



Talk the Talk

Benefits of Text to Speech on Braille Displays



William Freeman

Tactile Technology
Product Manager

APH

Learning Objectives

The participant will:

- Review three ways Text to Speech can improve braille literacy.
- Identify three ways Text to Speech can be personalized for your needs.
- Learn three ways Text to Speech can make it easier to create braille in the Editor.



Challenges

- Students aren't reading enough braille to expand their vocabulary and build other skills.
- Students may benefit from audio support outside of a traditional screen reader while learning braille.
- Braille displays need to be updated to take advantage of the latest features and updates.



Why is Text-to-Speech taking so long?

- It's a major change to how the apps function
- Being very careful with testing to ensure we put out the best update possible
- Including other changes like a Braille Editor and Audio Support for DAISY files.
- Hoping to have a beta we can release to our beta team this month!

Reading Every Day

- Throughout your education, reading 30+ minutes a day, you are projected to encounter 13.7 million words.
- For less than 15 minutes of reading per day, you are likely to only be exposed to 1.5 million words.
- Children in between 15 and 30 minutes, encounter 5.7 million words.

Exposure Leads to New Vocabulary

- Some research estimates that students only learn **one new word for every thousand encountered!**
- Less than 15 minutes of reading would mean 1,500 new vocabulary words
- More than 30 minutes would mean 13,700 new vocabulary words
- That's more than **nine times** the number of new words!

Better Vocabulary Equals Better Test Scores

- Students with higher average vocabulary scores perform in the top quarter of reading comprehension tests.
- Conversely, students with the lowest vocabulary scores perform in the bottom quarter in reading comprehension.

Students Aren't Reading Every Day

- Research in 2012 showed 9-year-olds were reading for pleasure fewer than 25 days per year.
- Nearly half of all 13-year-olds read less than once a week!
- Among 17-year-olds, more than a quarter report reading “never or hardly ever” each week.

Braille is Ideal

- Put as much braille in front of your braille reading students as possible.
- Studies indicate that the younger a person is when they learn braille, the more likely they will be a skilled braille reader.
- Braille is necessary for spelling, grammar, and understanding of formatting.

Do Whatever You Can to Get 30+ Minutes

- Audio and text-to-speech can help students get their 30-minutes a day.
- Can also help with in-classroom reading throughout the day.

Poll Question #1

How many new words can a student potentially learn if they read 30+ minutes a day outside of the classroom?

- 25,600
- 13,700
- 5,300
- 1,500

Who Benefits from Text-to-Speech?

- Students with learning disabilities such as ADHD
- Can be a useful learning tool for children with autism or emotional disabilities
- Can help students with speech and language disorders
- Students with limited time for reading outside the classroom.
- Students who struggle to read or pronounce new words.

Benefits of Speech Output

- Devices with interactive speech:
 - Facilitate versatility in teaching and learning
 - Promote autonomy
 - Flexible for individual learning styles
 - Enjoyable for young children

Application in the Classroom

- Provide independent practice while learning braille
- Assists with editing
- Note taking
- Reading assignments

What is the Chameleon 20?



- 20-cell braille display with Perkins-style keyboard
- Editor, Library, access to Bookshare and NFB Newsline
- Compatible with JAWS, NVDA, VoiceOver, and ChromeVox

Updating the Chameleon

- Chameleon will ask if you want to update automatically when connected to Wi-Fi. Follow on screen instructions.
- Can manually check for an update by going to Settings > Software Update
- Can update manually by downloading the update from the Chameleon shop page on aph.org.

Poll Question #2

How do you update your Chameleon? Check all that apply.

- The Chameleon updates automatically
- Automatically using "Check for Updates"
- By connecting my Chameleon via USB to my computer
- Manually by downloading from APH.org

Text to Speech Overview

- Text to Speech is coming in update 2.0
- Initial implementation is two voices for English: Sharon and Will and two voices for Spanish: Rosa and Will
- Speech engine is Acapela.

Text to Speech Hardware

- Can use the Chameleon's speakers
- Can use headphones
- Can use an external speaker with an audio jack
- Can use PC speakers via an audio jack
- Does **not** work with Bluetooth right now

Text to Speech Features

- Read all
- Read after pan
- Read text under cursor
- Typing echo: letter or word
- Delete echo

Poll Question #3

Can I pick new voices other than the two default voices on the Chameleon?

- Yes
- No
- Yes, at a later date

Demonstration

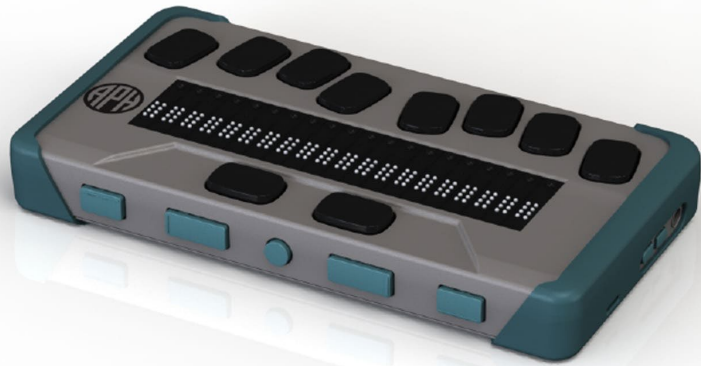
- Let's get out of PowerPoint and hear Text to Speech in action!

Discoveries

- It's important that students read for 30+ minutes a day outside the classroom.
- Text-to-speech can benefit students in numerous ways.
- If you operate your Chameleon on a school network, it's important to actively search for updates.



Product Slide



Quota Price: \$1392.00

Non-Quota Price: \$1715.00