

FunEasyLearn: An App for Learning Pronunciation?

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Abstract. The importance of both pronunciation learning/teaching and mobile-assisted language learning has been intensively pointed out in the language learning research. This study brings these two lines of interest together, by aiming at identifying the possibilities of using the *FunEasyLearn* language learning mobile app to promote the pronunciation learning by beginners of European Portuguese in an autonomous way or as a complement to language classes. After explaining the app's selection and reviewing some important ideas for pronunciation training, the *FunEasyLearn* app is described and evaluated according to the Framework for Language Learning App Evaluation by Rosell-Aguilar, and its potential for pronunciation learning is analyzed. The results show that this app: features many strengths, especially in terms of user experience and technology; has several shortcomings in terms of language learning and pedagogy; and presents various properties which make it greatly helpful to support pronunciation learning in the relevant context (e.g. audio recordings, phonetic transcriptions, an embedded system of Automatic Speech Recognition). Some proposals are made to overcome the identified challenges and to turn it even more useful for pronunciation learning.

Keywords: Pronunciation Learning, Mobile-Assisted Language Learning, Computer-Assisted Pronunciation Training, *FunEasyLearn* App, Portuguese as a Foreign Language.

1 Introduction

Over the last few decades pronunciation teaching and learning has received more attention (e.g. [1]) and even users frequently want to receive more instruction on this ability than they actually receive (e.g. [2]). One solution to this gap between the users' needs and the class time the teachers assign to pronunciation is the recourse to Computer-Assisted Pronunciation Training, that can be applied by means of several different devices and methodologies (e.g. [2]). One of these possibilities lies in the language learning through mobile devices (Mobile-Assisted Language Learning), on the move and with several other advantages, nowadays assuming various forms, such as the use of mobile apps especially designed for language learning (e.g. [3,4,5,6]).

Considering the facts previously mentioned, this study aims at identifying the possibilities of using the *FunEasyLearn* language learning mobile app (version 6.4.2) [7]

to promote the pronunciation learning by beginners of European Portuguese (EP) in an autonomous way or as a complement to language classes.

The choice of this particular mobile app is due to several reasons:

- it is presented as a (general) language app (i.e. not exclusively concerned with grammar, vocabulary, dictionary, translation, etc.);
- it is available both for EP and Brazilian Portuguese (BP), while most apps only offer one variety of Portuguese (as it is the case of the popular app *Duolingo*, presented in [8] and including only the BP variety);
- it has beginner level (Level 1) of EP for English-speaking users;
- it has been downloaded by more than 100.000 users and has an average of than four (out of five) stars in users' reviews [9];
- there is an available free version for the Android operating system.

Although there are many mobile apps for learning Portuguese, many of them only include the variety of BP, do not have a free version with daily unlimited time of use or do not meet any of the other requirements.

This paper will include the presentation of some important ideas for pronunciation training (section 2), the general description and evaluation of the *FunEasyLearn* app (section 3.1), its potential for pronunciation learning (section 3.2) and the final remarks (section 4).

2 Pronunciation Training: Some Important Ideas

Instructed-language learning in general, according to the main findings of Second Language Acquisition research, should follow certain principles systematized by [10]. Considering these principles and also the proposals by [11] and [12], it is possible to highlight the importance of some ideas in pronunciation training:

- requirement of extensive input (big amount of comprehensible input and contact time with the target language);
- opportunities for controlled and spontaneous or free output (the controlled output is more associated with intensive practice and helps to automatize some aspects of pronunciation; the spontaneous or free output is linked to communicative tasks, focus on meaning, and shows the real competence of the speaker);
- the importance of feedback (that allows the learner to identify what should be corrected in his/her pronunciation through some focus on form).

Besides, the research in pronunciation teaching and learning has pointed out the relevance of some other ideas. For instance, pronunciation training should take into consideration four levels [1]:

- perceptual (training that leads the learners to attend to sound contrasts absent in their native language);
- motor/physical (some knowledge and considerable articulatory practice in order to acquire new articulatory movements);

- cognitive (promotion of the formation of new mental sound categories that are used for the perception and the pronunciation, gained mainly through the perceptual training, considerable exposure to the target language and intensive output practice);
- psycho-social (fostering of beneficial conscious and unconscious attitudes in the learners concerning their pronunciation training – e.g. promote motivation for improving pronunciation, autonomy and initiative in the training).

Pronunciation teaching should also integrate implicit (i.e. focused on listening and imitation in an intuitive manner) and explicit approaches (i.e. based on descriptions and explanations about the pronunciation, that raise language awareness, consciousness of the language properties and differences compared to the mother tongue) [13]. Other specific strategies are also recommended – such as a multimodal approach (where one combines visual, auditory, kinesthetic and tactile cues to present and practice a sound) [14] or the usage of orthography as a cue to certain sound contrasts [15].

Taking all these suggestions into account, [16] proposed a framework for pronunciation teaching, which is adapted in Figure 1. Although it was created for pronunciation instruction, this framework can also be used for pronunciation (self-)teaching or (self-)training. Consequently, it is adopted in this paper as a synthesis of what should be looked for in a mobile app to be used as a tool for pronunciation (self-)learning.

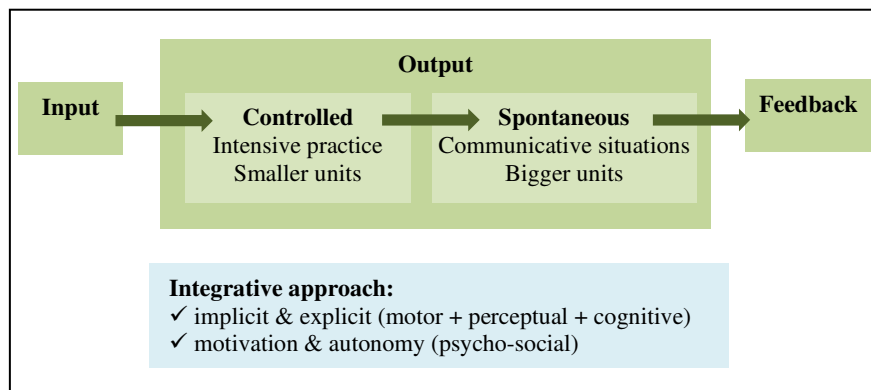


Fig. 1. A framework to pronunciation teaching (adapted from [16])

Summarizing this framework, pronunciation (self-)teaching should include moments of: extensive input; controlled output with smaller units for intensive practice of specific sound structures; spontaneous output with bigger units integrated in communicative situations; feedback. Simultaneously, it should use an integrative approach that combines implicit and explicit strategies for training the motor, perceptual and cognitive levels of pronunciation, and that fosters motivation and autonomy for learning pronunciation (thus, focusing on the psycho-social level). To help a learner to master a difficult sound contrast in the target language, the teacher could combine these principles in different ways. For instance, s/he could:

- motivate the learner to learn the sound contrast, by showing its importance in the target language and thus focusing on the psycho-social level of pronunciation training;
- use the technique of high variability phonetic training [17] (since listening to a sound contrast by different speakers and in various phonetic contexts with corrective feedback has proved to be efficient in promoting the development of mental categories for new sounds), and thus deal with the auditory and cognitive levels of pronunciation training in an implicit way;
- present extra input and explain articulatory descriptions to develop the motor level of pronunciation training with an explicit approach that could also use multimodal cues (association with an image, onomatopoeic sounds, gestures, the spelling form...);
- give opportunities to imitate the teacher or other model as an intensive practice of the new sound contrast's articulation and, consequently, offer training at the pronunciation's motor level in an implicit approach by imitation;
- offer feedback on the previous activity of imitation;
- ask for the performance of communicative tasks whose success partially depends on words with the target sound contrast;
- give corrective feedback on the pronunciation during the communicative task.

3 The *FunEasyLearn* App

3.1 General Description and Evaluation

The mobile app *FunEasyLearn* allows the user to employ his/her mother tongue to learn several different languages. This paper will focus only on the free version of the EP course for English-speakers, version 6.4.2 for Android, where all the titles, instructions and translations are in English.

On top of the main screen the user can choose the language course and the level for words and sentences, as well as check the received notifications. At the bottom, there are four options: *Learn* (which allows the user to select whether s/he wants to learn words or sentences at the moment), *You* (which directs the user to the options *Review* and *Favorites*), *Stats* (where the user's progress can be tracked) and *More* (including several options and settings). In the center of the screen for *Learn*, the user finds big icons with topics: when a topic is chosen (e.g. Describing people), several subtopics appear (e.g. Characteristics 1; Physical States; Feelings); when a subtopic is selected, several exercises will appear. Each subtopic – corresponding to a short lesson – generally includes 4-5 words or sentences. In total the free version of the course includes around 460 words and 350 sentences.

To support learning of new words, there are flashcards showing an image, the written word, the word's meaning in English, an audio recording of a native speaker at normal and slow speech rate, a tool of Automatic Speech Recognition (ASR), the phonetic transcription in the International Phonetic Alphabet (IPA), as well as some morphosyntactic information (part of speech, gender and number, definite article). The flashcards to learn new sentences are similar, with the difference that they in-

clude the register information (formal vs. informal language) instead of the morpho-syntactic information. After seeing the flashcards for new words, the user can do six types of exercises, related either to reading and meaning association, translation, writing with the given letters or listening. For the sentences, there are ten different types of exercises, based on the same activities as for words and also including an exercise of finding the wrong word in the sentence. The same exercises are used both to learn and to review the words or sentences.

The criteria of Framework for Language Learning App Evaluation by Rosell-Aguilar [5] are used to evaluate this app. In Tables 1 and 2 the app is classified in each criterion as: positive (+), whenever the answers to the questions of the framework constitute a strength of the app; negative (-), whenever the answers reveal app's limitations; or neutral (\pm), if the answers show simultaneously some affordances and some limitations of the app.

Table 1. Evaluation of the *FunEasyLearn* app using [5]'s framework.

Language learning	Evaluation	Pedagogy	Evaluation
Reading	-	Description	\pm
Listening	+ (words/sentences)	Teaching	\pm (present & test)
Writing	-	Progress	+
Speaking	+ (words/sentences)	Scaffolding	-
Vocabulary	+	Feedback	\pm (only right/wrong)
Grammar	-	Quality of content	\pm
Pronunciation & intonation	+	Use of media	+
Cultural information	-	Differentiation	+
Use of visual content	\pm	Engagement	\pm
Language varieties	\pm		

Under the category *Language Learning*, four criteria are evaluated as positive – *Listening*, *Speaking*, *Vocabulary*, and *Pronunciation & intonation*. Although the listening and speaking skills are only approached at the word and sentence-levels (there are no texts) and the number of activities possible for pronunciation and intonation is extremely limited, it is possible to consider that the app offers some opportunities to promote these abilities. The vocabulary is definitively the component that receives the most attention. Also, four criteria are evaluated as negative – *Reading*, *Writing*, *Grammar* and *Cultural information* – since there are no explicit activities for grammar and cultural information and almost no opportunities to practice reading (there are no texts at all) and writing (the app only includes some letters to reorder into words, or words to reorder into sentences). In terms of *Use of visual content* and *Language varieties*, this app uses images and audio purposely created, as well as covers EP and BP. However, EP and BP are presented in different courses, the other varieties of Portuguese are never represented in the beginner level, and the used images do not represent the diversity of the areas where Portuguese is spoken. So, the analyzed app

only reaches an average level of performance in terms of the *Language Learning* category.

As far as *Pedagogy* is concerned, the criteria *Progress*, *Use of media* and *Differentiation* can be evaluated as positive, as the app allows the user to track his/her progress and see previous attempts, combines sound and images in a meaningful way (but it could also benefit from the inclusion of videos and of audio recordings by more than just two different native speakers), and offers different levels that can be accessed directly (although only one level is free). As for *Scaffolding*, the app does not seem to progress in difficulty or offer any specific pedagogical support. The other criteria can be considered neutral: the *Description* on the app store promises more than the app really offers; the *Teaching* only includes presenting and testing; the *Feedback* is just right/wrong without meaningful explanations; the *Quality of content* is far from faultless, as there are many errors (especially in phonetic transcription but also in translation, grammar, and the choice of words to learn); the *Engagement* is not warranted, due to the repetitive nature of the activities. Therefore, the app's level of performance in the category *Pedagogy* is also only average.

Table 2. Evaluation of the *FunEasyLearn* app using [5]'s framework (continued).

User experience	Evaluation	Technology	Evaluation
Interaction	-	Interface	+
Interactivity	+	Navigation	+
Sharing	-	Instructions	+
Badging	+	Stability	+
Price	± (free + paid)	Gamification	+
Registration	+	Support	+
Advertising	+	Offline work	+

The *User experience* can be considered positive according to four criteria: *Interactivity* (the user can have some active engagement with the app, as s/he can choose what and how to review); *Badging* (it is possible to share the user's accomplishments on social media); *Registration* (the user only needs to register if s/he wants to track progress); *Advertising* (as the app does not include ads). Two criteria are evaluated as negative: *Interaction* (as users cannot interact with each other) and *Sharing* (since sharing content is not facilitated). In terms of *Price*, the app can be evaluated as neutral, because it has a free – although limited – version. Consequently, the user experience in this app can be considered good.

As for the *Technology* category, the *FunEasyLearn* app can be evaluated as very good, since all criteria in this category can receive a positive mark. The *Interface* is clear and uncluttered; the *Navigation* is intuitive; there are some *Instructions* on how to use the app; it presents *Stability* with no crashing or freezing; points, badges and the types of exercises show some *Gamification*; there is a help section for *Support*; the app permits *Offline work*.

Considering all these aspects, the app is clearly above average in terms of user experience and technology, but still presents several shortcomings as far as language learning and pedagogy are concerned. In these last two respects, the app actually is an example of a typical language learning mobile app: it almost entirely focuses on vocabulary or sentences deprived of context; it is especially based on translation, gamified short lessons and repetition for rote learning, in an autonomous and strictly individual way. Like in many other apps (e.g. [8]), the pedagogical choices reveal the influence of Behaviorism, Audiolingual and translation methodologies, but do not seem to consider the importance of task-based language learning, social interaction in the construction of language competence, and the affordances of language awareness.

3.2 Potential for Pronunciation Learning

Despite the shortcomings presented in the last section, this app shows a great potential for supporting pronunciation learning, mainly at the sound level, thanks to various features.

Each new word or sentence is associated with audio recordings by native speakers and these recordings can be listened to in two different speech rates (normal and slow). Consequently, the user can repeat the listening as much as s/he wants, at a normal or slow rate, and easily have access to comprehensible input and memorize the targets' phonological form.

Phonetic transcription in IPA is also linked to each new word or sentence. As previously mentioned, the only problem is this feature of the app is that it includes many errors. Besides, it could be useful to offer the user some explanation on the IPA symbols, like presenting one symbol and examples of its sound through the mother language (equivalent sound in the mother tongue or explanations on the differences between the closest sound in the mother tongue and the target-sound).

Despite this issue, having the visual information of phonetic transcription is crucial to help the user to correctly identify the sounds in each target. Even if the learner cannot perceptively distinguish two dissimilar sounds, the presence of different symbols in the phonetic transcription will allow her/him to realize the sounds' distinction and will help to possibly reach the necessary development of the separate mental categories for these sounds. As mentioned in previous works for spelling (e.g. [15]), the visual cues can help to recognize the distinction between contrasting sounds that are perceptively and articulatorily difficult to differentiate for a non-native language learner.

For each new target, there is also an image and its written form. The presence of these visual cues can also foster the memorization of the word or sentence. The more cues are available, the more likely it is that the user will learn the target in a more complete way: with its semantic content, written form and phonological form.

Another important feature for learning pronunciation consists in the presence of some exercises that precisely focus on practicing listening the target words or sentences and present immediate automatic feedback. These aspects help the user to check his/her listening skill and improve it, as s/he can hear the targets many times

and each hearing experience constitutes input that will strengthen his/her mental representation of the targets' phonological forms.

This app also embeds the use of an ASR system. Although the system used in the app reveals some lack of accuracy (sometimes it does not recognize correctly what was produced), it still corresponds to a strength compared to its absence (as in other apps). Whenever the user (re)views the flashcards for a new target, s/he can practice its pronunciation by clicking on the ASR button, producing the target, and checking the spelled form of what the system could recognize. This tool is especially useful for helping to learn the correct pronunciation of a new item, and also for practicing controlled output and receiving visual and immediate feedback on this practice. As seen before, some studies use this type of tools to help learners to solve their pronunciation difficulties (e.g. [6]).

Finally, the immediate and automatic feedback on all activities included in the app also increases the app's potential for learning pronunciation. The feedback is crucial for improving the learner's pronunciation level and through the app s/he can receive this feedback as much as s/he wants it. In fact, the app permits the learner to practice pronunciation (through input, controlled output and feedback) autonomously and receive much more feedback than it would be possible to receive in a class.

So, all these *FunEasyLearn* app's features allow the user to have extra autonomous time on the task of learning the EP pronunciation, by having intensive practice in listening to comprehensible input, producing controlled output and receiving feedback on that input recognition and controlled output. Besides, all this can be achieved just using an easily accessible mobile device, while being on the move.

However, it is also important to note that the app alone is not enough for the user to learn the language, as it does not cover many elements implied in learning a language (e.g. reading and writing, social interaction, language awareness and grammar) and is not sufficient even for learning pronunciation, since it does not give the user the chance to practice spontaneous output. Consequently, a very good way of using this app for learning pronunciation would be to employ it as a complement to other(s) form(s) of learning/teaching. For instance, it could be used in a totally autonomous way by students also having language classes or its usage could be promoted by an "integration" in a learning/teaching context as a tool for specific home assignments (e.g. learning a list of new items or reviewing older ones to prepare for classroom exercises of listening comprehension, dictation, role play; reviewing some items having a specific target-sound to solve particular pronunciation difficulties).

4 Final remarks

The description and evaluation of the Level 1's free version of EP course in *FunEasyLearn* app for English-speakers reveals a very good app considering the user experience and especially the technological aspects, but simultaneously shows many challenges that the app designers should try to overcome to make it go further in terms of language learning and pedagogy (in general), as well as pronunciation learning (in particular). As far as general language learning is concerned, it should mainly

try to incorporate reading and writing activities, more communicative-based tasks, basic explanations of grammar and cultural aspects, and the possibility of interaction among users. Some of these are indeed particularly challenging issues: highly creative solutions are required to make a mobile app go further in providing a rich language learning tool. In particular for the pronunciation learning, besides trying to solve problems like the correction of phonetic transcriptions and the accuracy level of the ASR system, the app could start to include simple speaking activities that motivate spontaneous output, like describing a picture or answering some specific questions.

Despite the pointed shortcomings, the app constitutes an extremely helpful means to learn EP pronunciation. In fact, this simply accessible and user-friendly tool can be a complement to different learning/teaching situations, for instance as a tool for the learner's autonomous and intensive practice or for the home assignments that guide the user's learning with the app. To make the app even more "powerful", it would be convenient for app designers and second language acquisition experts to work more closely together.

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