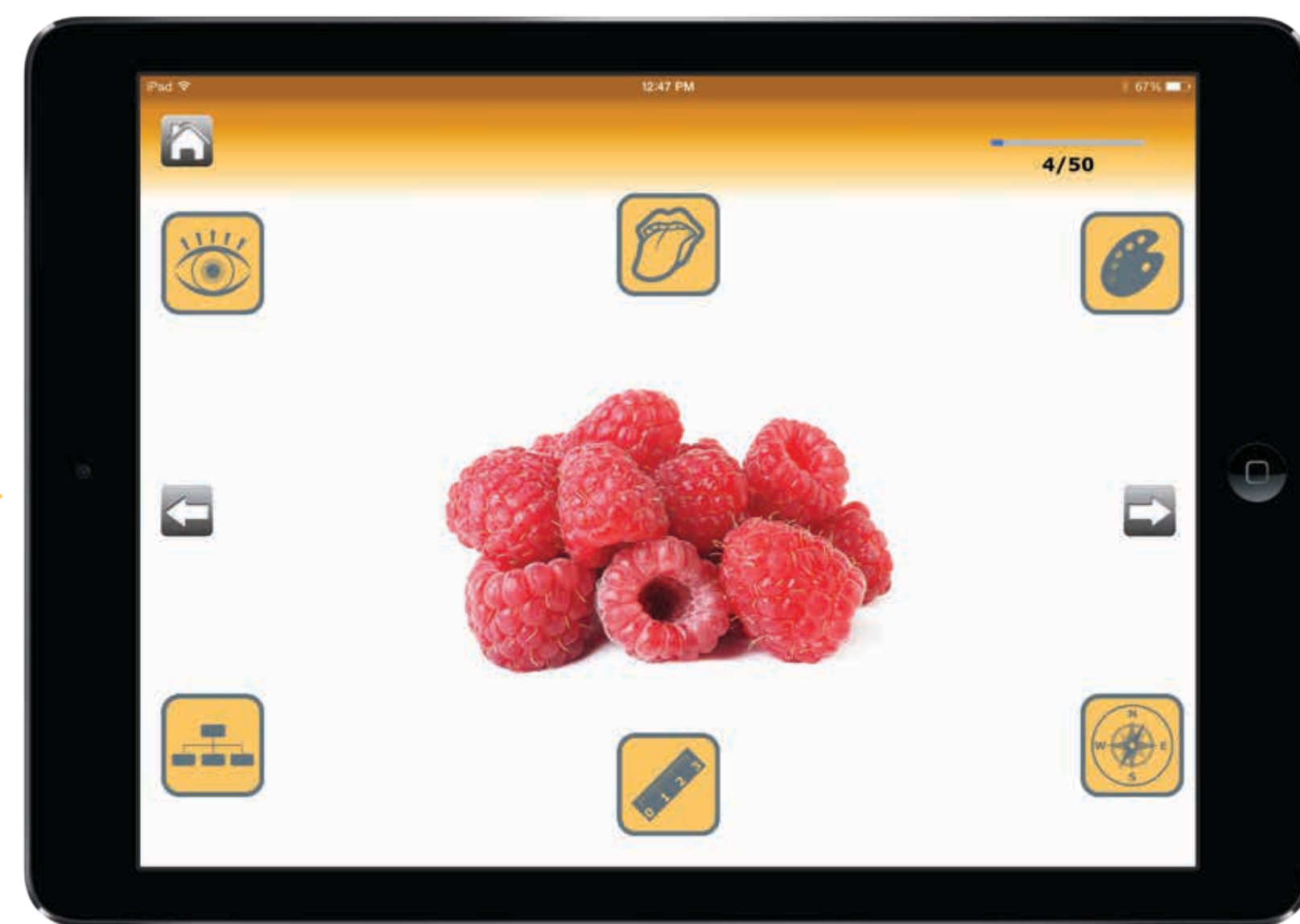
Screening:



The *Test* in Naming TherAppy is an informal screen to see if the client is able to name a sample of the items in the app. The items are arranged in order of word frequency and offer a representative sample of the categories in the app.

If a client is able to name all the items on the test, they are unlikely to benefit from *Naming Practice*, but may still benefit from using *Describe* or *Flashcards* with the included or custom items to learn new strategies and techniques.

Semantic Feature Analysis:



Decades of research examine the treatment of thinking about the semantic properties of a word when trying to retrieve it. This classic, effective therapy technique is the heart of the *Describe* mode of Naming TherAppy, asking users to generate features.

Boyle looks at variations on the technique and reports that those that use semantic feature generation, rather than simply recognition, show better results for people with mild and moderate aphasia.

Boyle, M. (2010). Semantic Feature Analysis treatment for aphasic word retrieval impairments: What's in a name? *Topics in Stroke Rehabilitation*, 17(6), 411-422.

Modifying semantic feature analysis slightly to be appropriate for action words has been shown to be effective for the naming of trained verbs. Naming TherAppy will soon include over 100 verbs with action-appropriate cues to allow PWA to use this technique to practice action words.

Wambaugh, J. L., Mauszycki, S., & Wright, S. (2014). Semantic feature analysis: Application to confrontation naming of actions in aphasia. *Aphasiology*, 28(1), 1-24.

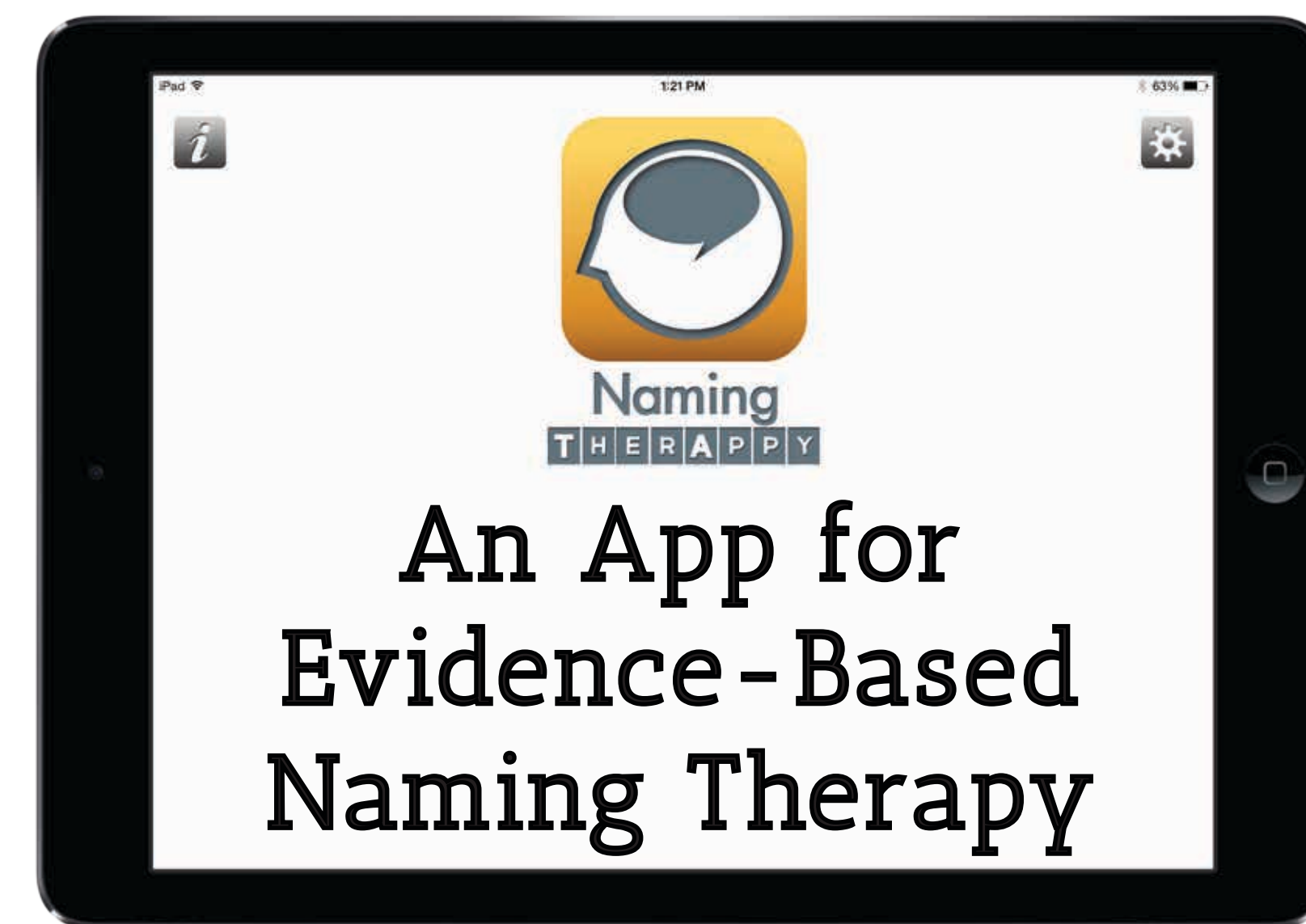
Encouraging the PWA to access a word's phonological information in the same systematic way as semantic feature analysis can effectively aid retrieval. This technique is newer to the field and, anecdotally, not used as frequently. Including this evidence-based therapy technique in the app makes it more accessible to working clinicians.

Leonard, C., Rochon, E., & Laird, L. (2008). Treating naming impairments in aphasia: Findings from a phonological components analysis treatment. *Aphasiology*, 22(9), 923-947.

A recent study showed that when PWA were given either SFA or PCA therapy, 7 out of 8 made significant gains with PCA therapy regardless of whether naming deficits were semantic or phonological. 4 out of 8 improved with SFA, though the ones who improved had phonological impairments. This study presented pictures and cues in a way closely resembling Naming TherAppy.

van Hees, S., Angwin, A., McMahon, K., & Copland, D. (2013). A comparison of semantic feature analysis and phonological components analysis for the treatment of naming impairments in aphasia. *Neuropsychological rehabilitation*, 23(1), 102-132.

Cued Naming:

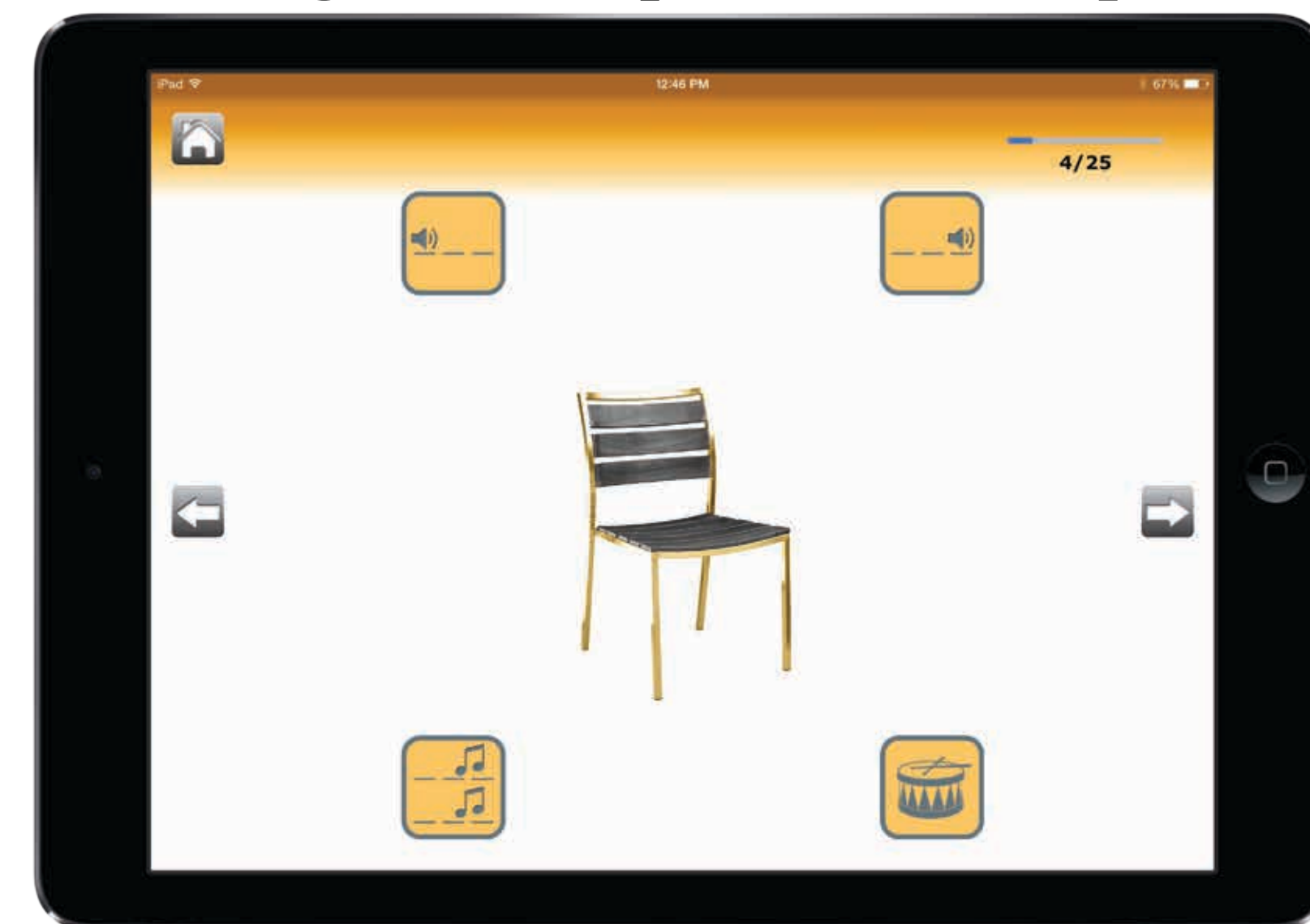


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Introduction:

Word-finding impairments are some of the most common and frustrating for people with aphasia (PWA). Clinicians need an easy way to deliver evidence-based therapy to their clients, and clients need a way to intensify their therapy between sessions. Naming TherAppy is an app designed by a Speech-Language Pathologist to fill both needs. The features of the app and supporting evidence are presented here.

Phonological Components Analysis:



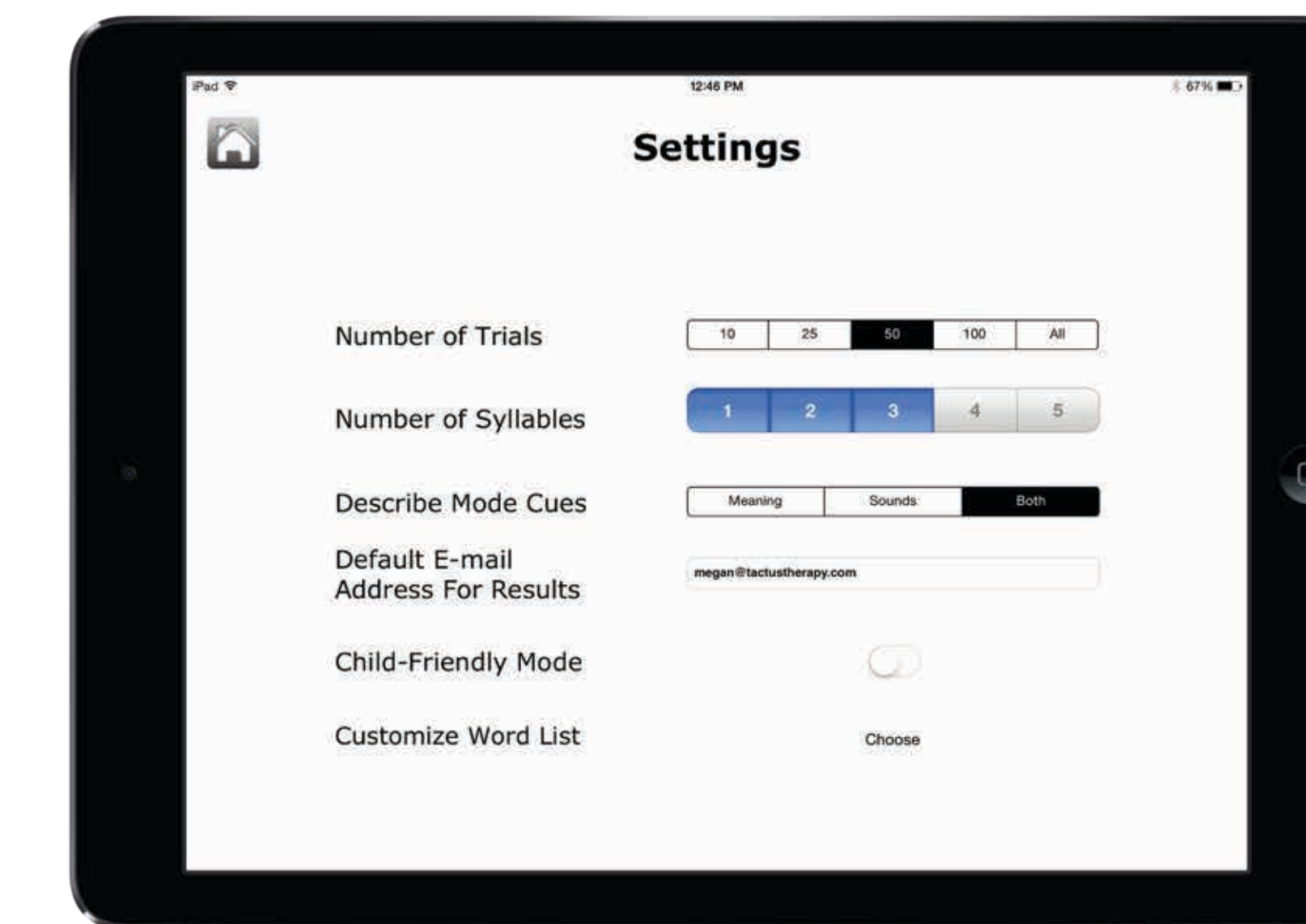
Naming Practice uses the evidence-based therapy technique called cued naming. While many different types of cues have been used in studies throughout the years, the evidence points to cueing hierarchies with multi-modality cues being effective to help in word retrieval.

Naming TherAppy provides 6 steps of cueing, arranged in a hierarchy from least to most helpful (from definition on the left to repetition on the right). The cues included are a mix of semantic (definition and phrase completion), orthographic (first letter and printed word), and phonemic (first sound and word repetition). As cues in Naming TherAppy are available to be used in any order, the client or clinician can choose the order that works best.

Linebaugh, C. W., Shister, R. J., & Lehner, L. (2005). CAC classics: Cueing hierarchies and word retrieval: A therapy program. *Aphasiology*, 19(1), 77-92

Abel, S., Schultz, A., Radermacher, I., Willmes, K., & Huber, W. (2005). Decreasing and increasing cues in naming therapy for aphasia. *Aphasiology*, 19(9), 831-848.

Settings:

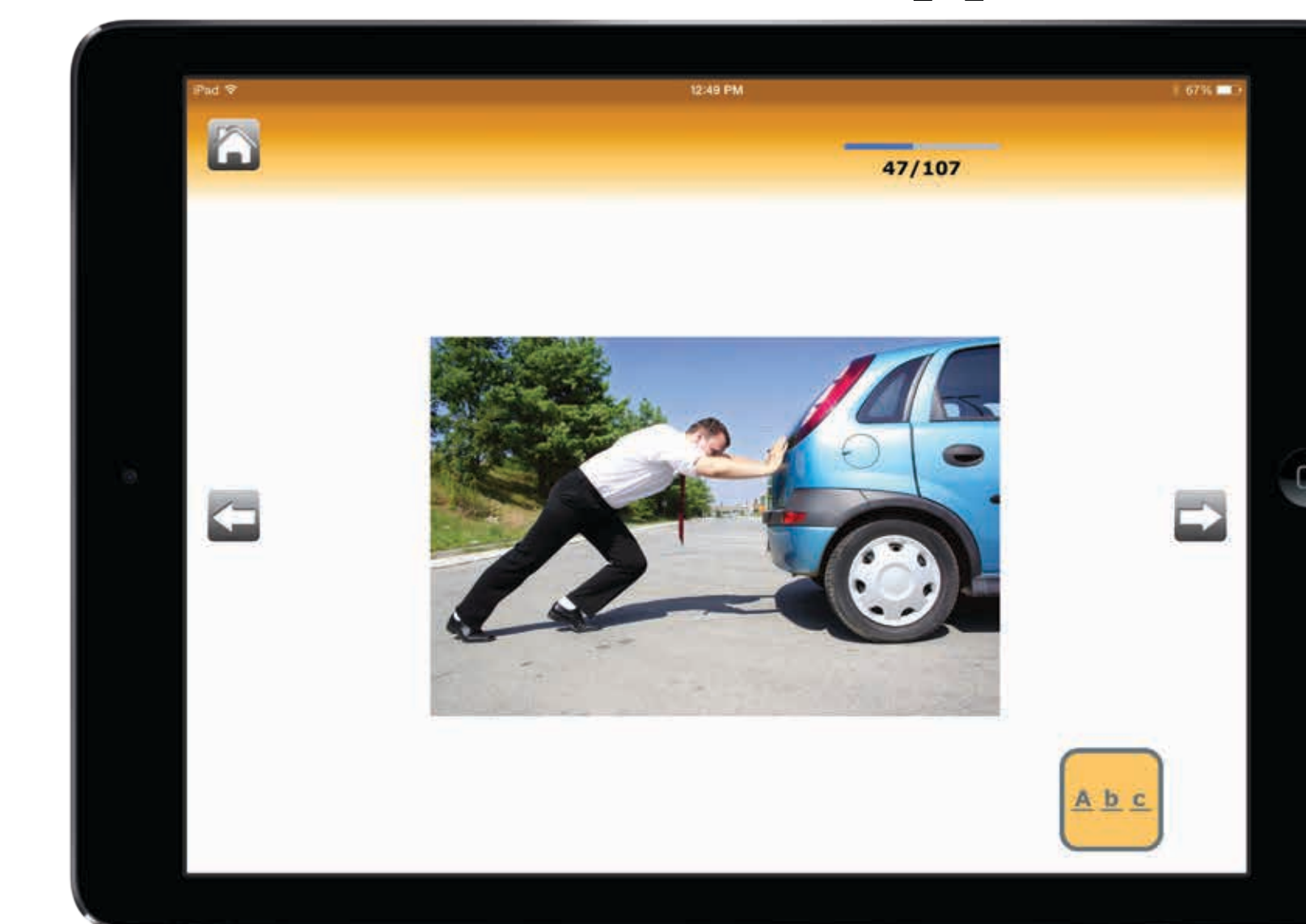


In the *Settings*, users can select the number of syllables to appear in the app. For users with severe apraxia, focusing on 1-syllable words may be best. For those with more mild apraxia of speech, focusing on 4-5 syllable words gives an opportunity to practice longer words.

PWA who train on larger sets of words retain more words. Naming TherAppy provides over 700 words to choose from with controls to turn any item or category on or off, along with unlimited custom items so you can control the therapy based on the user's memory, endurance, and vocabulary needs.

Rose, M. L. (2013) Larger sets of words are generally better in anomia treatment: Or is it longer treatment duration? *Evidence-Based Communication Assessment and Intervention*, 7:3, 117-119

Choose Your Own Therapy:



Many therapeutic activities can be done using the pictured nouns, verbs, and adjectives in the *Flashcards*, such as written naming, yes/no questions, gesturing, and rapid naming. Selecting only verbs lends itself well to the evidence-based response elaboration training protocol.

Wambaugh, J. L., & Martinez, A. L. (2000). Effects of modified response elaboration training with apraxic and aphasic speakers. *Aphasiology*, 14(5-6), 603-617.

Customization:



No matter which types of words you want to train, based on typicality, length, frequency, salience, or phonemic environment, you can add your own words to create lists for each client or approach. Add family members, environment-specific pictures, and functional words. Back up and share lists between devices for home practice or research.

Studies have shown that encouraging PWA to create their own cues to recall names is effective. Best used with those with more mild aphasia, this technique is possible with the built-in customization options in Naming TherAppy.

Freed, D. B., & Marshall, R. C. (1995). The effect of personalized cueing on long-term naming of realistic visual stimuli. *American Journal of Speech-Language Pathology*, 4(4), 105-108.

Conclusion:

Naming TherAppy can be used to effectively deliver the following evidence-based treatments:

- * Computer-assisted therapy
- * Cued naming with a hierarchy
- * Semantic feature analysis for nouns and verbs
- * Phonological components analysis
- * Response elaboration training
- * Customized cues and targets

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Disclosure:

This author has a financial relationship to Tactus Therapy Solutions, the developer of the app discussed in this poster. She is a founding owner and director of the company and is also the designer of this app.