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Text to Speech as a Support for Personalizing the Reading Experience

Text to speech can be helpful for a number of readers: those who struggle with decoding ⬈, those with visual impairments, and those who speak English as a second language. When word and sentence highlighting are available, it can also help with focus while reading. In the past, text to speech often required the installation of a separate program. Today, many devices include text to speech as a standard option.

Note: The mention of a particular product in this section does not represent endorsement by the AEM Center. Information about products is only provided as a starting point for your own research into reading tools and their features. To view the most up to date information on any individual tool, make sure to follow the link to the developer's website.

Cross-Platform Solutions

NaturalReader ⬈ is software that can read text aloud with sentence highlighting in Microsoft Word and PDF documents, as well as on web pages through an integrated web browser. A free version with basic text to speech is available to try out the software. Upgrading to the paid version unlocks the ability to save the spoken text to a file, adds high quality commercial voices, and provides Optical Character Recognition (OCR) for converting scanned documents into digital text. Versions of NaturalReader are available for Windows, the Mac, iOS and Android. Pricing varies according to the included features and the number of voices. A web version is also available by subscription.

Voice Dream Reader ⬈ ($14.99 for iOS, $9.99 for Android) is a text to speech app with support for sentence and word highlighting, commercial voices (as in-app purchases) and many display options, including custom colors, special dyslexia-friendly fonts, masking to improve focus while

reading and more. Learners can use the playback controls at the bottom of the screen or just double-tap anywhere in the text to start the speech. Documents can be imported in a variety of formats (including accessible PDFs, ePub books and text files) from a number of cloud storage services, including Dropbox and Google Drive. Voice Dream Reader can also open books from Bookshare ⤴.

Pocket ⤴ is a freemium service for saving web content in order to read it later. The iOS and Android apps include basic text to speech support as a built-in option. On the Mac, individual articles can be read aloud by selecting the desired text and choosing Pocket, Edit, Speech, Start Speaking. Pocket can display the original article or a cleaned up version that removes much of the clutter and makes it easier to follow along with the text to speech. The various versions of Pocket also include a number of display settings such as text resizing, color themes and the ability to choose a cleaner font.

iOS Devices

There are three built-in options for text to speech on iOS devices such as the iPad: Speak Selection, Speak Screen and Typing Feedback. These options can be used to read the content aloud in web pages and other documents as long as they contain text that can be recognized by the text to speech. The iOS text to speech features are found in Settings under General, Accessibility, Speech.

Speak Selection speaks the selected text in email, web pages and any document where the text can be selected. This feature requires a few steps:

1. turn it on: go to General, Accessibility, Speech in Settings and tap the On/Off switch for Speak Selection. Use the slider to adjust the speaking rate (a third of the way in seems to work well for most people who are just getting started with listening to a text to speech voice).

2. select text (this will depend on the app, but in Safari you can tap, hold and let go, then use the blue handles to make a selection).

3. choose Speak from the popover menu.

Speak Screen (iOS 8 and later) is similar to Speak Selection but does not require the user to make a selection first. Performing a special gesture (swiping down with two fingers from the top of the screen) will start speaking everything that is on the display (including buttons and other interface elements). Speak Screen should really be called "continuous reading" mode, because in addition to

hearing the content read aloud, it can also flip the pages in an e-book or scroll to the next screen on a long web page. You can also use Siri to activate Speak Screen. Just say "Speak Screen" and it should start reading the current screen aloud.

Typing Feedback (iOS 10 and later): this option will provide spoken feedback as you type individual words or characters. One of the settings also lets you hover over the word prediction suggestions to make sure you have selected the desired option.

Since iOS 6, both Speak Selection and Speak Screen can do word highlighting as the selected text is spoken aloud. This option is found in Settings under Accessibility, Speech, Highlight Content. You can choose to highlight by word, sentence or both. You can also choose between an underline or a background color for the highlighting.

Most iOS devices also support the same advanced Alex voice that has been available on the Mac, providing even higher quality text to speech support. Alex is unique in that it actually reads ahead in the background to pick up contextual clues that help it figure out how to pronounce words that typically trip up text to speech. Alex also can take a breath every once in awhile, just like we do in conversation (and it even has different breaths depending on the word to follow each pause). For those times when even Alex struggles with pronunciation (proper names, brand names, etc.), iOS provides a pronunciation editor.

Some learners may need even more customization than is possible with the built-in text to speech. At that point, it may be necessary to explore a third-party app. In addition to Voice Dream Reader, [Claro](#) ⬈ (pricing varies) is a suite of text to speech apps with both free and paid options. The ClaroPDF app is optimized for working with PDF documents, and also includes a range of annotation features.

Android

Android devices (starting with Android 5.1+) include a [Select to Speak feature](#) ⬈ similar to the Speak Selection option on iOS. On older devices you may need to install a third-party app to take advantage of text to speech support. Text to speech apps for Android include:

- [@Voice Aloud Reader](#) ⬈ (freemium): You can send any web page to this text to speech app by choosing the Share option in Chrome, or you can copy and paste text into a notepad to hear it read aloud. Upgrading to the paid version of the app will remove the ads.

- [Moon+ Reader](#) ⬈ (freemium)[:](#) ⬈ the paid version of this e-book reader app, which is ad-free, includes text to speech support. Moon+ Reader supports ePub 3.

Google Chrome

Google Chrome supports a number of text to speech extensions. Once installed from the [Chrome Web Store](#) ⬈, extensions show up as icons in the browser's toolbar and act on the currently displayed page. Some text to speech extensions for Chrome users include:

- [Announcify](#) ⬈: this free extension will clean up the page by removing the navigation and ads, and it will start to read the page automatically (no selection needed). It will also blur most of the page so that only the current block of text is in focus. Hovering over the left edge of the window will reveal playback controls for pausing the speech and navigating through the current page.

- [ClaroRead Chrome](#) ⬈: the free version of this extension provides several ways to hear the content on a web page or Google Doc read aloud: you can make a selection, point to the text with our mouse, or press a Play button. There are also options for feedback as you type (by character, word or sentence) or turning on a color overlay. Premium features in the paid version include additional high-quality voices, support for Office 365 and Optical Character Recognition for content that is not accessible.

- [Read and Write for Google](#) ⬈: this extension is available through a subscription that also covers the stand-alone software versions for Windows and Mac (currently $145/year for an individual). However, educators can request a [free teacher license for the Chrome extension](#) ⬈ on the Texthelp website for evaluation purposes. For students, a 30-day trial is available for the Chrome extension. After the 30-day trial is over, the text to speech with word highlighting remains free to use.

- [Snap and Read Universal](#) ⬈: this subscription-based extension (a free trial is available) has a unique feature called text leveling. With one click readers can simplify an expression into simpler language that may be easier to understand. Another click and the original text will reappear. Snap and Read adds a pane on the right side of the screen where learners can highlight text and organize it in an outline, and the extension will keep track of citations in APA, MLA and Chicago formats.

Windows

The Edge web browser for Windows now includes a text to speech feature. It can be accessed on any web page by right-clicking anywhere on the page and selecting Read Aloud. Controls for pausing the speech, navigating the content, and adjusting the speaking rate will appear at the top of the page. Closing the controls will stop the speech.

Microsoft has also developed [Learning Tools](#) ⬈ as a solution that is available for a number of its applications, including Word, OneNote and the Edge browser. In Microsoft Word, the Learning Tools include a Read Aloud feature (found under Review in the Ribbon) that provides text to

speech with word highlighting capabilities. In addition to text to speech, the Learning Tools include several display options including column width, text spacing, page color, splitting words into syllables and more.

[ReadAloud](#) ⤢ is a dedicated Windows 10 text to speech app with support for a number of popular formats, including PDF and Microsoft Word documents and web pages.

Mac

Like iOS devices, the Mac also has a built-in text to speech option. This feature is activated with a simple keyboard shortcut once it has been set up in System Preferences (under Accessibility, Speech). Pressing the default shortcut of Option and Escape on the keyboard will read the selected text with any of the system voices.

For learners who require more customizable text to speech support, [Wrise](#) ⤢ is a commercial word processing software that has a reading view where you can listen to text with word or sentence highlighting. A unique feature of Wrise is the ability to "tag" text so that it can be spoken by different voices and with different pitch, etc. This makes it possible to create a kind of re-enactment of the text using text to speech to simulate dialogue (it is also helpful for multilingual texts).

Smart Speakers

Amazon Echo smart speakers include the Alexa personal assistant that can read two types of books: Kindle books read with text to speech and Audible audiobooks that include human narratioin. A number of commands for navigating the book content are supported:

- Alexa, read (title of Kindle book)
- Alexa, play (title of book on Audible)
- Alexa, pause/resume/stop
- Alexa, go back/skip ahead
- Alexa, next/previous chapter
- Alexa, stop playing in 20 miutes (sets a reading timer)

Google Home smart speakers only support audiobooks purchased on the Google Play Books store. The commands are very similar to those used on Amazon's Echo devices:

- OK Google, read (title of book)
- OK Google, next/previous chapter
- OK Google, skip 20 minutes
- OK Google, play twice as fast

Both types of smart speakers can summon a number of literacy supports:

- Alexa, define (word)
- Alexa, spell (word)

- Alexa, translate (word) into (language)
- Alexa, set a reading timer for (time)
- OK Google, what does (term) mean?
- OK Google, how do you pronounce (word, spelled out)

Even if someone can't speak the commands needed to interact with a smart speaker, a number of augmentative and alternative (AAC) apps have high-quality voices that can be recognized by these smart speakers.

Alexa as a book reader

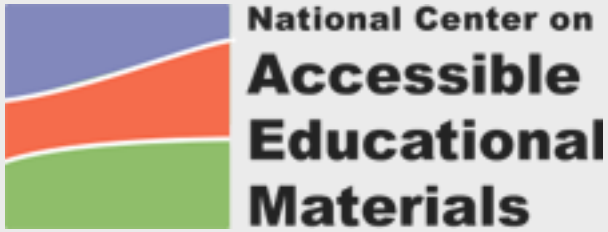# Stay Connected

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