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The Techno-Tips

The Text-to-Speech Function

George Robert MacLean

University of the Ryūkyūs

An exciting feature for almost every major computing device (if not all) is the text to speech (TTS) function/extension. I recently demonstrated it to my students and I could easily see that they were awed by this feature. Without overstating the case, TTS is an extremely useful tool for teachers of foreign languages (FL) and primary reading. This tech tip will explain how to activate TTS on the most commonly available devices (Apple, Microsoft, Google, Amazon), and briefly discuss some apps such as Read&Write that enable TTS and added features.

Since this is a tech tip, I won't go into lengthy details about research, but there is a brief explanation about shadowing and oral reading below. Shadowing and oral reading are frequently used tools in many FL classrooms, and most teachers would immediately and intuitively agree that such activities are very useful for language learning and beginning readers.

The most useful learning activities facilitated by TTS would be shadowing and oral reading. Oral reading is when students read out loud i.e. vocalize what they are reading. Shadowing is when students imitate a teacher or an audio recording of a conversation or a text by repeating what they hear. Numerous teachers of English as a foreign language (EFL) have published studies showing improvements in students' listening abilities attributable to shadowing and oral reading (e.g. Mochizuki & Kiritani, 1991). These activities have also been reported to improve students' prosody and pronunciation (e.g. Mori, 2011), and even reading skills (Kadota & Tamai, 2004; Kuramoto, Shiki, Nishida, & Ito, 2007).

Tim Murphey suggested in his 2001 study that shadowing may lengthen a student's short-term auditory memory. John Wiltshier's

2007 article about shadowing is a good brief explanation about shadowing and oral reading in their various forms. Wiltshier also summarizes research that indicates such activities require learners to attend to the information they are repeating or reading such that it enters their working memory and the chances of it being retained in long-term memory increase (See Figure 1). As such, TTS could promote transition from bottom-up to top-down reading skills and it may also be useful for effective retention of vocabulary for language learners.

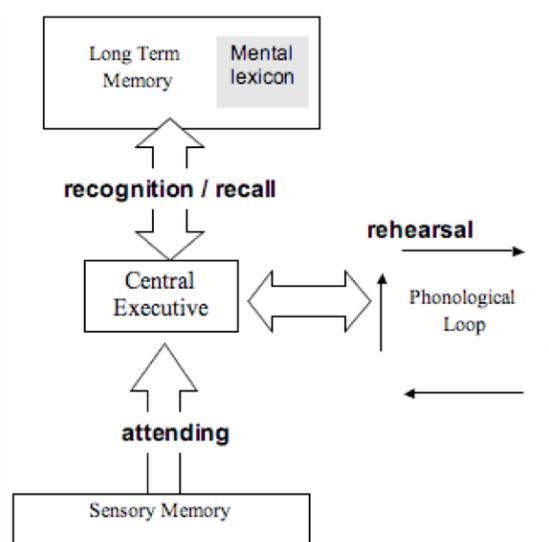


Figure 1. Memory. Reprinted with permission from Wiltshier (2007, p. 500).

Until fairly recently, beginning readers were stuck if they didn't know how to read a word, unless they had someone to help them. Furthermore, TTS and oral reading required someone to do a model reading of target text, such as a teacher or an assistant language teacher (ALT). The alternative was often a bulky device such as a cassette/CD radio player where there was one device for all learners, thus precluding learners being able to go at their own pace. This is no longer the case since the advent of computing devices and mobile phones.

Gone are the days when students had to attend language labs for individualized

MacLean, G. R. (2015). The text-to-speech function. *OTB Forum*, 7(1), 88-92.

opportunities for shadowing and oral reading. Most computing devices now have TTS and any student with a mobile phone, computer, or tablet can now access phonological input about any enabled written text.

Overview

As far as native TTS functions go, Apple is far ahead of both Google and Microsoft, although the most impressive app that I could find works with Google's Chromebooks (Read&Write). I may have overlooked something, but Microsoft seems to be far behind where TTS functionality is concerned. Without further delay, here is an explanation of how to activate and make use of TTS on the most common computing devices available today.

Apple

Apple computers have used synthesized speech since their inception. TTS is automatically enabled for HTML websites and in iBooks. It is also possible to control speaking rate and to choose between different voices by going to System Preferences > Dictation & Speech (See Figure 2).



Figure 2. Options for TTS with Apple Computers.

Apple's TTS is easy to use. Simply highlight a section of text, right click, and choose Speech > Start Speaking (See Figure 3).



Figure 3. TTS with Apple Computers.

TTS is not automatically enabled for iPads or iPhones, but this is very easy to do. Open settings > General > Accessibility > Speech > Speak Selection, and a number of options will appear that allow users to control features such as speaking rate, language, and voices (See Figure 4).



Figure 4. Enabling TTS for iPads and iPhones.

Be sure to activate Speak Screen on iPhones and iPads. It will then be possible to have any pages read to you by swiping down from the top of the screen with two fingers. After swiping down once with two fingers a dialog box will appear on any screen (See Figure 5). The dialog box allows readers to play, pause, and speed up or slow down TTS. Click "X" to exit TTS mode.



Figure 5. TTS Speak Screen for iPads and iPhones

Google and Android

Google's native TTS feature for its Chromebooks was somewhat disappointing compared with Apple. It is an accessibility

function that gives play by play of everything the user does, and it is thus rather annoying when users only want to have selected bits of text read. To do that one needs a special app, although there are several free ones readily available at Google's Web Store. YouTube also has limited TTS functionality.

Text-to-speech is easy to activate on Android devices such as mobile phones, go to Settings > Language & Input > Text-to-Speech Output in order to activate features such as speaking rate, language, and voices (see Figures 6 and 7).

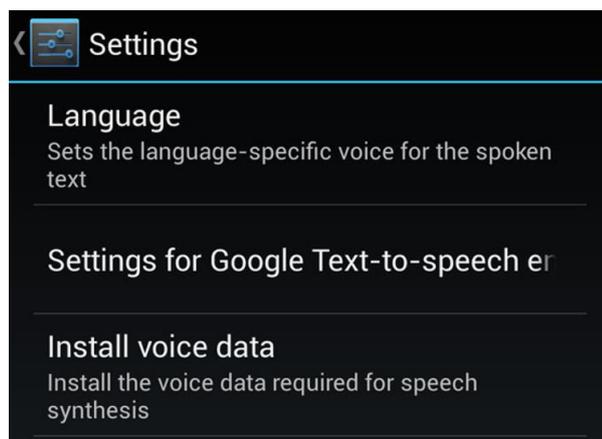


Figure 6. Enabling TTS for Android devices.

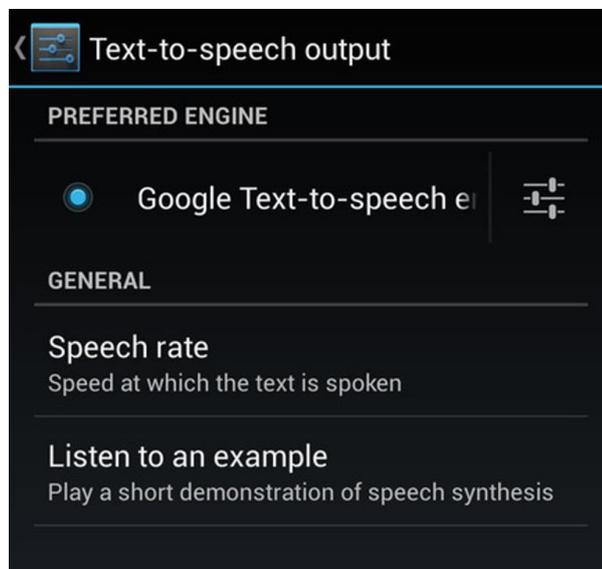


Figure 7. Enabling TTS for Android devices continued.

A final TTS feature from Google that bears mention is found within its browser on the Google Translate page. There is a small Speech icon on the left below both translate boxes that allows users to hear the text they have input in either the original text or

translated version (See Figure 8).



Figure 8. TTS at Google Translate.

Microsoft

Microsoft's native TTS extension is Narrator. It was a little difficult to find using Windows 7, but I was able to locate a link inside Microsoft's help page that allowed me to activate it. Once Narrator began working I almost immediately began trying to turn it off, as it spewed out a constant blurb according to where my cursor was hovering. Again, turning Narrator off was a little cumbersome. So much for Microsoft's native TTS extension. Microsoft also has an app (ingeniously) called Microsoft Reader Text-to-Speech for English, but it was only reviewed by four users at the site where I found it, and they gave it one star out of five so I didn't try it.

Skype

Microsoft is of course an agglomeration of corporate entities that is has gobbled up over the years. Amongst these, Skype has fairly decent TTS as shown in Figure 9.

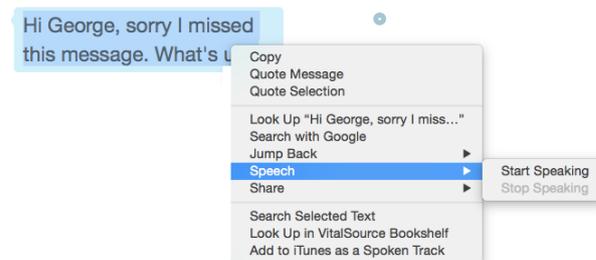


Figure 9. TTS with Skype.

Amazon

Kindle Readers also are enabled for TTS. Used on an iPad, the Speak Screen extension described above works very well. Additionally, it is possible to highlight individual words and see their definition and hear them read (See Figure 10).

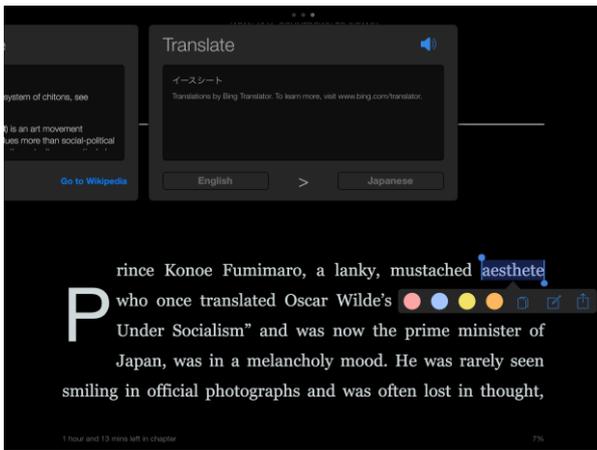


Figure 10. TTS with Kindle

Whispersynch for Voice is another amazing TTS feature by Amazon, but it is actually more of an audible book and rather expensive, so it is not covered by this review.

Applications

If I had one general criticism of all the TTS functions reviewed so far, it would be that TTS is not available at the same time as highlighting and dictionary extensions (e.g., Apple's Preview PDF reading software). This would be a powerful learning tool, and it seems one company has realized this and is prospering because of it.

The most enticing TTS application I have seen is Texthelp.com's Read&Write for Google. Using this application, users have access to:

- TTS with dual-color highlighting
- Talking and Picture Dictionaries
- Highlighters and the ability to collect highlights
- A Vocabulary Builder to easily create a list of words with text definitions and images
- Annotations (for PDFs and ePubs)
- Navigational tools (PDFs and ePubs)
- Word Prediction
- A Translator
- A Fact Finder

Moreover, Read&Write is free for teachers. For learners, it allows for a 30-day trial of the above paid features after which it reverts to a basic TTF reader where Text-to-Speech and Translator on the Web and in Google docs remain free. I'm very optimistic

about Read&Write. I contacted them with a few questions and they responded to my query almost immediately. For a video explanation of Read&Write, see Hard (2014).

Beyond Read&Write, there are a number of other free apps for TTS. For a summary of paid apps, see Posey (2014).

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