

Use of Mobile Applications for Foreign Language Learning Among University Students: Needs and Functions

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Abstract—Currently, mobile learning is an inseparable part of education since students use their mobile devices ubiquitously daily. This is also true for foreign language learning where smartphones and their applications are used for practicing all four language skills and language structures. The purpose of this article is to survey the needs of university students as far as the functions and content of a mobile app for foreign language learning are concerned. The methodology was based on an online questionnaire survey, which was conducted among 103 students of the University of Hradec Kralove, Czech Republic, in the period between 30 October 2020 and 24 January 2021. The findings reveal that the potential mobile applications for foreign language learning should be tailored to the language needs of students at the University of Hradec Králové; be targeted at their foreign language level between B1 and B2 of the Common European Reference Framework for Languages; be used at smartphones with Android operating system in particular; offer the possibility of repeating exercises and the combination of different teaching approaches; be free of charge and provide the possibility to choose a corresponding language level; be aimed at practicing specific language skills and knowledge; provide gamification features, offline version, online interaction, notifications; and finally, serve as support to the face-to-face classes.

Keywords—mobile apps, foreign language, university students, questionnaire survey

1 Introduction

At present, the use of smartphones especially among the young generation is ubiquitous. Therefore, mobile learning (m-learning) is becoming a salient feature of education [1] and educators should acknowledge its presence consciously in their classes. Students can use smartphones in language lessons to look up vocabulary or translate whole sentences [2] or there are also apps for enhancing reading skills. They can facilitate a note-taking system since they can use the built-in camera, take pictures of the notes on the whiteboard, or use a smartphone for a presentation, for example, a modern

feature of education at foreign institutions. Such a mobile device thus provides an effective learning platform thanks to its accessibility together with the use of wireless internet connectivity for easier access to information [3-4]. The advantages of such learning include, first of all, flexibility, i.e., the possibility to use mobile learning functions anywhere and anytime, both in formal and informal settings [5-6]. On the other hand, most apps miss theoretical and methodological underpinnings [7]. Therefore, there is a need for finding new ways in developing mobile apps which would fit learners professionally as well as personally. Consequently, this requires teachers of foreign languages to be equipped with digital skills in order to be good leaders for their students [8], as well as efficient mentors [9] to provide students with relevant help while reaching desired language proficiency.

As far as language learning is concerned, smartphones are predominantly exploited for second language vocabulary acquisition, which seems to be effective for the development of both productive and receptive language skills [10-13] and also for providing positive results in learning new vocabulary words that resulted from different word formation processes [14] even though the research emphasizes that most participants had a low usage of digital tools and also moderate attitudes towards the use of MALL and CALL tools in their vocabulary learning [15]. The reason is that smartphone displays are smaller than those of laptops or tablets. Smartphones are also lighter and thus easy to carry. Furthermore, learning individual words or short phrases seems to be ideal [16]. In addition, the findings of a number of research studies indicate that smartphones are effective for foreign language vocabulary learning [17-20] which is the most researched area in the field. Other language skills also benefit from using smartphones. More specifically, they are suitable for honing speaking and listening abilities. In addition, students will have access to a variety of language-learning apps where they may hone their grammar, vocabulary, pronunciation, and other language abilities. Nevertheless, there are already several well-established mobile applications (apps) for foreign language learning on the markets, which attempt to develop more than one language skill. These are, for example, Duolingo, Busuu, Babbel, or Memrise [21].

Nevertheless, all these mobile apps are aimed at the general public, but each language learner has specific needs whose satisfaction can enable a learner to succeed in his/her communication in a foreign language, especially also when it comes to learning specialized vocabulary in connection with the field of the study of a student. Thus, it appears that m-learning is an effective part of blended learning where autonomy and self-confidence increase with an emphasis on personalized learning. However, it is necessary to realize that many apps are not created by language experts and there is a situation where their implementation needs to be well thought out together with planning to meet students' needs and at the same time exposed to the authentic acquisition of various language skills [22].

Therefore, the purpose of this article is to survey the main subjective needs of university students as far as the functions and content of a mobile app they required for foreign language learning are concerned.

Based on the above discussion, the research question generated is as follows: *What needs and functions should a potential mobile app used by university students for foreign language learning possess?*

2 Methodology

2.1 Instrument

The methodology was based on an online questionnaire survey, which aimed to obtain information about the future users on whom a potential mobile app for foreign language learning should be focused. The questionnaire was developed by using findings from several research studies [23-24] and associated with the researchers' experience as both of them used online teaching during the time of the pandemic. The chosen method of the online questionnaire was anonymous, cost-effective, and ecologically friendly. Google Forms was used to create the questionnaire.

The questionnaire included an introductory part on the purpose of the survey and a statement about the anonymity of the data and its use. The questionnaire consisted of a total of 21 questions, of which 16 were mandatory and 5 were optional. Out of 21 questions, 11 questions were open-ended, 5 closed questions, and 5 semi-closed questions with the possibility to choose and describe an 'Other' answer. The first 6 questions were purely demographic questions about the respondents, followed by 3 questions dealing with the technical characteristics of the respondents' smartphones. The next 5 questions focused on respondents' experience with mobile apps for learning foreign languages and the 5 remaining questions concentrated on respondents' requirements for features of the new mobile application for English language learning for university students. The last question of the questionnaire allowed respondents to provide/share any additional insight on the topic.

The questionnaire and its recording complied with all ethical and moral criteria for privacy, and every respondent gave their consent. No personal information was gathered, all copies were made anonymous, and no names or other forms of personal identification were used in the data reporting. The University of Hradec Kralove's Ethics Committee accepted the study with approval number 2/2021. The research was conducted in compliance with all GDPR regulations, and participation was entirely voluntary.

The questionnaire was exposed to specialists to confirm its validity. A jury of experts was given access to the questionnaire to review it for face validity and submit any suggestions for changes or additions to the questions. Many adjustments have been made in light of their insightful notes.

Applying for the pilot administration would come when the questionnaire was finished. Piloting the questionnaire first, though, is usually beneficial. One of the researchers administered the pilot test to the students in her area. 40 undergraduates from two sections made up this group. The questionnaire was initially circulated online. The goal was to determine whether students could complete the questionnaire without any problems. A preliminary declaration informing the participants that their participation in the pilot project was voluntary and that their anonymity would be ensured if they chose to respond to the questionnaire survey was given to the individuals who were chosen for it.

The reliability of the questionnaire was confirmed as well. It was evaluated using Cronbach's alpha, and it was also looked at how the index would alter if specific questions were removed from the survey. The verification of the reliability revealed that the questionnaire had acceptable reliability both when the entire set of items was included and after removing one of them (Cronbach's alpha in both cases surpassed 0.7).

2.2 Participants

The questionnaire was conducted among 103 students of the University of Hradec Kralove, Czech Republic, in the period between 30 October 2020 and 24 January 2021.

The demographic results show that 80% of respondents were females and 20% were males (Figure 1) between 19 and 21 years, and predominantly enrolled in the first and second year of their study. Once again, the questionnaire provided the usual picture of feminized Czech education. In addition, the result also indicates that the environment of modern information technology in education is not discouraging and limiting for women [25].

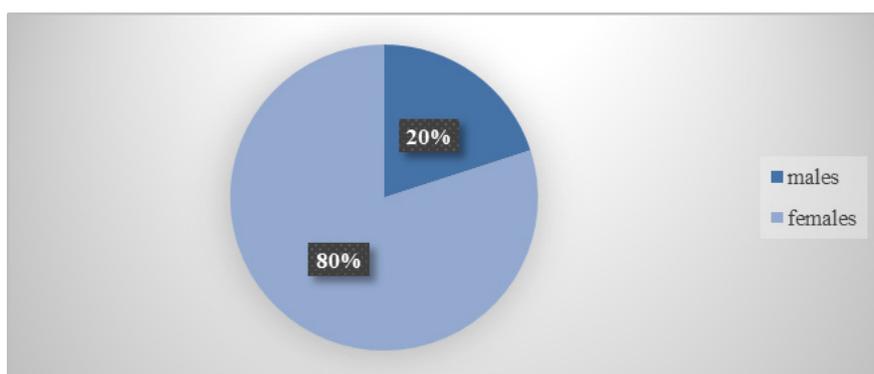


Fig. 1. Sex of the respondents

All of them were students of the University of Hradec Kralove. However, most of them were the students of the Faculty of Informatics and Management (36% of respondents) and Faculty of Education (33% of respondents), followed by the Philosophical Faculty (16% of respondents) and Faculty of Science (15% of respondents). Most of the students (60%) also reported that their level of English was at B1-B2 level according to the Common European Reference Framework for Languages.

3 Results and discussion

The technical findings of the study revealed that two-thirds of the respondents owned a smartphone with an Android operating system (64%) with an Android 10 version (80%), and iOS was used by one-third (36%) with an iOS 14 version (79%). This is not

surprising since research findings show that most smartphone users tend to use the Android operating system [26], which seems to be more appealing to them.

Interestingly, two-thirds of respondents (69%) reported that they used or had used a mobile application that was targeted at foreign language learning (Figure 2). These findings are in line with the findings of other research studies [27-29], which maintain that with the accelerated development of mobile apps for foreign language learning and the popularization of mobile devices among university students, students are becoming increasingly interested in the learning benefits that mobile apps can bring to them.

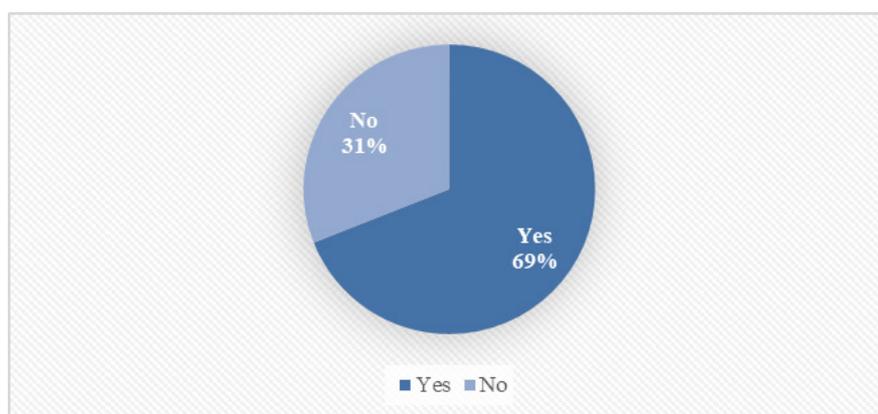


Fig. 2. Use of mobile apps for foreign language learning

More than half of the total respondents (66%) had experience with Duo-lingo. A smaller group (8%) used the Memrise application. Other mentioned apps for foreign language learning were as follows: Busu, Babbel, Mondly, Quizlet, WordBit, Wakie, Speaky, Kahoot, Drops, Angličtina Today, Fun Easy Learn English or Tandem. The result of the responses to the question about the benefits of the used applications for foreign language learning was evaluated on a scale from 1 to 5, where the value of 1 represented no benefit and the value of 5 represented a great benefit. The findings show that the majority of respondents were rather satisfied with the benefits of their applications. The average result then represented a value of approximately 3.3, slightly higher than the average benefit. It can therefore be assumed that the apps have some benefits, but they also have their shortcomings (Figure 3).

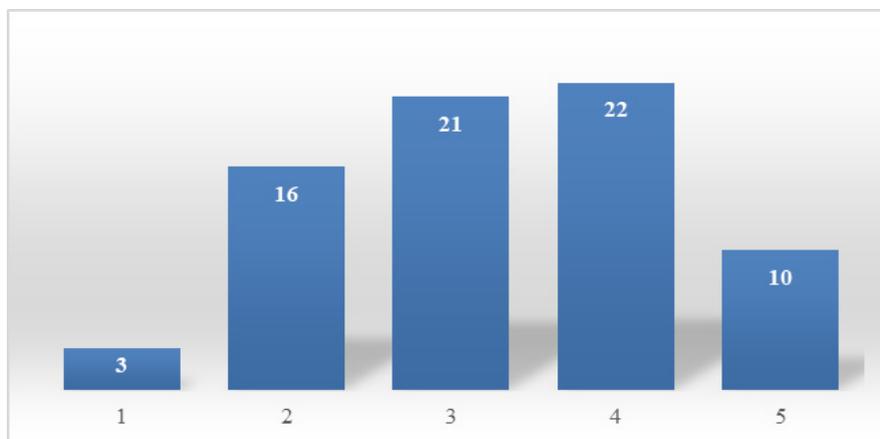


Fig. 3. Respondents' satisfaction with the use of mobile apps for foreign language learning

In addition, the findings indicate that in the applications (apps) used by the students, they appreciate the motivation that increased during their use of them. Students also mentioned the possibility of repetition, which helps them improve their language. At the same time, the apps provide them with a satisfactory combination of writing, listening, and understanding, learning from context, model situations, and conversations. An important aspect is that the apps are mobile-specific and can therefore be used anywhere. Respondents were also comfortable with the fact that the apps they used were not paid. Furthermore, ease of use of the apps was also mentioned among the satisfactory features. Students were also positive about the way that the app they use does not force the user to spend too much time on it. Respondents reported that they were pleased if the app allowed them to move up levels, as well as if a specific word or phrase was played back by the audio output.

The main drawback of the mobile apps included is the fact that the apps often required payments or stop offering all functionality after some time. Other drawbacks mentioned by respondents were that the apps did not allow them to choose their level of language experience or that they offered too little vocabulary for them, with words being repeated in model situations, as with [30]. Furthermore, the respondents did not like that the apps are not able to offer them what is possible with textbook learning, i.e. the ability to highlight words or phrases in color and make one's notes, which is very important for the retention of the new words and phrases. One has to pay the store when s/he uploads an app to a device platform like the iOS App Store. The expense is necessary; however, different platforms have varying rates. But over time, especially, it can become very pricey. The solution might be to put adverts on the app or raise the prices of other goods and services to cover the cost of the app, particularly if it is available on many platforms. After developing a mobile app, if a person does not recoup the costs, s/he will experience a loss of revenue, which negates one of the initial goals of having an app. This is simply one of the challenges that learners who use mobile learning must face.

Furthermore, when the respondents were asked whether they would welcome mobile apps for foreign language learning, they said that they would especially like to have a mobile app for learning English as a second language. This was true for 73% of respondents (Figure 4).

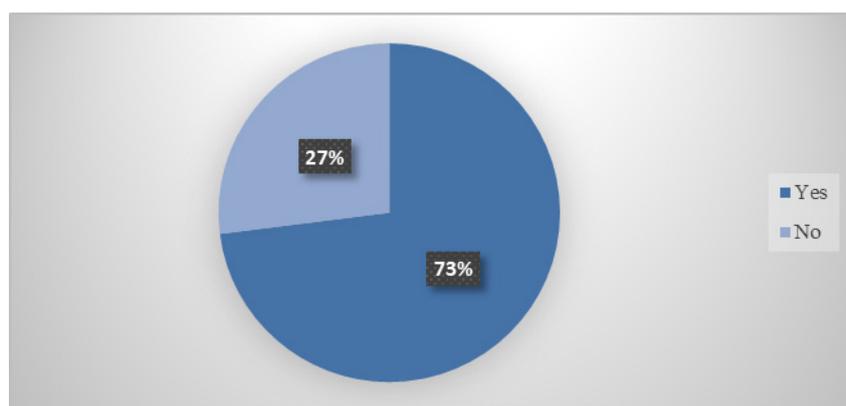


Fig. 4. The popularity of a mobile app for learning English among university students

The reason is that they are interested in improving their English and want to practice their memory specifically in the retention of vocabulary. Usually, in the areas, they do not often come into contact with. The respondents want to take advantage of the fact that the apps could be tailored to their needs and free of charge. Furthermore, such apps can be used anywhere and anytime, for example, when traveling; their mobility is appreciated, which can replace the need to carry textbooks. They would also welcome some gamification features. They want to use the apps as English Language Support for Future Travel Abroad. The apps could also benefit students who reported that their level of English is not as good as that of other students in class. Another example of using such apps is the possibility of improving the language independently without any shame in the context of learning in the presence of a group. In addition, language apps could make students more involved in the curriculum, motivate them and alert them through notifications, which a textbook cannot do. Respondents admitted that the apps could be more engaging than textbooks.

On the contrary, respondents would not use such apps if they had to pay for them and if there were not any Internet connections. Moreover, some of the respondents were skeptical about the quality of the content stating that sometimes the translation is not appropriate and the control and design of the app are not user-friendly. Some respondents were also uncomfortable with the fact that they already spent too much time on their mobile phones and that further use of the app would bother them. These could show the kind of challenges the students face.

The results also show that the largest group of respondents (20%) would use mobile apps for second-language vocabulary acquisition. These findings of using mobile apps mainly for second language vocabulary acquisition have been already mentioned in the Introductory part [8-11]. Almost the same proportion of respondents (18%) would use

it for practicing grammar and listening, followed by speaking, translation, reading, and writing (Figure 5).

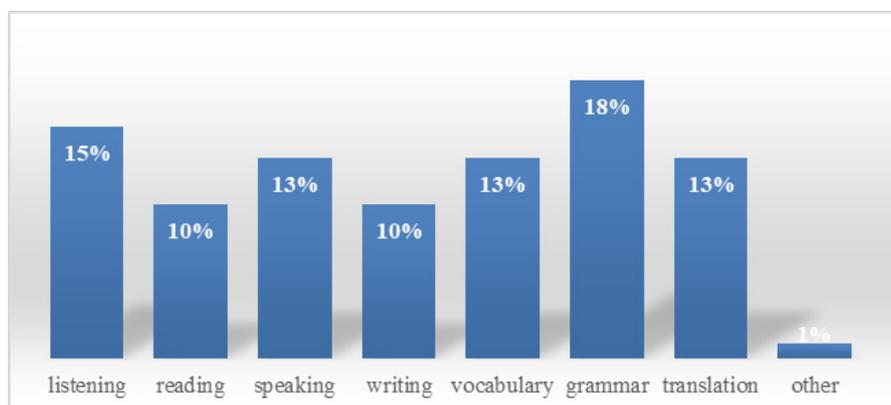


Fig. 5. An overview of language skills and knowledge students want to practice via the potential app

As far as other additional requirements are concerned, almost half of the total respondents (84; 49%) would welcome the possibility to use the apps offline. On the other hand, the second most requested additional feature (50; 29%) was the ability to interact online with other users of the app. The third most desired additional element was to provide more facilities for gaming (31; 18%), as with [31], (Figure 6).

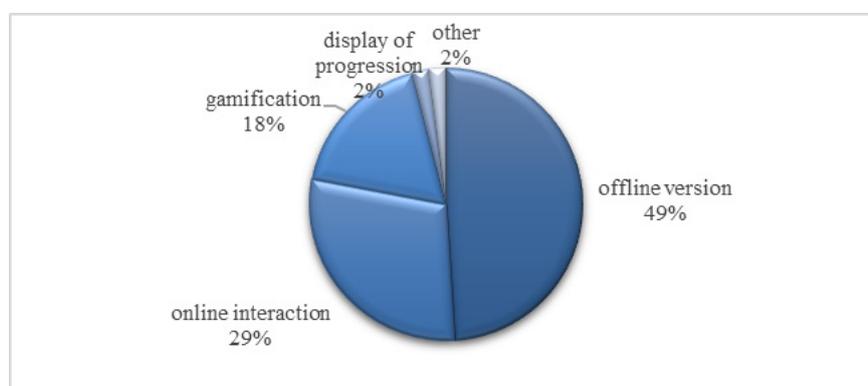


Fig. 6. An overview of additional required features of a potential mobile app for foreign language learning

The findings further reveal that the vast majority of respondents (80%) believe that the potential apps for foreign language learning should serve to support, not be directly part of the face-to-face university courses.

An important example in relation to the challenges the respondents might face includes the security of the app used. Nonetheless, respondents place a high value on the

app's security. Respondents must be certain that their personal information is secure when using an app, particularly their bank and credit card details, and personal information. They will need to pay someone to keep their mobile app's security up to date even after they set it up initially. They must update the software to stave off hackers and malware that could jeopardize the security of the app's users because they are always refining and upgrading their techniques and tools. They will need also to spend a significant amount of money to keep the software secure. That will be worthwhile in the end, though.

4 Conclusion

Based on the results described above, the potential apps for learning a foreign language, especially English, should meet the following key criteria:

- be tailored to the language needs of students at the University of Hradec Kralove;
- target foreign language level between B1 and B2 of the Common European Reference Framework for Languages;
- used on smartphones with the Android operating system in particular;
- offer the possibility of repeating exercises and the combination of different teaching approaches;
- be free of charge and provide the possibility to choose a corresponding language level;
- be aimed at practicing specific language skills and knowledge;
- be personalized to students' interests
- be more engaging (in a form of notifications)
- provide the gamification features;
- offer offline version, online interaction, and notifications;
- be a support to the face-to-face classes

It is worth mentioning that one of the main limitations of the present study is the context-specific of results; applied to the University of Hradec Kralove only. This calls for more research that includes more universities in different areas of the world.

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