

## **TECHNOLOGY REVIEW**

### ***English Pronunciation***

Erik Goodale, Iowa State University  
Junghun Yang, Iowa State University

#### **INTRODUCTION**

The widespread use of mobile technology has been changing lives since Apple's smartphone was introduced about ten years ago. Mobile devices provide unlimited access to online data from almost any location at any time. Thus, mobile devices have saturated many people's lives and have become a primary platform for information, entertainment, and social interaction. Following this change, the application of mobile technology to language education has been discussed by many researchers. A number of studies have reported that mobile application use is an effective way to learn a second language in that the multimodal features not only enable teachers to apply special instruction for resolving learners' individual differences in a classroom setting (Chen, Huang, & Wu, 2017), but the technology also creates an "immersive environment for the individual language learners" (Rosell, 2018, p. 871). Furthermore, the core users of mobile applications have high expectations for their mobile application as their only language learning source (Rosell, 2018). We would also suggest that it is important to scrutinize such applications from a linguistic perspective. In this review, we examine a mobile application called English Pronunciation which provides instructions for learning pronunciation in 30 languages and utilizes multimodal features and voice recording functions in order to provide language learners with an accessible environment that facilitates the development of their English pronunciation. We will provide a general overview of the featured segmentals, examine the application's multimodal characteristics, and evaluate the strengths and weaknesses of the application.

#### **OVERVIEW OF MOBILE APPLICATION**

English Pronunciation was developed by Awabe, a company located in Vietnam, which develops mobile applications for second language learners. Awabe claims that by using English Pronunciation, "You will learn some important topics about speaking English properly". These important topics consist of six categories of learning segments, namely short vowels, long vowels, double vowels (diphthongs), voiced consonants (such as /b/, /d/, and /g/), voiceless consonants (such as /p/, /t/, and /k/), and other consonants (such as /m/ and /n/). Figure 1 below shows the application's interface and demonstrates how the program addresses segmentals.

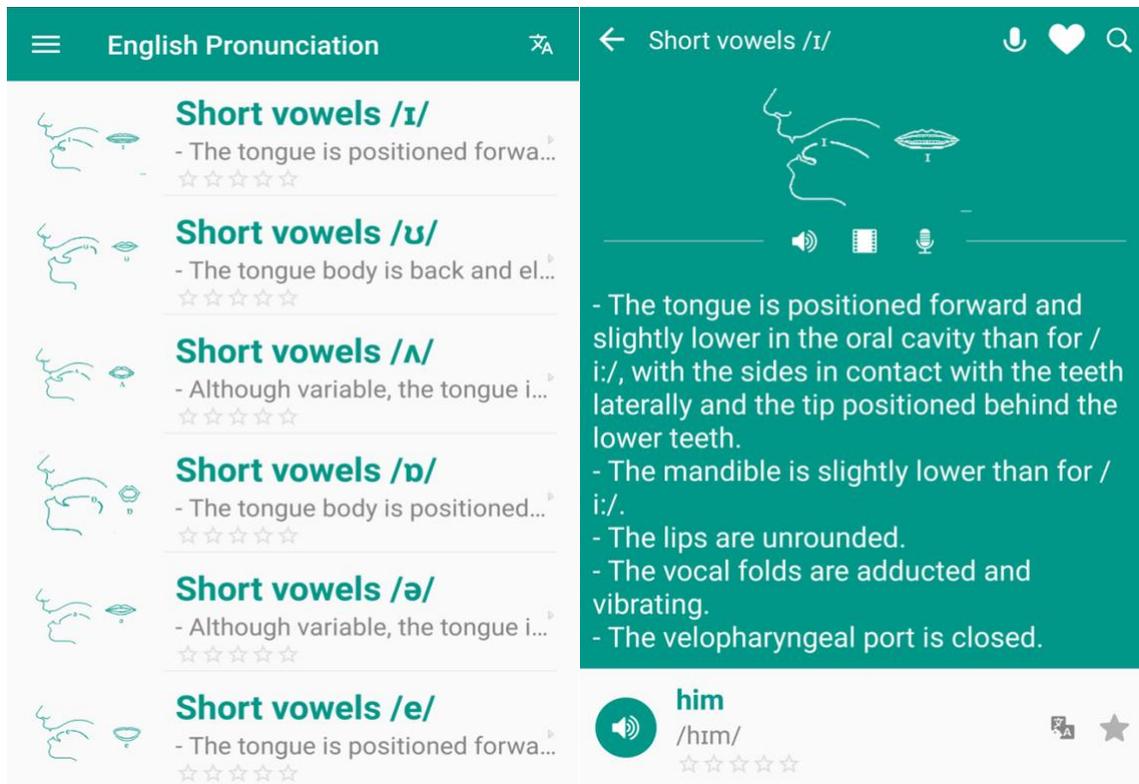


Figure 1. The interface of English Pronunciation.

Once users download the application, they will get notification from this application about training pronunciation such as “Today’s pronunciation” every morning. Users can modify the schedule of the notification in the application’s settings.

### Multimodal Interaction

Each section provides multimodal resources for learning and practicing English pronunciation. Each vowel and consonant contain a picture showing lip rounding and a diagram of the human mouth to depict the position of the tongue inside of the mouth. Below the picture, links for audio and video content for the target pronunciation are provided with a description. This aligns with the category of description and analysis within the communicative framework for teaching pronunciation (Celce-Murcia, Brinton, Goodwin, & Griner, 2010).

### Communicative Framework

After the learning process, the application provides a practice section that records the learners' pronunciation and plays back the recorded samples. Then it allows users to self-evaluate their pronunciation by selecting a rating out of a maximum of five stars. A screenshot of an example of this evaluation is presented in *Figure 2*. Standard American and British Received accents are given as target examples, and learners can record their pronunciation by clicking the recording button. These listen and repeat exercises can be used for both listening discrimination and controlled

practice of the target segmental advocated in Celce-Murcia's Communicative Framework for Teaching Pronunciation (Celce-Murcia, Brinton, Goodwin, & Griner, 2010).

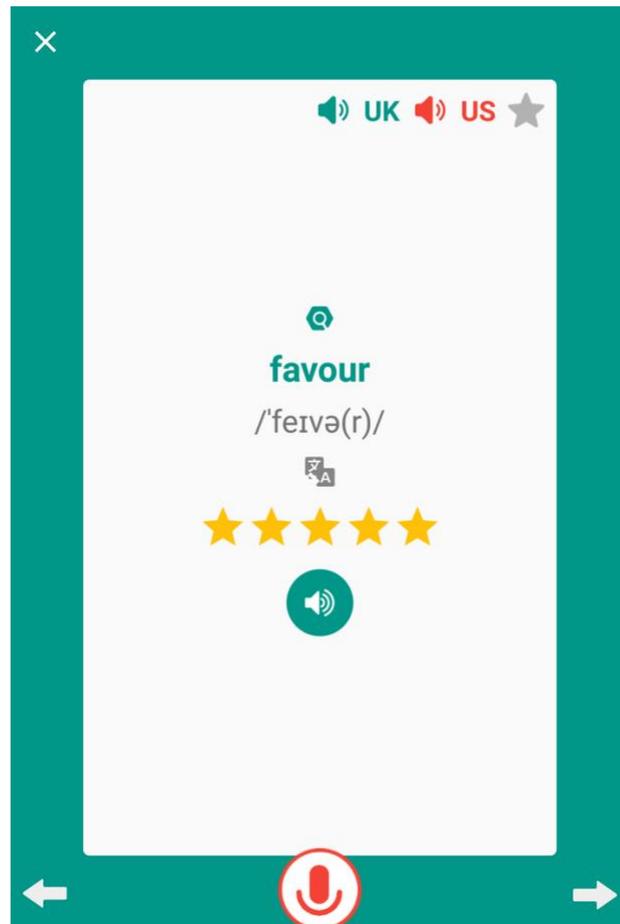


Figure 2. Self-evaluation of user pronunciation.

## EVALUATION

The application has several merits for learners. This application is free so that learners can perform the pronunciation practice without cost. Instead, the application contains several five-second advertisements which appear when transitioning to different learning sections. Samples of the target phonemes commonly-used in English vocabulary are listed with audio content and phonemic description, and users can check them to make lists for later revision. In addition, this application's notification function can serve as a motivator that reminds users to practice their pronunciation. However, no guidance is given to users regarding prioritizing some sounds over others, and it is unclear what consideration was given to the concept of functional load. According to Derwing and Munro (2015), some sounds in English, such as /θ/, do not have as great of an effect on how comprehensible the speaker is, and thus errors involving these sounds have a lower level of gravity. Therefore, focusing on such sounds over those with a high functional load would be a less efficient use of time. The audio for each word is from a different speaker, which can be beneficial for learners to perceive different voices and is consistent with research on High Variability Phonetic

Training (HVPT) which posits that exposure to a variety of speakers promotes language acquisition (Bradlow, 2008). Furthermore, while the listen and repeat exercises are an important part of the communicative framework mentioned above, one downside is that the program uses them almost exclusively without incorporating other types of controlled practice activities such as minimal pairs, nor does it include guided practice and/or communicative practice activities also advocated by the framework. This might limit users' learning of pronunciation in a diverse context in real life (Celce-Murcia, Brinton, Goodwin, & Griner, 2010).

The descriptions of how English sounds are produced should be revised as they use terms which are difficult for language learners unfamiliar with technical terms related to the vocal tract to understand. This application also uses the terms "long" and "short" to define English vowels which can cause confusion. For example, some second language learners may understand the distinction between long and short vowel as lengthening of vowels, but other learners may understand the distinction as that a vowel letter is called "long" if it is pronounced the same as the letter's name (/aɪ/ in *twine*) and "short" if it is pronounced differently from the letter's name (/ɪ/ in *twin*), which is not part of linguistic terminology but commonly used in English classrooms especially when teaching native English-speaking children how to read vowels. The short vowels in this application consist of seven vowels, namely, /ɪ/ (as in *kit*), /ʊ/ (as in *foot*), /ʌ/ (as in *strut*), /ɒ/ (as in *lot*), /ə/ (as in the first syllable of *ago* and in the second of *sofa*), /e/ (as in *men*), and /æ/ (as in *trap*). Long vowels consist of /i:/ (as in *fleece*), /u:/ (as in *goose*), /ɔ:/ (as in *thought*), /ɑ:/ (as in *father*), and /ɜ:/ (as in *nurse*). We found that this distinction between long and short vowels referred to as "received pronunciation" is defined in the Concise Oxford English Dictionary. However, this definition of long and short vowels is still problematic since the distinction seems to be based on whether the vowels are phonologically long or short, which is ambiguous in linguistics and does not address the vowel lengthening in different contexts such as the "short" vowel /ɪ/ in the word '*ridge*' /rɪdʒ/ having a longer duration than "long" vowel /i:/ in '*reach*' /ri:tʃ/.

As a part of our evaluation, we also considered users' reviews. The English Pronunciation application seems to have already been used successfully according to the scores of around 6,900 users, which gave a score of 4.5 out of 5 in the spring of 2019. This is the average review score created by users and presented in Google Play Store that provides mobile applications, and digital content for Android mobile devices. However, we found that some of the users complained about the transcription using British pronunciation while the sample words were read by an American. Although this application provides multimodal features for pronunciation instruction, the discrepancy between phonemic description from British English and listening samples from American English can cause problems that confuse language learners getting incorrect information on the phonemic system of their target language.

## CONCLUSION

*English Pronunciation* has interesting features as a pronunciation learning tool, such as a multimodal description of points of articulation and listen and repeat exercises that follow a part of the communicative framework in language learning. It is also free for users and has notification function encouraging users' practice. However, it has confusing terminology, relies on users evaluating themselves rather than providing them with external feedback, and does not include more communicative tasks.

One technological limitation of the mobile application is that it does not fully use programs such as voice recognition for analyzing learners' pronunciation instead of having users evaluate themselves. By using voice recognition, the application provides a helpful evaluation of learners' pronunciation to identify learners' weaknesses in their second language pronunciation that they might otherwise miss. Some mobile applications provide an evaluation of learners' pronunciation in a paid version although the accuracy and reliability of the evaluation are low according to reviewers. It is a very difficult process to program mobile applications to accurately recognize and analyze speech across different speakers and provide feedback as if it were a native speaker of the target language. The program also does not include features beyond vowels and consonants with aspects such as intonation, stress, and pitch being ignored. It would be beneficial for learners to have exercises utilizing these features as well and could be an area of future development. As this mobile application continues to develop and adopt voice recognition features, English Pronunciation could be established as a beneficial tool for second language learners.

## REFERENCES

- Bradlow, A. R. (2008). Training non-native language sound patterns: Lessons from training Japanese adults on the English /r/-/l/ contrast. In J. G. Hansen Edwards, & M. L. Zampini (Eds.), *Phonology and second language acquisition* (pp. 287-308). John Benjamins Publishing Company
- Celce-Murcia, M., Brinton, D. M., Goodwin, J. M., & Griner, B. (2010). *Teaching pronunciation: A course book and reference guide* (2nd ed.). New York: Cambridge University Press.
- Chen Hsieh, J. S., Huang, Y.-M., & Wu, W.-C. V. (2017). Technological acceptance of LINE in flipped EFL oral training. *Computers in Human Behavior*, 70, 178–190.  
<https://doi.org/10.1016/j.chb.2016.12.066>
- Derwing, T. M., & Munro, M. J. (2015). *Pronunciation fundamentals. Evidence-based perspectives for L2 teaching and research*. Philadelphia: John Benjamins Publishing.
- English Pronunciation, Awabe (n.d.). Retrieved from  
<https://play.google.com/store/apps/details?id=com.awabe.englishpronunciation>
- Rosell-Aguilar, F. (2018). Autonomous language learning through a mobile application: A user evaluation of the busuu app. *Computer Assisted Language Learning*, 31(8), 854–881.  
<https://doi.org/10.1080/09588221.2018.1456465>