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ATTITUDES AND PERCEPTIONS TOWARDS POPULAR LANGUAGE LEARNING APPS: COMPARISON AND ANALYSIS¹

Abstract: Mobile-assisted language learning (MALL) stimulates students' motivation and improves their foreign language skills. The principal objective of this paper is to compare the most frequently used mobile applications for learning foreign languages, primarily English, by students in Serbia. Additionally, we wanted to reflect on their views and experiences. Qualitative research, in the form of a focus group, was conducted in order to determine the clearest possible picture of students' views concerning the usefulness of different language apps, primarily *Duolingo*, *HelloTalk* and *WordUp*. Quantitative research, in the form of an online questionnaire, was also conducted so as to analyse students' overall perceptions of mobile applications in English language learning. The respondents are Singidunum University students who voluntarily agreed to participate in this research. The results showed that innovative ways of perfecting foreign languages, such as mobile applications, are captivating for students. In addition, they highly value visual and engaging materials. They believe *Duolingo* is the best app for improving vocabulary and grammar, whereas *HelloTalk* is an ideal app for developing speaking skills. *WordUp* is recommended as a dictionary and as a revolutionary app for learning new English words. Students agreed that the combination of all three mobile applications would be optimal, depending on their language level and learning goals.

Keywords: mobile applications comparison, foreign language learning, *Duolingo*, *HelloTalk*, *WordUp*.

1. INTRODUCTION

When talking about foreign language learning and teaching, besides various learning strategies and second language acquisition approaches, factors such as personal learning styles, motivation, attitudes towards learning and language anxiety

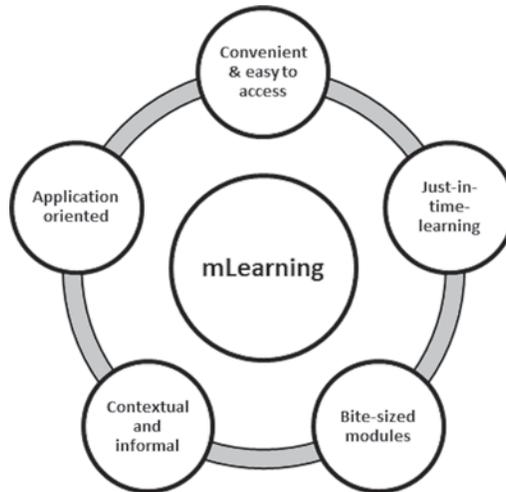
¹ This paper has been previously partially presented at international scientific conference Sinteza 2022.

ety should be taken into consideration as well (Božinović & Perić, 2012). Teachers have a vital role in a learning process (Boiron, 2010). They are believed to be educators, leaders, and role models with a sense of responsibility, independence, and authority in their classrooms. However, outside the classrooms, students must find ways to improve motivation and develop their own learning styles.

With the rapid development of foreign language learning applications and popularity of various powerful mobile devices among students, they have become increasingly interested in multiple learning benefits the apps can provide. Mobile learning, or m-learning, has become an umbrella term for the integration of mobile computing devices within teaching and learning (Grant, 2019). Mobile learning entails not only the mobility of technology but also more importantly the mobility of time, space, and learning experience (Lai & Zheng, 2018). Mobile-assisted language learning (MALL) is considered to be an efficient language learning tool used by both teachers and learners. It is a teaching method which uses mobile phone technology in order to encourage autonomy as it enables students, after they receive initial scaffolding by the teacher, to take responsibility for their own learning (Park, 2011). Significant attention has been paid to pedagogy in mobile learning, especially to the most frequently used pedagogical approaches, such as game-based and collaborative learning (Tlili et al., 2022). Web traffic records show that by October 2019, the most widely used device to share information on the internet was the mobile phone at 51.74%, followed by laptops or computers at 44.53%, tablets at 3.65%, and other devices at 0.08% (Vallejo-Correa, Monsalve-Pulido, & Tabares-Betancur, 2021). We believe MALL stimulates students' motivation, their engagement as well as upgrades all language skills. Having such powerful devices, which support individual and collaborative learning, available anytime, anyplace, provides tremendous opportunities for educational use.

The use of language learning mobile applications has been the subject of numerous studies. Most of the studies have found very positive attitudes towards MALL and reported improvements in listening comprehension (Kim, 2013), vocabulary acquisition and phonological awareness (Yildiz, 2012), as well as reading comprehension and writing skills (Harmon, 2012). Studies also revealed that the learners exposed to MALL integrated into their language courses scored higher in the tests and showed greater satisfaction with the teaching approach compared to those who were not exposed to MALL (Wang, 2017). One of the main advantages of using language learning mobile apps proved to be gamification, the use of different media, interaction with other users and immediate feedback (Rosell-Aguilar, 2016; Shortt et al., 2021). On the other hand, users often complain that some app developers continue to offer limited activities that focus on drilling and translation, without much support and learner's engagement (Rosell-Aguilar, 2016). When developing new educational apps, particular attention should be given to the interactivity and adaptability, as these features proved to be the weakest ones (Rodríguez-Arancón et al., 2013).

Figure 1. Five features that define Mobile Assisted Language Learning²



Nowadays, the tertiary learners face the challenge of which of the thousands of educational apps they should choose. Spending more time at home due to corona virus related lockdowns or social distancing has made learning a foreign language in traditional contexts even more challenging. The popularity of language-learning apps has boomed around the world during the corona virus lockdowns. US firm *Duolingo* says that its new user numbers soared in 2020, especially in the UK. It says that globally they were up 67% compared with 2019, while in the UK they shot up by 132%, almost double the worldwide average (Palmai & Smale, 2021). From apps to podcasts, COVID-19 has forced language learning online.

The advantages of these apps, which enable learners to brush up on a new language for themselves are numerous. Firstly, most of them is free to download. Depending on their learning goals, the apps can help the learners build their vocabulary in a target language, develop proper grammar, or even become more fluent (Gajić & Maenza, 2022). Even seemingly similar, each app has a different focus. The apps simply accommodate personal style and suit learners' current needs. Some people are visual learners. Some prefer audio. Some enjoy games and drills. Due to the fact that everyone learns in a different way, several apps might be used at once.

According to Forbes, the best language learning app overall is *Babbel*, whereas *Duolingo* offers the best free language lessons (Johnson, 2021). Bloomberg journalists, who have evaluated and reviewed five most popular language apps, consider *Duolingo* to be the best one for a long-term commitment (Ekstein, 2017). The results of all previous studies we have conducted on language learning mobile

² Source: <https://blog.commlabindia.com/elearning-development/features-mobile-learning>

applications showed that students want to learn foreign languages in an innovative and fun way (Gajić & Maenza, 2019; Gajić & Maenza, 2020; Gajić & Maenza, 2022; Maenza & Gajić, 2019a; Maenza & Gajić, 2019b; Maenza & Gajić, 2020).

Students' enthusiasm even leads us to believe that mobile applications for learning foreign languages should be introduced into curricula.

2. FOREIGN LANGUAGE LEARNING MOBILE APPS

Recently, mobile learning apps exploded in popularity and there are so many of them that it seems a real challenge to narrow it down to the best one. Studies show English was the most commonly taught language, and that vocabulary was the most commonly tested area (Tommerdahl, Dragonflame, & Olsen, 2022). The most frequently used internet platforms and mobile applications are *Duolingo*, *Babbel*, *Rosseta Stone*, *Busuu* and *Memrise* (Šafranĳ, Katić, & Zivlak, 2021). *Duolingo* is mainly used in European and South American countries while *Rosetta Stone* is extremely popular in the USA. In Russia and Asian countries, *Duolingo* and *Babbel* proved to be the most attractive ones. Interestingly, *Babbel* has the lowest departure rate. The best app for learning on the go is *Pimsleur*, an app that has an average rating of 4.7 of 5 stars. *Pimsleur* is specifically designed to help you learn vocabulary and listening comprehension quickly by listening to native speakers (Gobler, 2022). *Kahoot!* should also be mentioned as a game app which draws attention to the classroom and strongly encourages interaction. It can be used to review students' knowledge and it is a way of formative assessment and a refreshing break from traditional classroom activities in which teachers write on the board and students daydream (Nikolić et al., 2022). Since launch, *Kahoot!* has hosted hundreds of millions of learning sessions with over seven billion participants in more than two hundred countries and regions ([kahoot.com/company](https://www.kahoot.com/company)).

2.1. WORDUP

WordUp is a mobile application for learning new English words and improving vocabulary in an innovative and fun way. There are numerous vocabulary applications, such as *Vocab1*, *Vocabulary.com*, *Vocabulary Builder App* and *VocabMagic*. However, *WordUp* is a unique educational app due to the fact that it has ranked all the words in the English language in order of how useful they are by using Computer-Assisted Corpus Analysis. Therefore, every user makes the most of their learning time because they focus on what matters the most (Maenza & Gajić, 2020). This mobile application analyses millions of movies, TV shows, songs, stories, newspaper articles, famous people's quotes, and similar captivating material in order to bring the most helpful, exciting, and enjoyable examples for

each word to its users. One of the main objectives is to learn in context; in other words, to learn how to use each word in real life, while absolutely enjoying the process of learning (<https://www.wordupapp.co>). One of the features that make this application truly unique is personalisation. The *WordUp* first detects where the gaps in users' knowledge are and then creates a personalised learning plan that focuses on one word at a time, always ensuring that the users learn the most useful word first (<https://www.wordupapp.co>). Users particularly like its “remember forever principle” and often describe the app as one of the best pastime activities. You can read news and other articles on the app as well. Moreover, the app curates the news according to your liking and shows new articles every day (Team, 2020). You can also assess your knowledge with exams. This option really stands out and is particularly suitable for intermediate and advanced English learners who want to take IELTS, TOEFL, PTE, GRE exams. It enables its users to get better scores by focusing on the exam vocabulary. In that way, users can prepare independently for every test previously mentioned using *WordUp* mobile application. Recently, *WordUp*, as a dedicated lexical application, has been subject to many studies in foreign language teaching and learning (Iravi & Malmir, 2022; Abreu Avellaneda, 2022).

2.2. HELLOTALK

HelloTalk is a mobile application for foreign language learning by chatting with native speakers all around the world. The app supports over 150 languages. Native speakers teach you their language, while you teach them yours (hellotalk.com). It seems to make learning a foreign language a joyful and intuitive experience. *HelloTalk* allows its users to connect synchronously with their language partners, but asynchronously as well due to the fact that sending messages is possible even if a partner is offline at that moment. Once you find your perfect partner in language learning, you can chat with them via text, voice recordings, voice calls and video calls. It creates collaborative learning conditions. *HelloTalk* supports you through the whole learning process – built-in aids for translation (one-click translation service), pronunciation, transliteration, and corrections make conversations run smoothly (hellotalk.com). All these functions help you keep conversations going. There are four categories: Talks, Moments, Search and Learn. One of the most popular activities is posting Moments which are public posts and can be seen by all native speakers of your target language. It helps users get a whole lot of extra exposure to the target language and creates an immersion environment (Nushi & Makiabadi, 2018). Some researchers claim that this application is the first global language learning and culture exchange community, connecting you with native speakers of other languages for free (Rivera, 2019). On the other hand, it is worth being aware of the fact that some users view *HelloTalk* as a dating app,

so it is advisable not to share personal information when setting up a profile. The truth is that *HelloTalk* retains its users at lower rate than *Duolingo* or *WordUp* due to difficulties with finding good language exchange partners. This is considered to be the most significant shortcoming of the app. In addition, the focus of this app is more on informal expressions and even slang, so it might not be suitable for those who want to improve their language for business settings. The focus of researchers is not always on speaking skills when evaluating this app. The possible impact of *HelloTalk* on improving English writing skills has been analysed as well (Wibowo & Raihani, 2019). To summarize, *HelloTalk* is a great app for connecting with native speakers of the target language all around the world, having real-life conversations and making cultural immersion, but one should be very careful when choosing language exchange partners.

2.3. DUOLINGO

With more than five hundred million learners, *Duolingo* is one of the most popular language applications worldwide and definitely extremely popular one in Serbia (Gajić & Maenza, 2022). This application helps learners improve their vocabulary and grammar through daily lessons and quizzes. Key features are personalised learning, immediate grading, staying motivated with rewards and improving quickly – gamification is poured into every lesson ([duolingo.com/](https://www.duolingo.com/)). Many teachers and even entire governments around the world already view *Duolingo* as the perfect blended learning companion for their classrooms ([duolingo.com/](https://www.duolingo.com/)). Recently, a possibility of certifying English proficiency has been introduced. You can take the test online and it is accepted by over three thousand institutions worldwide. Colourful interface and user-friendly layout should also be mentioned. *Duolingo* succeeded in becoming part of learners' daily routine. *Duolingo* is believed to be one of the most dominant and influential applications for foreign language learning. It is also one of the most investigated platforms and the most gamified MALL apps (Shortt et al., 2021). However, it has certain weaknesses. Oversimplified and/or limited grammar explanations have been the most reported one. Learners often found the types of activities too repetitive and over-reliant on translation and receptive skills (listening and reading) as opposed to productive skills (writing and speaking) (Loewen et al., 2019).

3. METHODOLOGY

3.1. STUDY AIMS AND RESEARCH QUESTIONS

The aim of this paper is to compare the most frequently used mobile applications for learning foreign languages, primarily English, by students in Serbia.

Additionally, we wanted to reflect on their views and experiences. Our goal was also to analyse students' overall perceptions of mobile applications in foreign language learning. Data were collected by means of a questionnaire and an interview. A total of 123 students were surveyed and six were interviewed so as to understand the nature of MALL experiences that these learners engaged in autonomously beyond the classroom. Our previous studies in relation to mobile applications for foreign language learning analysed *Duolingo*, *HelloTalk* and *WordUp* apps. We have conducted several research studies with the aim of determining these applications' usefulness as additional tools in foreign language acquisition at university level. Following the predefined goals of the study we formulated the following research questions:

RQ1: What are the most and least appreciated features of language learning apps?

RQ2: Do learners think the use of apps contributes to their language learning?

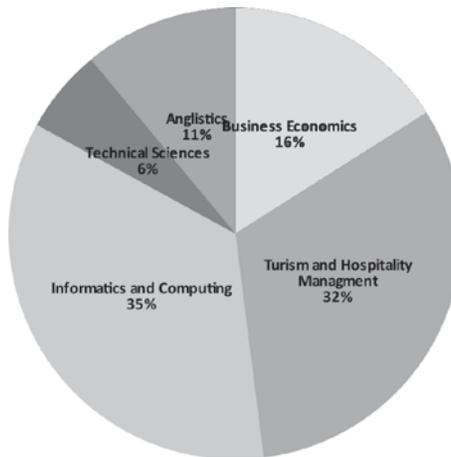
3.2. RESPONDENTS

Qualitative research, in the form of a focus group, was conducted in order to determine the clearest possible picture of students' views concerning the usefulness of different language apps, primarily *Duolingo*, *HelloTalk* and *WordUp*. The respondents are Singidunum University students who voluntarily agreed to participate in this research. They are fourth-year students of the Faculty of Informatics and Computing and the Faculty of Tourism and Hospitality Management, as well as second year students of the Faculty of Business in Belgrade. They all attended general English courses at B2 (upper-intermediate) or C1 level (advanced) at the same university. Six students (five female and one male student) who have used and/or still use these mobile applications participated in qualitative research; therefore, their opinion can be considered relevant. It should be noted that this is a deliberate, not a random sample, since selected students are talkative, open-minded, extroverted and motivated to learn foreign languages according to data from practice (active participation in the learning process and extra-curricular activities at the university). The conversation was conducted in Serbian. We opted for qualitative research considering it suitable for expressing attitudes and describing experiences. The focus group interviews were evaluated qualitatively primarily using content analysis.

Quantitative research, in the form of an online survey, was also conducted in order to analyse students' overall perceptions of mobile applications in foreign language learning. The online questionnaire had 123 respondents. It included five multiple choice questions. The questionnaire was designed for this research, written in English and students completed it anonymously and on a voluntary basis. The respondents were 123 undergraduate students studying at Singidunum Uni-

iversity in Belgrade – 20 participants study Business Economics, 39 of them study Tourism and Hospitality Management, 43 Informatics and Computing, 7 study the Faculty of Technical Sciences and 14 of them study Anglistics.

Figure 2. Participants studying at different Singidunum University faculties



We believe educational profiles are sufficiently diverse in order to generally reflect on students' views and experiences concerning MALL. The data from the questionnaire were analysed using descriptive statistics.

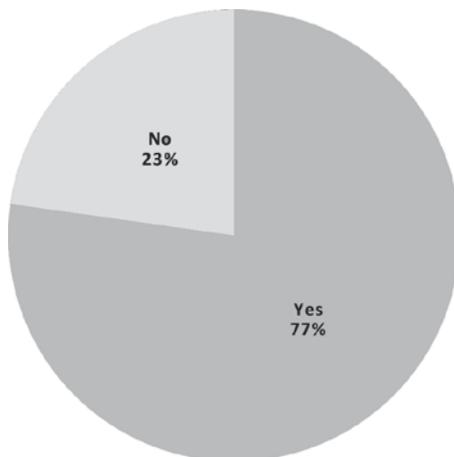
The goal of this research is also to emphasise modern trends in learning a foreign language and to discuss advantages and disadvantages of the apps listed above in order to incorporate one or all of them into teaching curricula in the most effective way.

4. RESEARCH RESULTS AND DISCUSSION

4.1. QUANTITATIVE RESEARCH FINDINGS AND DISCUSSION

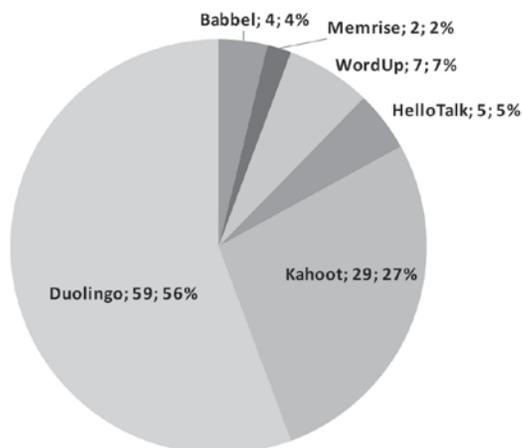
The data indicated that almost 80% of respondents use mobile applications to learn foreign languages, especially English.

Figure 3. Number of students who actively use language learning mobile apps



The respondents mostly use *Duolingo* and *Kahoot!* apps. Almost 60% of respondents preferred *Duolingo*, while some 30% of them opted for *Kahoot!* as a favourite one. Approximately 7% of them use *WordUp* on a regular basis and 5% believed *HelloTalk* is the most useful one. Around 4% found *Babbel* the most convenient app and *Memrise* suits the needs of only 2% of respondents.

Figure 4. Variety of apps being used



Further analysis showed the respondents believed that the applications contributed to overall foreign language improvement and helped them develop all of their language skills, reading skill and vocabulary acquisition in particular. 58% of respondents claim their reading skills have been greatly improved. The same percentage feel they build on their vocabulary significantly. 49% of respondents

think their listening skills are mainly upgraded while some 41% of them enhance their writing skills. Interestingly, around 43% of respondents speak more fluently due to daily using mobile apps. Finally, 42% of respondents feel more comfortable with grammar patterns since they have been using one of the language learning apps mentioned above.

Figure 5. Language skills mostly improved using language learning mobile apps

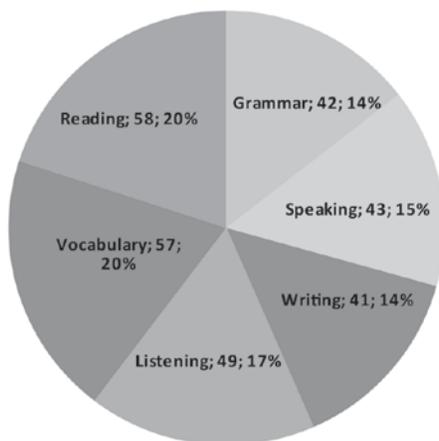
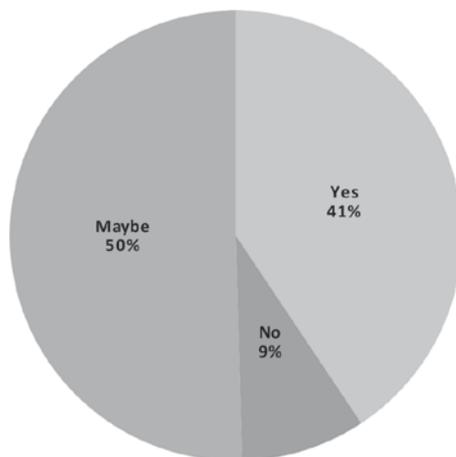


Figure 6. Mobile apps as part of curriculum



Around 41% of respondents reported that they would like to see foreign language learning mobile apps incorporated into teaching curricula. Another 50% would be ready to dedicate 15 to 20 minutes per day in order to do their homework or similar independent activities via these apps. Only 9% of respondents said they

prefer not to use mobile apps for foreign language learning in formal educational settings.

4.2. QUALITATIVE RESEARCH FINDINGS AND DISCUSSION

The focus group interview was guided by the following questions:

1. What are the main benefits and shortcomings of *Duolingo*, *HelloTalk* and *WordUp* mobile applications?
2. Why did you choose a particular mobile app? List your reasons.
3. Can you compare *Duolingo*, *HelloTalk* and *WordUp*?
4. Which app would you recommend to your friend(s) and/or colleague(s) and why?

When asked to comment on some of the most attractive mobile applications for foreign language learning, the respondents agreed that *Duolingo* is the most popular and reliable one. They all use *Duolingo* for learning different languages, mainly Russian, French, and Turkish. According to the respondents, the possibility to learn languages other than English is one of the most noteworthy features of this app. The respondents believe that *Duolingo* is an ideal mobile app for beginners. They also liked its grammar explanations and exercises. It seems to them that the app has been constantly improved so it has become less predictable and more amusing. It encourages competition as well – some respondents believe they stay motivated with rewards, game-like features, and fun challenges. With the introduction of *Leagues*, *Duolingo* aroused the competitive spirit of its users and encouraged them to use it on a daily basis. One respondent noted she prefers the computer version of *Duolingo* as opposed to the mobile app. Respondents also believed an excellent *Duolingo*'s marketing strategy to be one of the factors that greatly contributed to the status of this app today. To conclude, students believe it mainly improves vocabulary and grammar knowledge.

On the other hand, *WordUp* is aimed at those who want to improve their English (www.wordupapp.co). It is highly recommended for intermediate English learners. As its main advantage, respondents stated its usefulness. They found the app more relevant and reliable than the most popular translation platform, *Google Translate*, and believed it should be included as one of the English dictionaries on the Google Play Store. However, the app's creators believe the mission of *WordUp* is not to be just a dictionary (www.wordupapp.co). This app is primarily focused on the most useful words based on how frequently they are globally used (www.wordupapp.co). Respondents believe one of the main advantages of the application was its wide range of topics, the learning in context concept, knowledge gap detection and personalized learning plan. The possibility of choosing between British

and US English proved to be really popular as well. Words and phrases are visually presented, via photos and pictures. It facilitates the process of learning and memorizing. Respondents especially like regular reminders option. They can choose the best time of day to learn English (just woke up, around breakfast, way to work/school, around lunchtime, way back home and in bed), as well as the amount of time they want to dedicate to the app, depending on the set goals (casual, regular, serious, and champion). Students believe the app creates self-awareness in the vocabulary learning process. Lack of communication with other people is one of the most mentioned disadvantages. Another con is the fact that *WordUp* is intended only for learning English. Respondents would like to learn languages other than English in the same way. In conclusion, they believe it mainly improves vocabulary but also develops listening skills.

Discussing *HelloTalk* mobile application, respondents said that it offers a unique opportunity to learn a foreign language for free by chatting with native speakers around the world. The idea itself is great – learning a language, exploring new cultures, and making friends around the world in an easy and fun way, but it also triggers concerns. It has been reported that some users sometimes behave as if *HelloTalk* platform was a social media site or, even worse, a dating site, so learners, especially female learners, often feel uncomfortable and find themselves in awkward situations. Learning experience depends completely on language exchange partners. In order to overcome the problem previously mentioned, one can join group chats for a collaborative learning experience. In conclusion, respondents believe it mainly improves their speaking skill. By chatting with native speakers, they learn how to use informal foreign language expressions and practise casual conversations. According to respondents, *HelloTalk* can be immensely helpful in reducing foreign language anxiety. Communication with real people who are willing to provide almost instant feedback and share knowledge is seen as one of the app's greatest advantages.

The participants unanimously said that they would recommend all three language applications. They would recommend *WordUp* as a dictionary and as a useful, modern tool for English language learning. *Duolingo* would be the best option for learning languages other than English. It is also seen as a great pastime activity. Finally, respondents would recommend *HelloTalk* to those learners who would like to improve their foreign language fluency and catch the spirit of the language being taught. At the same time, they would advise them to be very careful when choosing language exchange partners. Generally speaking, respondents mainly view mobile language applications as an additional tool for improving foreign language skills. However, during the focus group interview, they clearly stated they still believe foreign language teachers and class interaction to be irreplaceable.

5. CONCLUSION

This research explicitly confirms that innovative ways of perfecting foreign languages, such as mobile applications, are captivating for students. They have the opportunity to combine the best aspects of traditional and m-learning thus enjoying innovative and entertaining lessons. An important pedagogical implication of this research is to acquaint students with contemporary ways of learning a foreign language and specially to maintain their interest in learning. Foreign language teachers have the opportunity to contribute to making classes engaging and interesting. Gamification plays a significant role when studying topics that students do not particularly like or do not find challenging (Shortt et al., 2021). The competitive spirit, which many mobile applications develop, stimulates the learning process, and hopefully makes it more enjoyable. Due to the fact that even seemingly similar apps offer slightly different approaches, students agreed that the combination of all three mobile applications would be optimal, depending on their language level and learning goals. In that way, learners would benefit from varied exposure to language being learned.

As technology changes society, attention spans have also changed for students, especially for those belonging to Millennials and Generation Z, compared to other age groups (Debétaz, 2022). In order to keep their attention, teachers are trying to design classes and adapt the course delivery methods and pace. These modern students want to be challenged, and they value interaction (Debétaz, 2022). One of the ways to challenge them is to introduce intensive but short activities. By using mobile language apps, students stay in touch with the language on a daily basis and maintain continuity in their work. We suggest that various activities, available through foreign language learning mobile applications, should be introduced into teaching curricula either as icebreaker activities or as homework. By regularly using language learning mobile applications, we believe students can improve all language skills, expand knowledge, achieve their academic goals, overcome specific language challenges, and foster their learning autonomy.

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Београд

Одсек за стране језике

О ПОПУЛАРНИМ АПЛИКАЦИЈАМА ЗА УЧЕЊЕ СТРАНИХ ЈЕЗИКА ИЗ УГЛА СТУДЕНАТА: ПОРЕЂЕЊЕ И АНАЛИЗА

Резиме: Усвајање страних језика уз помоћ мобилних уређаја мотивише ученике и доприноси унапређењу свих језичких вештина – читања, писања, слушања и говорења. Циљ овог рада је да упореди најчешће коришћене мобилне апликације за учење страних језика, пре свега енглеског, од стране студената у Србији. Поред тога, желели смо да анализирамо њихове ставове и искуства. Квалитативно истраживање, у форми фокус групе, спроведено је како би се стекла што јаснија слика о ставовима ученика по питању корисности различитих језичких апликација, пре свега *Duolingo*, *HelloTalk* и *WordUp* апликације. Спроведено је и квантитативно истраживање, у форми онлајн-упитника, како би се анализирао укупна перцепција ученика о мобилним апликацијама за учење енглеског језика. Испитаници су студенти Универзитета Сингидунум у Београду који су добровољно пристали да учествују у овом истраживању. Резултати су показали да иновативни начини усавршавања страних језика, попут мобилних апликација, мотивишу ученике. Поред тога, ученици аудио-визуелне материјале сматрају веома привлачним. Сматрају да је *Duolingo* најбоља апликација за унапређење вокабулара и граматике, док је *HelloTalk* идеална апликација за развој вештине говорења. *WordUp* се препоручује као речник и као револуционарна апликација за учење нових енглеских речи. Ученици су се сложили да би комбинација све три мобилне апликације била оптимална, у зависности од нивоа усвајања језика и циљева учења.

Кључне речи: поређење мобилних апликација, учење страних језика, *Duolingo*, *HelloTalk*, *WordUp*.