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SOFTWARE REVIEW

ToPhonetics

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INTRODUCTION

ToPhonetics is a program that takes any English script and automatically converts it into another script such as IPA. The program began as a free-access website available through lingorado.com, a Russian website dedicated to learning English, particularly pronunciation. A mobile application (app) based on the web program was developed in 2013, and is currently available on both iPhone ($3.99) and Android ($2.20). The iPhone app is reviewed in this article, with reference to the original website.

ToPhonetics is intended to perform as computer assisted pronunciation training (CAPT), to help English learners improve their pronunciation. There has been some suggestion that mobile CAPT apps may be particularly useful for pronunciation training, though little research exists in this area (Thomson, 2011). CAPT software can be useful for students in an EFL context, where learners may have minimal access to native speaker input (Eskenazi, 1999). Other potential benefits of CAPT for ESL learners are assisting with spelling and pronunciation (Finnegan, 2004) and improving listening comprehension (Thomson, 2011). One final helpful element is the use of IPA as a visual aide, as visualizations have been demonstrated to help students with pronunciation (Godwin-Jones, 2009; Thomson, 2011). The following review briefly introduces the *ToPhonetics* website (Jans, 2013) to show the ESL focus, then goes into greater detail about the app before giving an evaluation.

PRODUCT DESCRIPTION

The program on the website is a simplified version of the app in that it has far fewer features, but demonstrates the intended use for ESL students. Figure 1 shows options at the top for various languages, but contrary to what users may expect, these simply give the instructions in other languages; the program will not convert foreign words. The IPA text that is produced is the same as that produced on the app, and is comparable to what other online transcription programs produce. In this sense, the website produces nothing original. The unique elements are in the app.

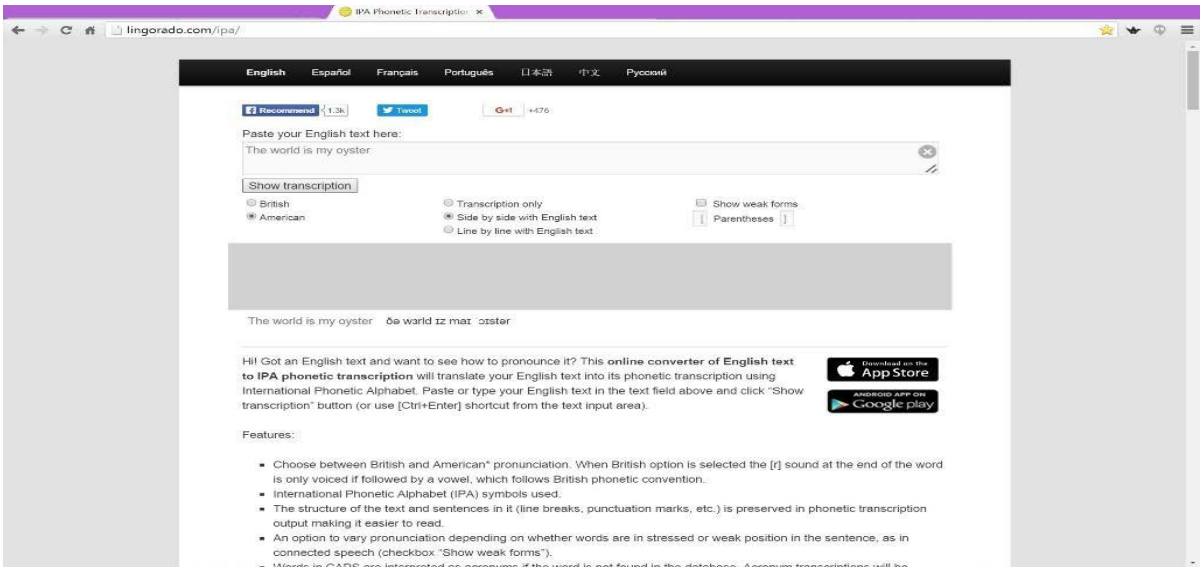

Figure 1. ToPhonetics website

MOBILE APPLICATION

As soon as users open the app, they see a space for text entry, as shown in Figure 2. The interface is straightforward and intuitive, since the keyboard is identical to that of other apps incorporating text. *ToPhonetics* takes advantage of autocorrect and accepts dictation by tapping the microphone. It is important to note that using dictation does not represent the speaker's phonetic production, but "normalizes" the text with standard orthography and translates that text. It is also unclear how this function would work with foreign accents.

Figure 2. ToPhonetics app homepage.

The “X” in the upper right corner clears the text that has been entered, while the gear symbol in the upper left corner opens the settings. The options for settings are shown in Figure 3; explaining these shows the app’s features.

The first option is “English dialect”, which gives a choice between American or British English, with British English being the default (the app was originally designed for a European audience). The second option, “Show weak forms”, is intended to represent some suprasegmental aspects, specifically the difference between “normal” and contextual pronunciation. So, for example, /to get/ is [tu gɛt] in regular mode, but becomes [tə gɛt] when weak form is selected.

Figure 3. ToPhonetics app options.

The next option is “Transcription character set”, the choices for which are IPA standard (the default setting), IPA basic, Russian, and Katakana (Japanese). Although the app offers other language options, the developers explicitly recommend against using these other languages, which fits research into problems with using first language orthography (Godwin-Jones, 2009). “Include original text” refers to the layout of the output. Original text can be presented above the IPA script, which can be effective for learners to improve pronunciation (Eskenazi, 1999). The “Parentheses” option gives users the ability to separate each word for easier reading.

The “Colours” option is also intended to make interpretation easier by color-coding the words in the IPA transcription. Figure 4 shows the different presentation options available. “Multiple pronunciations” means that words in blue have several options for pronunciation, while “Not found” refers to words that are not in the library. The others are fairly intuitive, except for “Cursor”, which is used for the speech option (explained below). These visualizations can be helpful for learners as they can draw a learner’s attention to aspects of pronunciation; such visual cues have been demonstrated to improve pronunciation (Thomson, 2011).

“Speech rate” refers to an option on the app to listen to the text, described below; it is enough to say now that the speech rate for that option can be adjusted here. The final section of the options is “Feedback”, which is how users can give feedback to the developers through several platforms. Feedback on learners’ pronunciation is not offered on this app.

Figure 4. ToPhonetics app colors.

Once options are set, the user can enter text on the home page. An example of output is shown in Figure 5. In addition to the initial output presented on the screen, the user can double click any word to get the dictionary definition from the Oxford American Dictionary; the definition page also has an option to do an automatic Google search. In the case of words that are in blue, such as “bought” in Figure 5 above, double clicking will give both pronunciations; for /bought/, these are [bɑt] and [bɔt]. The file symbol at the top right corner gives various standard options for sharing and saving the output.

Figure 5. ToPhonetics app output: minimal pairs.

Tapping the arrow in the bottom left corner plays the text as read by a computer voice recording. The green cursor mentioned above highlights the text as it is being read, as shown in Figure 6. *ToPhonetics* has made some attempts to add suprasegmental elements to the recordings, specifically intonation. For the texts in Figure 6, for example, the first question is read with a downward final inflection, while the second question is read with an upward inflection, appropriate for those questions. Though the readings definitely sound like a computer and therefore not very authentic, they do try to give the impression of appropriate intonation.

Figure 6. ToPhonetics app speech function.

EVALUATION

This app focuses almost entirely on segmental aspects of pronunciation, which can be effective for beginners who have little experience with differences in pronunciation between their L1 and English (Eskenazi, 1999). Interestingly, comments left by users on the website seem to indicate that advanced learners also frequently make use of the app (Jans, 2013). This suggests that *ToPhonetics* may be effective as a resource for English language learners generally. It could also encourage autonomous learning (Lu, 2010; Thomson, 2011). In particular, students have the ability to move at their own pace and focus on aspects of pronunciation that they find most difficult. The app also allows students to specialize materials to their specific needs such as discipline-specific vocabulary (Godwin-Jones, 2009). All of these are effective for drawing attention to pronunciation at the segmental level (Thomson, 2011; Munro, 2005).

However, there are some limitations, particularly at the level of prosody. Though research indicates that beginners gain knowledge from segmental focus, there is also evidence that beginners can benefit from focus on prosodic elements early on (Eskenazi, 1999; Godwin-Jones, 2009; Munro, 2005). Unfortunately, while the app does make attempts to represent prosodic elements such as stress and intonation, these elements are difficult to interpret in the app and are not represented visually; learners' attention is therefore not drawn to suprasegmental elements, making those aspects less effective.

Another element important to improving pronunciation is variation; English language learners exposed to speech from a variety of native speakers and dialects usually improve

more quickly than those with input from only one speaker or dialect. Access to multiple voices should be a benefit of CAPT (Thomson, 2011). An app like *ToPhonetics* does offer one voice and could be helpful in remote places where learners have few opportunities to interact with native English speakers. Unfortunately, the computer voice is not very natural, so as input it is less than ideal. One final element that would be helpful is feedback for students. This could come in many forms such as recording students' voices or providing visualizations of their speech for comparison purposes (Thomson, 2011; Lu, 2010; Godwin-Jones, 2009). Without such feedback, it is difficult for students to objectively identify their own pronunciation problems, perhaps rendering the app a better resource material than training tool.

Overall, one of the fundamental issues for this app, as with almost any CALL technology, is that training is key (Chapelle, 2003; Eskenazi, 1999). Incorporating an app like this into a course or self-study requires careful research and consideration into how it can best be utilized. It should also be emphasized that the pronunciation information offered in the app is prescriptive, not descriptive, an aspect that needs to be explained to users. For this reason, the app may also prove useful for linguistics students learning about prescriptive versus descriptive pronunciation.

SUMMARY

ToPhonetics is a useful tool and easy-to-use resource for helping students with segmental aspects of pronunciation. In particular, it can give basic information on pronunciation that will be useful for beginning learners, and could be a reliable resource for more advanced learners as well as linguistics students. However, the app should be used carefully; students in particular need to understand the limitations of the platform and should be sufficiently trained before using it.

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