IMPLEMENTING MOBILE APPLICATIONS: EFL STUDENTS' PERCEPTIONS AND LISTENING SKILL IMPROVEMENT

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Abstract: Currently, Vietnamese non-English majored students in tertiary education find themselves struggling with English listening skills and rather confused about searching suitable ways to enhance their listening abilities. This study applied a quasi-experimental design to investigate the EFL students' perceptions and the effects of mobile applications on their listening improvement. One hundred and one non-English majored students were chosen as participants who were divided into two groups, control and experimental. The data were collected through pre- and post - listening tests, questionnaires, and semi-structured interviews. The results indicate that the students in the experimental group outperformed their fellows in the control group, and that the students also had remarkably positive attitudes towards the use of mobile applications for practicing listening to English. The results of this study suggest that mobile applications should be implemented to improve non-English majors' listening abilities and raise their awareness of integrating technology into listening practice.

Key words: Mobile applications, listening skill, EFL students

1. Introduction

Foreign language learning can be considered from the five basic skills of listening, speaking, reading, writing and translating. Among these skills, listening ranked as a top capability of social interactions can be considered as the basic way of receiving language input. A person can speak sensibly only if he or she understands what is said. So listening skills are one of the basics of learning language and acquiring them is very important in language learning (Luo, 2008). In fact, from the year 2008, the Ministry of Education and Training (MOET) in Viet Nam has activated the national general education program issued with the Circular No. 32/2018/TT-BGDDT to enable students to formulate and develop their communicative competences through practicing listening, speaking, reading, writing and linguistic knowledge, especially listening skills. This program aims to create an English-friendly environment from Grade 1. Also, in the meantime, most tests of English proficiency include a listening module, implying the significance of fostering English listening competencies.

However, in most universities, students have rarely had the chance to practice speaking and listening beyond 3 periods per week or to be immersed in the diversity of listening extra practice in their coursebooks. It is advisable that they should find further listening supplementary for training to be more confident in communication, which fulfills

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the university requirements based on the targets of the National Foreign Languages 2020 Project. That is, university graduates not majoring in foreign languages have to attain B1 prior to their graduation.

Therefore, it is very necessary for students to find ways to facilitate autonomous listening learning and to achieve the required standards. Currently, with the advent of technological inventions, Computer-Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL) are becoming increasingly ubiquitous and developed. Among the trends in MALL, mobile computing, especially mobile applications used in education brings good impacts to language learning as it is timely and efficient (Johnson, Levine, Smith & Stone, 2010). A great deal of effort has been devoted to understanding how mobile technologies can support both traditional and innovative ways of teaching and learning, demonstrating how mobile learning can be applied across a wide spectrum of learning activity (Caladine, 2008) and highlighting the emerging issues (Sharples, 2006). In recent years, there have been many researchers exploring the effectiveness of mobile-assisted language learning (MALL) in different contexts, for instance, using mobile phones to deliver online course materials (Motiwalla, 2007), using SMS to support beginners' language learning (Edmundson, 2007), using PDA for undergraduate student incidental vocabulary testing (Song & Fox, 2008), using personal, portable devices that enable new ways of learning (Kukulska-Hulme & Shield, 2008), creating an interactive, collaborative, and ubiquitous environment for language learning via tablets (Chen & Kessler, 2013), and investigating the effects of mobile applications on learners' listening competences (Ramos, 2017).

However, there have been very few studies in this respect in Viet Nam, especially in the context of the Mekong Delta in the South of Vietnam. Therefore, it is quite necessary and timely to conduct this study to measure the effect of the use of mobile applications on students' listening skill improvement in a Vietnamese university context. EFL students' perceptions of the usefulness of mobile applications were also investigated. The results will be then compared to other popular mobile application-enhanced listening competence studies.

The study aims to answer the following research questions:

a/ What are the students' perceptions of mobile applications use to improve their listening skills?

b/ To what extent, does the implementation of mobile application enhance the students' listening skills?

2. Literature review

2.1. Mobile assisted language learning

Mobile Assisted Language Learning, or MALL, can be defined as the process of accumulating knowledge through discovery and conversation across abundant contexts amongst learners and interactive and modern technologies (Sharples, 2007). According to Krashen (1982), comprehensible input is necessary for second language learning to take place. This is likely to be effectively applied to language learning environments using computers and the Internet (Hampel, 2003). In addition, according to the socio-cultural constructivist view of

learning, mobile learning assisted by the Internet provides access to authentic materials or contexts and facilitates student-centred learning to take place more easily and effectively (Felix, 2005).

O'Malley, Vavoula, Glew, Taylor, Sharples & Lefrere (2003) also considered MALL as any sort of learning that happens when the learner is not in a fixed, predetermined location, or when the learner takes advantage of the learning opportunities offered by mobile technologies. Therefore, with the demands of acquiring knowledge by taking advantage of the dramatic evolution of the mobile technologies, it is evidently a fast-developing field (Wang & Shen, 2012). Besides, new users of mobile technologies who are attracted by their diverse and improved functions can appreciate the ways mobile technologies and mobile devices set new contexts for learning (Pachler, Bachmair & Cook, 2010).

Therefore, mobile technologies which are becoming increasingly ubiquitous and networked can be used creatively in different areas. Using mobile technologies in education is a clear example of such innovation. Many mobile applications for educational purposes including language learning have been developed and easily installed on mobile devices such as cell phones, tablets, etc. (Demuynck & Laureys, 2002). The majority of educational apps of varying degrees of quality can be considered as part of the "first wave" of the digital revolution (Hirsh-Pasek, Zosh, Golinkoff, Gray, Robb & Kaufman, 2015). Therefore, to obtain their full potential, it is necessary to evolve an instructional design tailored to the specific needs in the mobile learning environment (Wang & Shen, 2012).

2.2. Advantages of mobile assisted language learning

It cannot be denied that mobile devices and mobile technologies could greatly facilitate language learning, which brings remarkable benefits to students. The salient positive effect is that the use of mobile technologies both inside and outside the classroom allows students to increase their motivation in case they get exposed to these so-called digital natives daily (Ramos, 2017). Ally (2004) confirms that mobile appliances can satisfy users' needs and create a language environment which enhances individuals' motivation. To be more precise, independent language learners may find it eager and willing to discover learning supplement from mobile devices in formal or informal settings, which enhances learners' self-regulation and ubiquitous learning (Godwin-Jones, 2011; Chen & Kessler, 2013).

An additional benefit according to Kutluk & Gὸlmez (2014) is the content quality. Learners may easily search authentic materials which incorporated pedagogical objectives and included well-organized and easy-to-navigate content features. When mobile learners have opportunities to get exposed to good quality content, they will be delighted, satisfied and more eager to learn. In addition to changing their feelings and thoughts in positive ways, mobile learning also enhances problem-solving, critical thinking skills and language skills, especially listening and speaking as long as learners create some interaction with the mobile applications (Kim & Ong, 2005; Bekele, 2010; Mara, 2012). Furthermore, it is supposed that portability and accessability are the other two significant factors of mobile. With mobile devices, learners can easily access to diverse applications to be immersed in learning resources anywhere and anytime,

which encourages their extra-practice (Jee, 2011). Being compatible with those mentioned features of mobile devices, m-learning is actually a feasible trend in language learning.

2.3. Disadvantages of mobile assisted language learning

Nevertheless, there are also manifested defects of mobile technologies and devices such as screens with small size, and network dependence that may sometimes affect high-qualified Internet connection (Viberg & Grönland, 2012). When students have to access the apps on campus, it may sometimes take time to connect their portable devices to wifi or to load many pages simultaneously. Stockwell (2008) confirms the low speed of page loading sometimes causes a barrier to learners, which occasionally hinders their willingness to use applications.

Furthermore, very few students take time to learn through new mobile applications due to some inadequate features of mobile devices such as short battery life, limited memory storage or small keyboard size (Kukulska-Hulme, 2007). To Thornton and Houser (2005), the sound quality of mobile phones is not always adequate, which may lead to learners' difficulties in practising extra listening. With some out-of-date cell phones, EFL learners may find it a real challenge to listen carefully to the sounds from some websites.

2.3. Related studies

Some research papers have addressed mobile technologies utilization in listening improvements. One of the related studies is the investigation of Nah, White and Sussex (2008) about the potential of using a mobile phone to browse wireless application protocol (WAP) sites for the purpose of developing EFL listening skills. A group of 30 undergraduate students of an intermediate EFL listening course joined the experimenting process in which they had to access WAP sites to engage in pre-, during and post-listening activities by listening to key vocabulary and audio files and then discussing suggested questions. The study found that language learners' positive attitude towards the use of web-based learning resources was significantly enhanced. Besides, the WAP site was very effective for learning listening skills and promoted extra practice with authentic materials outside the classroom.

In Morgana and Shrestha's (2018) study, the researchers investigated learners' and teachers' perceptions of mobile learning through the use of the iPad with 2 teachers and 43 students at an Italian school. The study showed a positive impact on students' motivation and on their approach to second language learning tasks. Also, within the duration of the study, the students and teachers became increasingly independent with the assistance of the iPad for English language learning and teaching. Regarding the four skills, 70% of the students were found to be confident that the iPad could help them improve their listening skills.

Zhang's study (2016) aimed to explore whether the use of mobile technology could better enhance students' listening ability and motivation towards mobile-assisted language learning. A group of 120 university students was randomly assigned to two groups: the experimental group, who worked on extensive listening practice on the mobile phone, and the control group, who practiced listening via traditional ways. The results of the study indicated that the experimental group outperformed the control group on their listening comprehension. Also, learners' motivation for mobile-assisted learning was enhanced.

It is vital that the above-reviewed studies have put stress on the research trend of searching authentic listening materials in mobile-assisted learning in informal settings, the implications of which few attempts have been made to exploit so far. Therefore, the current study aimed to figure out the usefulness of mobile learning apps on EFL learners' extensive listening practice.

3. Methodology

3.1. Pedagogical setting and participants

One hundred and one non English - majored students at their elementary level in four General English 2 courses of Can Tho University took part in this study. None of them had previously used mobile applications for their English learning purposes. To measure the effect of listening via mobile apps on their listening abilities, the students were divided into two control groups with 50 students and two experimental groups with 51 students. Before the experiment, all participants took a pre-test of listening comprehension (KET) at the A2 level- a kind of standardized test designed by the Cambridge publisher. The test included 25 questions which required 30 minutes to finish.

3.2. Data collection and analysis

To facilitate the students' listening practices in the experimental group, they were provided with suggested mobile applications such as Two Minute English, Learning English BBC News, etc. Following a specific timetable, the student participants filled in a sample template as diaries located in Google Drive to report their listening practices and experiences they had through the mobile apps. During thirteen weeks, the experimental students listened to any video/ audio files from the mobile apps at least five times per week through mobile devices while the studen in the control group just practiced listening with audio files in their course-book only. Every week, the teacher checked their practices via diaries to track the students' practices.

After the completion of the experiment, all the participants sat for a post-test. Pre- and post tests were adminstered to examine the effects of the use of mobile applications on students' listening performance. At the same time, the experimental students also completed a questionnaire. The questionnaire consisted of 19 items using a 5-point Likert- scale, ranged from the endpoints "*Strongly disagree*" (1) to "*Strongly agree*" (5). It was adapted from Alqahtani & Mohammad (2015) and Mathur (2011)'s questionnaires, which comprised four clusters: students' perceptions on their learning motivation, autonomy, technology and the usefulness of listening to mobile apps. The four clusters were designed to measure students' perceptions on practising listening on mobile devices. In addition, semi-structured interviews were conducted in Vietnamese. Each lasted from 30 to 40 minutes. Interview data were coded into themes and analysed thematically to gain students' in-depth thoughts and perceptions towards English listening practices via mobile applications. With such time investment for listening practices through mobile applications, it was hypothesized that the students would improve their listening skills via using mobile apps.

4. Findings

4.1. The effect of the implementation of mobile application on the students' listening skills

The test results showed that the scale reliability coefficients of both pre- and post-listening tests were relatively high (α =.716), which means that the tests were sufficiently reliable, and so were the data obtained from them. The data from the listening tests were analyzed using SPSS to check the statistical difference between the two means of each test. The pre-test mean scores of the two groups were presented in Table 1.

Table 1. Mean scores of students' pre-listening test

	N	Mean	Std. Deviation
Pre-experimental	51	6.8	.47
Pre-controlled	50	8.0	.49

The result of the Independent Sample T-test showed that the dissimilarity in the two groups' listening ability before the treatment was not remarkable (t = 1.828, df = 99, p = .071), which means that the students' listening abilities in the two groups were quite similar before the treatment of the listening practices through the implementation of mobile applications. Another KET listening test as a post-test was given to the students of two groups after the intervention to investigate the efficacy of the implementation of mobile applications on the students' listening skills. Figure 1 shows the mean score performance of both groups.

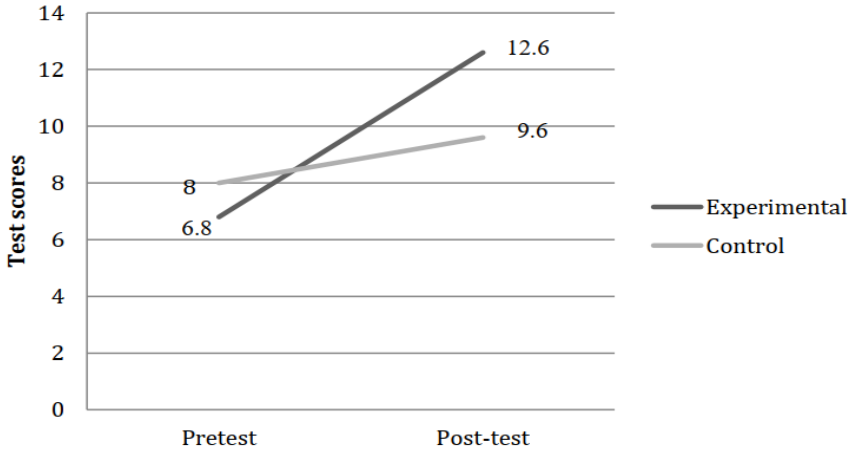

Figure 1. Pretest and Post-test

The line chart highlights the growth in the students' listening skills of both control and experimental groups in the courses end. In the control group, the mean score of the pre-test was 8.0 and that of the post-test was 9.6, which showed an increase of 1.6 points. Similarly, the experimental group line revealed an increasing trend up to exactly 5.8 points (Mpre-test = 6.8, Mpost-test = 12.6), which was by far higher than the control group. The mean scores and standard deviations of the two groups were presented in Table 2. These results pointed out that while the participants' listening skills can be improved by both instructional methods, the individuals in the experimental group gained higher marks than those in the control group.

Table 2. Mean scores of students' post-listening test

	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Post- experimental	51	12.6	4.03	-4.080	99	.000
Post - control	50	9.6	4.48			

The Independent Sample t-test result showed a significant disparity in the participants' listening skills of the two groups (t = - 4.080, df = 99, p = .000), which means that the listening skills of the two groups were not the same. In other words, the results divulged statistically remarkable dissimilarities between the mean scores which are positively inclined to the students in the experimental group.

4.2. The students' perceptions toward the implementation of mobile applications

The questionnaire results showed that the scale reliability coefficient was quite high (@ = .775), which means that the questionnaire was sufficiently reliable, and the same was true for the data obtained from it.

Table 3. The Students' Perceptions toward the Implementation of the Mobile Applications

Categories	Mean	SD
Usefulness	3.7	.63
Motivation	4.0	.54
Autonomy	4.4	.70
Technology	3.8	.57

It is notable from Table 3 that the students had very positive perceptions towards the implementation of the mobile applications with the highest mean score of M = 4.4 for the autonomy category, which showed the students' appreciation of using the mobile applications for listening practice on the enhancement of their learning autonomy. Enhancing motivation towards English learning was the second most significant effect that practicing listening to the mobile applications could have (M = 4.0). In addition, the students also perceived other benefits that practicing listening through the mobile applications brought to them such as the improvement of knowledge of the world, time and money saving and its flexibility. In terms of technology, the students' perceptions were also relatively positive, M = 3.8, showing that technology was not problematic at all in their listening practices via mobile applications.

The data from the interviews revealed more insights into the students' perceptions. Specifically, the students believed that practicing listening using to the mobile applications could contribute to their listening skills improvement because they could familiarize themselves with native speakers' accents and pronunciation, and learn new words at the same time.

> *Previously, I could not understand what is said even though I know the words, but thanks to listening to the mobile applications, I could catch up with native speakers' pronunciation. This helps improve my listening skills.* (Student 2)

> *Listening to the mobile apps is very good and useful. It helps me recognize my mispronunciation of some words and learn a lot of new words according to different topics.* (Student 7)

The students also strongly asserted the flexibility of listening practices via mobile applications.

> *Mobile applications are very convenient to practice English listening skills both online and offline. I can listen to them at any time and place through small and portable smart phones, which is totally free.* (Student 13)

> Student 14 also said: *Listening to the mobile applications is very convenient. I could practice whenever I have free time. It is like a way of entertainment. Lessons with life-like contents could be saved easily in a phone or laptop computer for practices.*

Apart from the flexibility of the mobile apps, student 8 added a very practical view, saying the mobile applications were very potential in learning English and quite suitable in the technology era. Furthermore, it helped save the tuition fee for learning English at foreign language centers and was very convenient for practice at any time. Additionally, practicing listening through the mobile applications contributed to improving the students' knowledge of the world from their perceptions.

> *I can learn a lot of new words and expand my general knowledge about different topics such as human beings, society, education, and environment.* (Student 9)

Regarding motivation, the students perceived the effectiveness of the mobile applications in enhancing their English learning motivation thanks to their real experience of the progress in their English listening abilities.

> *I'm more motivated to learn English thanks to frequent practice. If one day I haven't listened to any applications, I feel like I miss something. And, when seeing the progress in my listening abilities day after day, this motivates me to learn and practice more and more.* (Student 8)

> *I have more motivation to learn since it helps improve my English listening skills and English is important for my future job.* (Student 6)

Interestingly, the implementation of the mobile applications in this study greatly enhanced the students' learning autonomy since they could realize improvements in their listening skills. The students were especially aware of the importance of English for their future job and frequent practices in English language learning as student 8 and 6 stated above.

In terms of technology, though technological devices and internet connection seemed not to be a great challenge for the students to practice listening through mobile applications, some unexpected problems interfered with their mobil application use.

> *There are many advertisements and unexpected pauses without any reasons so when it plays back, I forget previous information.* (Student 7)

> *At first, downloading lessons was rather difficult …. Online apps are more inconvenient than offline ones.* (Student 8)

The students also reported some difficulties when practicing English listening skills through mobile applications such as lack of vocabulary and limited storage space on their mobile phones. Student 12 said:

> *It is very time-consuming to look up dictionary and mobile applications cannot be installed in laptop computers.*

Student 13 also added that the limited mobile phone storage prevented them from downloading many applications. In the same vein, student 15, a final-year student, said:

I do not have a mobile phone and cannot manage time to practice since I am busy with my thesis. Besides, listening is a difficult skill.

In order to improve the effectiveness of the mobile applications listening practice, the students also recommended some suggestions. Most of the interviewed students suggested increasing the number of listening practices to at least 7 lessons per week and there should be evaluation of the students' work on a daily basis instead of one time a week. Besides, one student said that managing the students' practices on a shared Google Drive site might lead to the students' copy of their friends' practices or diaries so there should be separate and private links for every single student.

5. Discussions

The most notable findings of the study were that the students in the experimental group performed considerably better on the post-listening test than those in the control group. The students also highly appreciated the implementation of the mobile applications for English listening practices. Thus, the findings of the current study were compatible with previous research (Nah et al., 2008; Bekele, 2010; Mara, 2012; Kim, 2013; and Zhang, 2016). It also confirmed the importance of integrating technology into traditional classrooms to enhance learners' academic achievement (Kırkgöz, 2011).

In addition, the current study strengthened the benefits of the mobile applications on the students' English learning motivation. This is quite congruent with the ideas and findings of Ally (2004), Ramos (2017) and Morgana & Shrestha (2018). Indeed, when M-learners were exposed to good quality content, they would be happy, satisfied and more eager to learn (Kim et al., 2005). The students in this current study also asserted the flexibility of mobile applications for listening practices, which was in agreement with those findings from Jee (2011) and Chanchary & Islam (2011).

Interestingly, the present study added the positive effect of the use of mobile applications on enhancing the students' learning autonomy, which is one of the most important and essential factors contributing to EFL learning effectiveness. From a practical view, the students in this study added that practicing listening to learning English via mobile applications was very economical since they were free and time-saving thanks to its flexibility. This reinforces the benefits of mobile applications for EFL learners in developing countries such as Vietnam and similar settings. Besides, listening English through mobile applications helped improve the students' knowledge of the world as well.

Another interesting finding is that contrary to the previous findings showing students' difficulties with access to mobile applications and Internet connection (Viberg & Grönland, 2012 or Stockwell, 2008) or sound quality (Thornton & Houser, 2005), this present study found that the problems of mobile applications, but in a different area: advertisements pop up causing annoying pauses, or mobile apps cannot be installed on laptops. However, this present study is consistent with Kukulska-Hulme's (2007) study claiming the problem of the limited storage capacity of mobile devices since mobile applications have large memory size.

The findings from this study also raised some awareness for EFL teachers to use mobile applications more successfully. In other words, there should be sufficient and frequent listening practice of at least 7 lessons per week and there should be evaluation of students' work. Teachers should also pay attention to how to control students' practices to ensure their commitment and prevent students' cheating.

6. Conclusions

This study investigates the effect of the use of mobile applications on students' listening skills improvement at a Vietnamese university. It can be concluded that implementing mobile applications in listening practice may bring about numerous positive outcomes. In most EFL contexts like in Vietnam, it is more beneficial for EFL learners who have limited chances to practice the foreign language beyond the classroom. By asigning students with authentic listening materials via mobile applications as extra resources, teachers can provide students with real and diverse opportunities to improve their listening ability as well as their motivation in English learning in general (Zhang, 2016). Since this current study is restricted to listening skills, future research should extend to explore the influence of the implementation of mobile applications on students' learning of other language skills, vocabulary or grammar. Besides, from the findings of this study and other recent studies, as learners have shown positive attitudes towards mobile-assisted language learning, it is recommended that colleges and universities should consider applying mobile applications in their teaching practices to help them explore and interact with authentic language input outside of school walls. The present study may also reinform the potential of mobile learning in the literature of EFL teaching and learning.

References

Ally, M. (2005). Using learning theories to design instruction for mobile learning devices. *Mobile learning anytime everywhere*, 5-8.

Alqahtani, M., & Mohammad, H. (2015). Mobile applications' impact on student performance and satisfaction. *TOJET: The Turkish Online Journal of Educational Technology, 14*(4), 102-112.

Bekele, T.A. (2010). Motivation and satisfaction in Internet-supported learning environments: A review. *Educational Technology & Society, 13*(2), 116–127.

Chanchary, F.H., & Islam, S.A.M.I.U.L. (2011). Mobile learning in Saudi Arabia-prospects and challenges. *In International Arab Conference on Information Technology (ACIT'2011).* Jordan: Zarqa University.

Chen, X.B., & Kessler, G. (2013). Action research tablets for informal language learning: Student usage and attitudes. *Language Learning & Technology*, *17*(1), 20–36.

Demuynck, K., & Laureys, T. (2002). A comparison of different approaches to automatic speech segmentation. In *International Conference on Text, Speech and Dialogue* (pp. 277-284). Springer Berlin Heidelberg.

Edmundson, A. (2007). *Globalized E-learning cultural challenges*. London: Information Science Publishing.

Felix, U. (2005). E-learning pedagogy in the third millennium: the need for combining social and cognitive constructivist approaches. *ReCall*, *17*(1), 85-100.

Godwin-Jones, R. (2011). Emerging technologies: Mobile apps for language learning. *Language Learning & Technology*, *15*(2), 2–11.

Hampel, R. (2003). Theoretical perspectives and new practices in audiographic conferencing for language learning. *ReCALL, 15*(1), 21-36.

Hirsh-Pasek, K., Zosh, J.M., Golinkoff, R.M., Gray, J.H., Robb, M.B., & Kaufman, J. (2015). Putting education in "educational" apps: Lessons from the science of learning. *Psychological Science in the Public Interest, 16*(1), 3-34.

Jee, M.J. (2011). Web 2.0 Technology meets mobile assisted language learning. *International Association for Language Learning Technology, 41*(1), 161-175.

Johnson, L., Levine, A., Smith, R., & Stone, S. (2010). *The 2010 horizon report*. Austin, TX: The New Media Consortium.

Kim, G., & Ong, S. (2005). An exploratory study of factors influencing m-learning success (I). *Journal of Computer Information Systems, 46*(1), 92–97.

Kim, H.S. (2013). Emerging mobile apps to improve English listening skills. *Multimedia Assisted Language Learning, 16*(2), 11-30.

Kırkgöz, Y. (2011). A blended learning study on implementing video recorded speaking tasks in task-based classroom instruction. *The Turkish Online Journal of Educational Technology*, *10*(3), 1-13.

Krashen, S.D. (1982). *Principle and practice in second language acquisition*. Oxford: Pergamon Press.

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL, 20*(3), 249–252.

Kutluk, F., & Gülmez, M. (2014). A research about mobile learning perspectives of university students who have accounting lessons. *Procedia– Social and Behavioral Sciences, 116*, 291–297.

Kukulska-Hulme, A. (2007). Mobile usability in educational contexts: What have we learnt? *International Review of Research in Open & Distance Learning*, *8*(2), 1-16.

Luo, C.P. (2008). An action research plan for developing and implementing the students' listening comprehension skills. *English Language Teaching, 1*(1), 25-28.

Mara, U.T. (2012). Behavior response among secondary school student's development towards mobile learning application. *Chuser*, 589–592.

Mathur, R. (2011). Students' perceptions of a mobile application for college course management systems (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No.3466835).

Morgana, V., & Shretha, P.N. (2018). Investigating students' and teachers' perceptions of using the iPad in an Italian English as a foreign language classroom. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 8*(3), 29-49.

Motiwalla, L.F. (2007). Mobile learning: A framework and evaluation. *Computers & Education, 49*(3), 581–596.

Nah, K.C., White, P., & Sussex, R. (2008). The potential of using a mobile phone to access the Internet for learning EFL listening skills within a Korean context. *ReCALL, 20*(3), 331-347.

O'Malley, C., Vavoula, G., Glew, J.P., Taylor, J., Sharples, M., & Lefrere, P. (2003). MOBIlearn WP4 - Guidelines for learning/ teaching/ tutoring in a mobile environment. Retrieved on January 22, 2019 from: https://hal.archives-ouvertes.fr/hal-00696244/document.

Pachler, N., Bachmair, B., & Cook, J. (2010). *Mobile learning: structures, agency, practices*. London: Springer.

Ramos, L. (2017). Development of listening and linguistic skills through the use of a mobile application. *English Language Teaching, 10*(9). Published by Canadian Center of Science and Education.

Sharples, M. (2007). *Big issue in mobile learning: Report of a workshop by the kaleidoscope Network of Excellent.* LSRI, University of Nottingham.

Song, Y., & Fox, R. (2008). Using PDA for undergraduate student incidental vocabulary testing. *ReCALL, 20*(3), 290-314.

Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. *ReCALL, 20*(3), 253-270.

Thornton, B., & Houser, C. (2005). Using mobile phone in English education in Japan. *Journal of Computer Assisted Learning, 21*(3), 217-228.

Viberg, O., & Grönlund, Å. (2012). Mobile assisted language learning: A literature review. Paper presented at 11th World Conference on Mobile and Contextual Learning.

Wang, M., & Shen, R. (2012). Message design for mobile learning: Learning theories, human cognition and design principles. *British Journal of Educational Technology, 3*(4), 561-575.

Zhang, Y. (2016). The impact of mobile learning on ESL listening comprehension. Retrieved on December 10, 2018 from: https://www.researchgate.net/publication/315368299_ The_Impact_of_Mobile_Learning_on_ESL_Listening_Comprehension.

TRIỂN KHAI CÁC ỨNG DỤNG DI ĐỘNG TRONG LỚP HỌC TIẾNG ANH: TỪ NHẬN THỨC CỦA SINH VIÊN KHÔNG CHUYÊN NGỮ ĐẾN VIỆC CẢI THIỆN KỸ NĂNG NGHE

Tóm tắt: Nghiên cứu được thực hiện nhằm tìm hiểu nhận thức của sinh viên và ảnh hưởng của các ứng dụng di động đến việc cải thiện kỹ năng nghe của họ. 101 sinh viên không chuyên tiếng Anh được chia thành hai nhóm thực nghiệm và đối chiếu. Dữ liệu được thu thập thông qua bài kiểm tra nghe đầu vào và ra, bảng câu hỏi và phỏng vấn. Kết quả cho thấy nhóm thực nghiệm đạt kết quả cao hơn nhóm đối chiếu và các sinh viên đều đánh giá tích cực với việc áp dụng các ứng dụng di động cho mục đích luyện nghe tiếng Anh. Kết quả của nghiên cứu sẽ khuyến khích việc ứng dụng rộng rãi các ứng dụng di động nhằm cải thiện khả năng nghe của sinh viên và nâng cao ý thức sử dụng công nghệ trong giảng dạy ngoại ngữ.

Từ khóa: Ứng dụng trên thiết bị di động, kỹ năng nghe, sinh viên tiếng Anh