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Procedia Computer Science 176 (2020) 2184–2191

Procedia Computer Science

www.elsevier.com/locate/procedia

24th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems

# Benefits of the Use of Mobile Applications for Learning a Foreign Language by Elderly Population

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**Abstract**

At present, there is a rapid increase in the number of older population. These demographic changes obviously bring about a number of economic and social issues, which are, for instance, reflected in a rising number of aging diseases, such as dementia, characterized by cognitive impairment. Since there is no effective pharmacological treatment, country's governments are looking for policies and strategies, which would delay the aging process, and thus prolong an active life of aging population. One of these policies appears to be the use of technologies, respectively mobile applications, by elderly people. The purpose of this article is to discuss the use of mobile applications in learning foreign languages, such as English, by elderly people, as well as their benefits. Overall, mobile apps for learning a foreign language appear to be one of the tools which can promote well-being of older people. The results reveal there are many benefits of learning a foreign language by seniors. These include, for example, improvement of their cognitive performance, positive impact on their psyche, reduction of anxiety, gaining self-confidence, development of new social ties and feeling of self-realization, as well as learning of a new foreign language. However, research in this area is very scare, which is due to the lack of such apps for the elderly and consequently, due to the lack of the experimental studies in this field.



*Keywords:* smartphones; mobile applications; EFL; older people; benefits

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10.1016/j.procs.2020.09.255

## 1. Introduction

Currently, the number of elderly population is rising at frenetic pace, especially in the developed countries of Europe. The old-age dependency ratio in Europe is expected to rise from 29.6% in 2016 to 51.2% in 2070 [1]. This means that instead of 3.3 active working adults for each person at the age of 65 years and above, there will be only two active working individuals [1]. These demographic changes obviously bring about a number of economic and social issues, which are, for instance, reflected in a rising number of aging diseases, such as dementia [2]. This neurological disorder is usually characterized in its first phase by cognitive impairments, such as by difficulties in remembering things, learning new things, or concentrating [3-5].

Since there is no effective pharmacological treatment, country's governments are looking for policies and strategies, which would delay the aging process, and thus prolong an active life of aging population. One of these policies appears to be the use of technologies, respectively mobile applications, by elderly people. In fact, nowadays, 85% of older people at the age of 65+ years use a mobile phone and 46% of the elderly also use a smartphone [6]. Figure 1 below illustrates the growing trend in the use of smartphones by elderly population. As one can see, the use of smartphones by older individuals has more than doubled within the past six years.

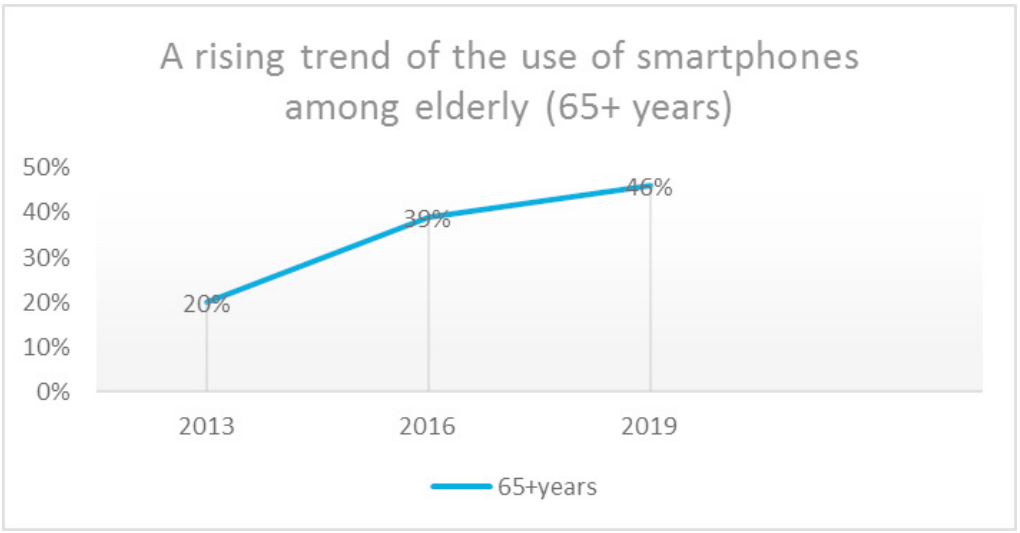


Fig. 1. A growing trend in the use of smartphones by elderly population (based on the data from [7-8]).

These mobile applications can improve older people's social status, independence in their everyday activities, health status, standard of living, or leisure activities [7]. The most exploited mobile applications nowadays focus on health-wellness-home care and safety-security-mobility domains. As the findings of the study by Koole and Morrison [9] show, 46.8% of their respondents reported that they had used mobile apps to support their informal learning, such as self-learning for health or medical knowledge, collaborative learning experience, or interpersonal and intergenerational communication. Therefore, in future, with young elderly, the mobile applications will also include such areas as religion, hobbies, learning and education areas [10], such as foreign language learning.

Nowadays, many language learners use mobile applications (apps) to support their language learning both inside and outside the classroom. Especially, the young generation is tech-savvy and prefers communication via technology rather than direct contact with people [11]. Therefore, it is very natural for them to use mobile apps also in learning English. Mobile applications seem to be exploited in the development of all four language skills, i.e. reading, listening, writing, and speaking. Nevertheless, they are mostly used in developing learners' vocabulary since individual words and short phrases are most appropriate for a small screen which smartphones offer as well as for the fast interactiveness of the corrective feedback [12-15].

In addition, the use of mobile applications in learning English contributes to the improvement of student's cognitive capacity, his/her motivation to study both in formal and informal settings, his/her autonomy and confidence, as well as it promotes personalized learning and helps low-achieving learners to reach their study goals [16].

In comparison with the young learners, older adult students appreciate also other aspects of learning English through mobile apps. Mobile apps enable them to get in touch with other peers of the same age studying the same course [17-18] and thus can reduce their loneliness and feelings of depression [19-20]. Furthermore, through a regular use of mobile apps, older people become more confident in using modern technologies. In addition, being challenged by technical aspects of their smartphones, as well as by learning English intensively, they may maintain and/or enhance their cognitive skills [21-22].

The purpose of this article is to discuss the use of mobile applications in learning foreign languages, such as English, by elderly people and their benefits.

## 2. Methods

The method of this article include a literature review of available studies found on the research topic, i.e. the use mobile applications for foreign language learning by older people. The search was not limited by any time period and the studies were being detected in Web of Science and Scopus, as well as Google Scholar+. The key search collocations were as follows: older people AND mobile applications AND foreign language learning, elderly AND mobile applications AND foreign language learning, older people AND technologies AND foreign language learning, elderly AND technologies AND foreign language learning. The keywords were combined and integrated into database and journal searches. The terms used were searched using AND to combine the keywords listed and using OR to remove search duplication where possible. The backward search was also conducted, i.e., references of retrieved articles were assessed for relevant articles that authors' searches may have missed.

Altogether 31 articles were identified. However, based on the inclusion that only peer-reviewed English written articles on the use of mobile applications for foreign language learning by older adults could be included, the author detected only three studies, which would explore the research topic and could be fully analyzed below. Therefore, the studies, such as [9, 11-12, 16-18, 23] had to be excluded since they did not concern foreign language learning or the set target group.

## 3. Findings and discussion

Unfortunately, research on the topic on the use of mobile applications in learning English as a foreign language (EFL) by the elderly is scare. In fact, there are only two experimental research studies dealing with computer-based programs for learning English and their impact on the enhancement of cognitive functions among elderly people [21, 24], and one empirical conference paper [25], focusing on motivating seniors to learn a foreign language in and outside of the classroom.

The French study [21] especially examined the feasibility of the use of computer-based language learning among 14 older individuals at the age of 75 years on average. For four months these older adults were learning English once a week for two hours. The participants found the program feasible, stimulating, amusing, and enjoyable, although some of them had difficulties with English because the participants had different level of English. This was probably the only disadvantage of this course. Nevertheless, overall, the findings revealed that learning a foreign language can be a good therapeutic and cognitive intervention. In addition, the results also showed the need for computer training and the importance of social ties.

The second Chinese study [24] was conducted among 153 cognitively unimpaired older people at the age between 60 and 85 years. They were recruited from community centers for older adults in Hong Kong. The subjects were divided into three groups: 1. foreign language group, in which they learned basic English (experimental group); 2. games, in which subjects played cognitively stimulating activities, for example, puzzles (active control group); and 3. music appreciation group, in which subjects watched traditional and con-temporary Chinese music videos (passive control group). All these intervention trainings lasted up to five hours per week for six months. In the experimental group, subjects used a computer-based language training software called Rosetta Stone, which helps learners speak

English in conversations with bite-sized lessons that focus on delivering spoken words alongside visual and audio cues [25]. Figure 2 below provides an illustration of one of the tasks.

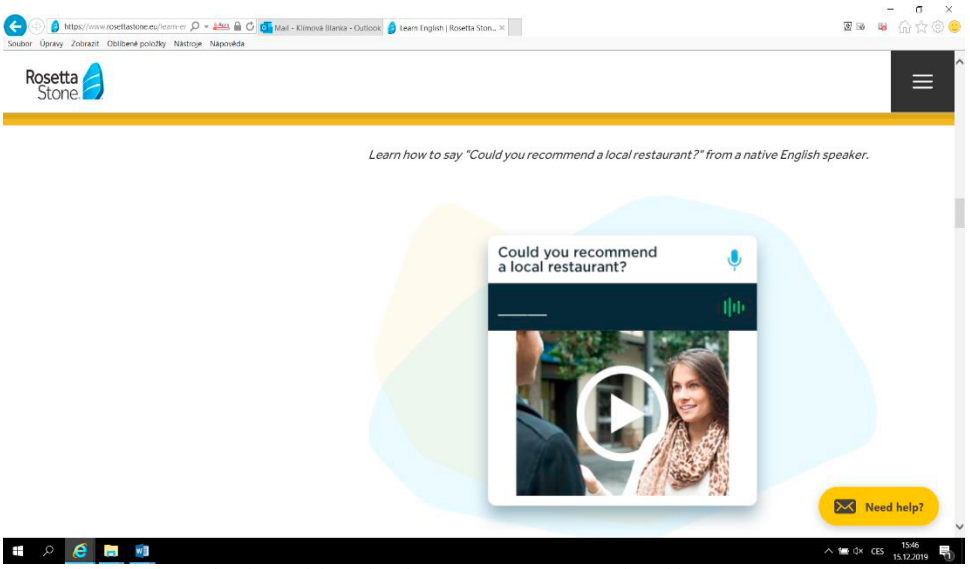


Fig. 2. An example of one of the tasks of Rosetta Stone computer-based language program [26].

The third, Spanish conference paper, provides information on the design and implementation on an English Communicative Workshop run at the University of Alicante. This course focused on teaching English for seniors at the age 50+ years. It was divided into three consecutive courses corresponding with three different levels: Workshop 1 for beginners, Workshop 2 for intermediates, and Workshop 3 for advanced learners. Each workshop lasted three teaching hours for 14 weeks per semester. There were about 20 students in each group. Since all senior participants had a smartphone and 87% of them used instant messaging, the teachers decided to take advantage of this fact and they implemented as support for their English learning a Whatsapp, which should have motivated these learners to study outside their face-to-face classes. Through this app, the teacher provided daily different English materials to his/her senior students and encouraged them to get ready for the next class through articles, videos and links related with the topic of the day. Senior students were expected to contribute and participate as much as possible and share their comments and experience with other classmates. In addition, teacher used other technological resources, such as flashcards and mind maps, on-line videos, social networks and English-based apps and games to make learning more interactive. One of the example was Cram Flashcards through which students could create their own lists of new words they wanted to learn and through Whatsapp they could share these lists (Fig. 3 below).

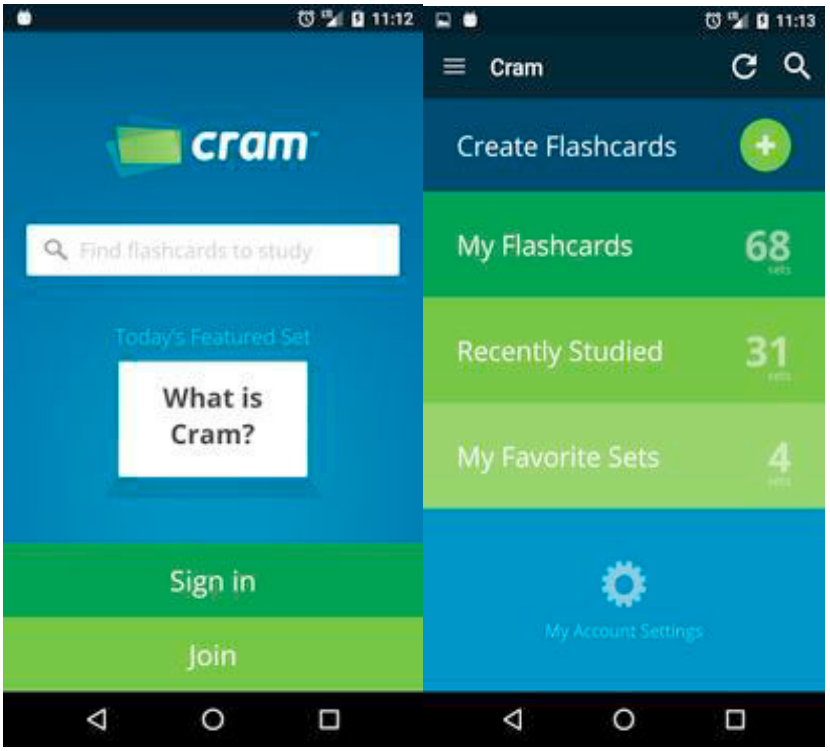


Fig. 3. An example of a Cram Flashcards app [27]

The results of this conference paper indicate that the seniors were positive about the use of different technological resources (i.e., Whatsapp or Cram Flashcards) since they helped them speak English more frequently, learn more vocabulary and improve their reading and writing skills, especially through the Whatsapp. Furthermore, they gained self-confidence in English and reduce their face-to-face language anxiety in class thanks to their sense of belonging to a group of chat mates and friends. Students also reported to know better their classmates thanks to the use of the Whatsapp group in English. They also enjoyed socializing with their peers and they felt more motivated to learn about English and ICTs in general.

Thus, the findings of all three articles show that present seniors are able to use modern technological resources, however, they must be selected with respect to their physical (visual and hearing), as well as mental (ability to remember new words) capacities. Moreover, it is also important to choose the right didactic method because each person is different and prefers various learning styles.

As the results reveal, there are many benefits of learning a foreign language by seniors. These include improvement of their cognitive performance, positive impact on their psyche, reduction of anxiety, gaining self-confidence, development of new social ties and feeling of self-realization, as well as learning of a new foreign language.

As Chen [23] points out, there is a number of language learning apps, but none of them meets older people's needs as far as EFL is concerned. One of such popular app is Duolingo (Fig. 4) which provides its users with reading, writing, speaking, listening, and conversation with intelligent Chatbots and gives corrective feedback and awards at the same time. It is free of charge and people can practice more than 20 foreign languages. It also provides additional tips how to improve user's language skills [28]. However, it does not reflect special needs of older inhabitants, such as hearing and visual impairments, as well as worse coordinative movements.

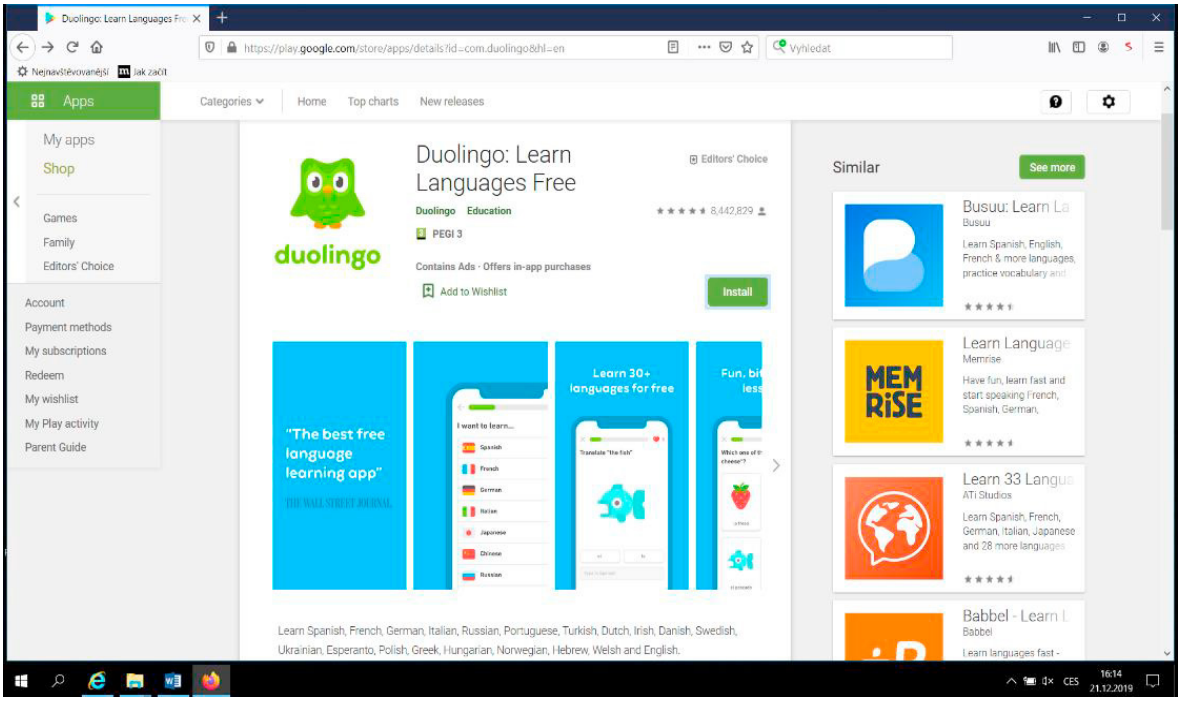


Fig. 4. An example of mobile app Duolingo [28].

The findings reveal that there is a lack of research on the use of technologies, respectively mobile apps in learning EFL among older people. In addition, there is no single mobile app for learning EFL, focused on the needs of this target population group. Therefore, developers of such mobile apps should work closely with EFL experts, as well as gerontologists, in order to satisfy older people's needs in this area of learning, and thus increase their adaptability to cope with internal and external changes. In addition, more experimental studies should be conducted in this field. For further research into the use of modern technologies in language education also see the current research of Pikhart [29-31].

The limitations of this article consist in a very small number of studies on the research studies, which indicates that there is an urgent need of research in this area, as well as the fast implementation of interactive technological resources in foreign language learning among healthy older individuals.

## 4. Conclusion

Overall, older people are now a significant demographic population group whose potential should be exploited for the benefit of the current knowledge-based society. Especially at present due to the pandemic of COVID-19, the need of the exploitation of technologies among this group of people, who are cut from their loved ones, is of high importance.

The findings of this article indicate that mobile apps for learning a foreign language appear to be one of the tools which can promote well-being of older people as far as improved cognitive functions, self-realization, psyche, social ties and self-confidence are concerned [32].

However, research in this area is very scare, which is due to the lack of such apps for the elderly and consequently, due to the lack of the experimental studies in this field. In addition, there is not much research in teaching foreign languages to older individuals, as well as a sufficient platform for its pedagogy [33].

## Acknowledgements

This article is supported by the SPEV project 2020, run at the Faculty of Informatics and Management,

University of Hradec Kralove, Czech Republic. The author thanks Josef Toman for his help with the data collection.

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