



Learn a Foreign Language with Mobile Application: A Case Study of Duolingo

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Abstract— Owing to the onward motion of technology, mobile assisted language learning (MALL) has been dominant recently in learning a foreign language. In this research the writer has used auto ethnography method to describe the efficacy of Duolingo language learning application for learning French as a foreign language. In this paper, the results of learning a foreign language using Duolingo free language learning app within the period of two months have been reported. Furthermore, the writer also addresses about the nature of language learning, the natural law and the challenges of learning foreign languages through using mobile applications.

Keywords—Duolingo; Foreign language learning; Mobile application

I. INTRODUCTION (HEADING 1)

The world of language learning has been extremely changed by the introduction of computer assisted language learning (CALL). However, after extensive use of mobile devices in every aspect of life, users and especially language learners were more eager to use their mobile devices to learn a foreign language, as it gives them the freedom to choose their best time and place. Also, they could use this advantage to spend their free time learning a language without any limitation such as paper books, classroom, teacher and etc. Using mobile technology in language learning is called Mobile-Assisted Language Learning (MALL). In MALL it is not essential for the learners to be present in a classroom or even at a computer to find learning materials. That is to say, MALL is the best solution to language learning when it comes to time and place problems [1].

Mobile learning (m-learning) is defined as a potential way to make learning process personalized, self-generated, formal, and omnipresent across various context yet with a focus on concept [2]. As Kukulska-Hulme [3] defines, the advance of using mobile technology in language learning happens because of its opportunity to be portable. So, this important feature makes it so beneficial for situated learning.

There are several outcomes to learn languages using mobile devices [4]. The first advantage is that mobile devices allowed

students to communicate and interact with other learners easily, whether concurrently or not. Secondly, mobile devices can create different settings for learners and is available in any particular time and location. Third, mobile devices can be personalized individually, so a learner can use it based on their interest, need, learning style. Finally, they are simply charged and carried by the learners.

To come to the point, mobile devices are accessible, immediate, and helpful for interacting and situating instructional activities [5]. As a matter of fact, because mobile devices are versatile and adaptable [6], they can be used within the instructional setting or outside the classroom, by itself. As a result, the gap between inside the classroom and outside of the classroom learning can be filled [7].

Briefly, learning a foreign language by the use of mobile applications can be a fascinating change for a learner. There are a lot of language learning applications on the online markets and a learner can use most of their features for free as long as they have access to internet connection. Examples of such applications are Duolingo, Rosetta Stone, Memrise, Busuu, byki, FluentU, Babel, Livemocha, LingQ, and many others. In this paper, I will describe my own experience learning a foreign language (French) using the most popular language learning app, Duolingo. As a native speaker of Persian and an English teacher, I will try to examine the process of learning a foreign language using my mobile device.

Duolingo is an American free language learning application that is created by Luis von Ahn and Severin Hacker and is used by more than 300 million users. This app is accessible in web version, Android, IOS and Windows Phone. As in June 2020 66 different languages were available to speakers of languages other than English in 23 courses. For English speaking people, there are 21 language courses available, i.e. Spanish, French, German, and etc. in addition to language learning users can also learn computer languages as Java. The owners of the company have claimed that users spend on average 30 minutes of their time on this app daily [8].



In the Duolingo website (<http://www.duolingo.com>) has been claimed that Duolingo is “scientifically proven” considering language learning. This claim is due to the fact that an independent study found that Duolingo outperforms university-level language learning [9].

II. LITERATURE REVIEW

A. Mobile Learning

Mobile phones, are the most compelling communication medium among all modern communication devices even stronger than email or websites as it can act as a learning device. Having such a powerful learning device the learners can control the learning process and their advancement in their own space based on their learning style.

The two most important features of a mobile device are its convenience and network connection. The meaning of network connection is that it should be designed in a way that the mobile system can be connected and to the learning website using the Internet connection to access learning material extensively including short message service (SMS) and mobile e-mail and other social networking sites. Its convenience means that learners can move mobile devices wherever they go and find learning materials [10].

The following advantages of mobile devices are stated by Klopfer and his colleagues [11] which are listed below:

- portability: mobile devices are small and light, so they can be taken to anywhere
- social interactivity: language learners can exchange information and interact with each other through their mobile devices
- context sensitivity: learners can collect the data on their mobile devices and reply in an independent and unassisted manner to the any location and time;
- connectivity: learners can connect their mobile devices to other portable devices and they can also use a shared network
- individuality: any platform can be customized for individual learners based on their learning styles.

The outspread market of technologies boosted the demand for mobile phones, and this made the teachers provide tools and software for the learners in language learning contexts. In addition, mobile phones are more accessible and inexpensive compared with other wireless devices such as laptop computers, having the same functionality as the Internet browsers and the ability to install applications. These features such being such an inexpensive device and reachable to even the underprivileged areas and also having the performance of e-mail or SMS, it is now possible to send information to and from mobile phones between teachers and learners as simply as possible [1].

Contrary to the fact that learning languages through mobile devices has some benefits, it has its own disadvantages as well. Features as small screen, reading difficulty on such a screen, limitations of data storage and multimedia, and so on.

Another limitation is that devices which are appropriate for some specific tasks are too expensive for most of the learners to buy. So, teachers should be aware of the type of the task and related tool assigned for that task [12].

In [13], Stockwell stated that the learners complain about the activities that take a lot of time to complete on the mobile devices, and as a result, some of them decide to use their computers to do their tasks. Also, many learners explained the fact that they are not dedicated to use their mobile phones for doing their tasks because of internet access costs, screen size and wasting their time.

B. Examples of Mobile Learning

Mobile learning can occur either in the classroom or outside of it. This can be more useful outside of the classroom. Doing tasks with mobile phones makes learning connected to the real world rather than just paper work. Furthermore, learning through mobile phones outside the classroom has the advantage of better manipulating the learner's free time; even the students can improve their learning skills strolling [14].

SMS-based learning is another advancement in the use of mobile technologies in education in which the learner receives specific text messages that supports learning outside of classroom and allows the teachers benefit from its advantages to monitor them outside of the class environment [14].

Game-based learning is another subject matter for mobile learning in which learning materials are so designed to be combined with some forms of physical environment. In such environments, learning activities are simplified by using the mobile technology which presents as a link between the real world of knowledge and the visual world of the game. The mobile learning games are a practical way to teach second language skills such as vocabulary, pronunciation, grammar, listening and reading comprehension and spelling [15].

C. Different skills and Mobile Learning

- Learning vocabulary: The type of activities focusses on vocabulary learning via mobile phone contradict from one research project to another, based on the level of language proficiency of the learners. one method is sending vocabularies via e-mail or SMS to the learners based on the lessons covered in the classroom. In a study Kennedy and Levy ask the learners to receive messages of the words of lesson on the class through SMS to their mobile phones approximately nine or ten messages per week. The



results showed that the messages were very beneficial for learning vocabulary [16]. There are other approaches for learning vocabulary via mobile phones. Learners can be prepared with some custom-made vocabulary practices based on activities done in the classroom. They are, then, asked to complete them on their mobile phones and send them back to their teachers.

• **Listening Comprehension**

Listening comprehension: is the first phase in learning a second language. With the onset of the smartphones, it is now possible to design a mobile multimedia system for learning listening skills through listening exercises. It is also possible to make a platform in which learners listen to a text by vocal service on their mobile phones, followed by a listening comprehension quiz based on the text.

- **Grammar:** can be learned through mobile devices in various platforms following by a multiple-choice quiz. They can be in form of “true-false” and “fill-in-the-blanks” as well.
- **Pronunciation:** smartphones can be designed for practicing pronunciation by multimedia access. A good service includes speech facilities for transmitting the voice and they also can show the animation or video clips of the mouth pronouncing the words.
- **Reading comprehension:** can be provided to learners via a well-designed course installed on the mobile devices or SMS sent to the learners. After finishing the reading activity, the learners are offered with a reading text function to examine their reading comprehension skill.

III. METHODOLOGY

This study is a qualitative approach study and it is done by autoethnography method. The main features of autoethnography include complete member researcher (CMR) status; analytic reflexivity; narrative visibility of the researcher's self; dialogue with information beyond the self; and, commitment to an analytic agenda [17]. Therefore, in this study, the writer is a complete member researcher (CMR). I signed up for the language courses in Duolingo. In fact, I signed up for two languages in Duolingo, i.e. French and German. However, since I had already had some knowledge of German, I decided to focus on French to evaluate. I selected French language because I had no previous knowledge of that. So, I was able to learn a completely new foreign language from Duolingo app. I decided

to take 30 minutes for language learning on Duolingo app for a period of 2 months. The details are going to be explained below.

Based on the website www.duolingo.com, there are four basic features of Duolingo learning plan. The first plan is *Read Listen Speak* method. Each lesson in Duolingo constitutes a various exercises of speaking, listening, translation and multiple choice challenges. The lessons in Duolingo are grouped into different categories such as Basic 1, Basics 2, Phrases, Food, Animals and Possession. For each category there are three to five lessons and one review lesson for weak words. In each lesson, there are several words to master. For example, in Lesson 1 Basic 1 the words I have learned are: *homme, garcon, femme, je, un, une, suis* (man, boy, woman, I, a, an, am). These words are used in sentences. Here are all the items given in lesson 1.

- A multiple choice question: what do you hear? There are four answers *ant, ante, a, anna*.
- Another multiple choice question: Which of these is “the man”? four pictures are given but in different order, *un homme, une femme, un garcon, une fille*.
- Translate this sentence: *une pizza*. I have to write the English translation in the provided box.
- Another translate this sentence: *une femme mange une orange*. I have to write the English translation in the provided box.
- Select the missing words. There is a sentence: *Tu une pizza.*, with two choices: *mange, manges*.
- Another translate this sentences: *Paul mange une orange*. I have to write the English translation in the provided box.
- A multiple choice question: Which of these is “the man”? There are four pictures with suitable phrases under the pictures with the following order *la chin, le homme, la femme, le garcon*.
- Type what you hear: a word is pronounced in French that should be written in a box.
- Another translate this sentence, this time in English to French: *a boy is eating an orange*. I have to write the French translation in the provided box.
- Type what you hear: *Tu manges*. I have to write the French sentence in the box.
- A question: How do you say “the”? The choices are *la, le, les*.
- Tap the pairs. In this item, learner should match the words which are each other's translation. There are ten words given, five in English and five in French.

This sample lesson indicates that Duolingo lessons concentrate on the translation and multiple choice format. From the foreign language learning and teaching point of view, translation is often corresponds to the Grammar Translation Method that is rejected by most scholars [18]. Contrary to this



fact, I think translation method can work in a good manner in the case of Duolingo app.

According to Dulingo *Read Listen Speak* principle, each practice is given in visual and audio format. So, for some practices, besides the text, there is a speaker icon for the learner to listen to the pronunciation of that word and try to repeat the sound. In other challenges of other lessons, the learner should answer orally by recording their voice.

However, in this app grammar is taught by giving examples. That means, learners should understand and mean the grammatical rules of the language by themselves. For example, in English there are no gender differences in definite and indefinite articles. Thus, *a, an, the* can be used for all nouns. On the other hand, in French, articles can be different based on the gender of the nouns, for example indefinite articles for 'a boy' – *un garçon*; while for 'a girl' – *une fille*. In addition, definite articles for 'the boy' – *le garçon*; while 'the girl' – *la fille*. These details are learned through different example sentences by watching and answering the questions.

The second approach of Duolingo is *in-lesson grading*. For each practice, learners can immediately witness which answers they get correct or incorrect. In the field of language teaching, this is called feedback. Feedback for a correct answer is given with an encouraging sentence in green: "You are correct". On the contrary, when we miss a challenge or cannot give the right answer, the feedback given is a sentence in red: "Oops, that's not correct." However, the incorrect answers are going to repeat in the next exercises over and over. Another important option is that the incorrect words in the sentence is underlined and sometimes if the mistakes are repeated, a tip is shown on the page for help.

The provision of instant feedback is in line with the explicit corrective feedback as stated by Lister & Ranta [12]. In this kind of feedback, the learner is told that he/she is making a mistake and is supplied with the correct form immediately. Since there are no explanation why the answer is incorrect, then the learner should infer about the nature of their mistakes. In this way, learners can learn and internalize the new materials. According to Garcia [11] the program's ability to provide instant detailed feedback at all times is a very effective tool to sustain interest.

The third approach of Duolingo is the *streak count*. Every time the learner finish one lesson, they get 10 XP points. XP is virtual money given to the users. This app encourages the users to challenge themselves by giving the daily goal to them. For casual learning, a learner should get 10 XP (one lesson a day); for regular learning 20 XP; serious learning 30 XP; and for insane learning 50 XP per day. The more XP you earn, increase the fluency level. After two months of being a casual learner, I

only achieved 15 %! However, Duolingo tries to motivate me by daily sending notification and e-mails of how many days in a row I spend learning a language.

IV. DISCUSSION AND CONCLUSION

Being a conscious activity, learning a foreign language can be enjoyable as well. Krashen [19] believes that conscious leaning does not relate with true language competence. As a result, the methods and approaches that motivate subconscious language acquisition are far better and more effective than traditional methods on communicative tests. considering this attitude, learning languages through mobile language learning apps cannot be efficient if it doesn't promote subconscious language acquisition.

Mobile assisted language learning apps such as Duolingo can help users who want to learn a new language. However, learning a foreign language needs more than just remembering and translating words or phrases. Learning a language means practicing to master the four skills of language, i.e. speaking, reading, listening and writing. Mobile-assisted language learning can be used to teach and learn these skills such as: vocabulary, pronunciation, grammar, listening, reading comprehension, speaking and spelling. However, these skills are learned in an incomplete way. Therefore, serious learners should search for other references, or look for the other important aspect of language such writing formally or informally.

Moreover, learning using mobile devices may have some disadvantages such as limited screen size and the many distractions they offer. As well as losing motivation by repeated materials [20]. Also, working with a mobile phone, there is this opportunity to be distracted by other applications and irrelevant materials during learning periods [21]. The ability to move the mobile device does not always bring positive influence, i.e. to encourage learning [3]. So, although the device can be carried everywhere, there is no guarantee that it is used for learning in a café or party, for example.

Although mobile learning (MALL) still has some limitations, it is a better than CALL. The probability of a movable device can change it to a better way of learning method in free time rather than sitting at a computer or laptop [20]. Moreover, CALL still carries its problems such as lack of enough interactions, incomplete feedback, and distraction from learning tasks. [21].

Finally, although I prefer to learn a language from an actual teacher, I think Duolingo can be an effective way of learning a foreign language in free time and having no time to take part in real classes.



REFERENCES

- [1] T. Mosavi Miangah and A. Nezarat, "Mobile-Assisted Language Learning," *International Journal of Distributed and Parallel Systems (IJDPS)* Vol.3, No.1, January 2012.
- [2] M. Sharples, J. Taylor, and G. Vavoula, "A theory of learning for the mobile age," In Andrews, R. and Haythornthwaite, C. *The Sage Handbook of E-learning Research*. London: Sage, 221-247, 2007.
- [3] A. Kukulska-Hulme, "Mobile-assisted language learning," In C. Chapelle (Ed.), *The encyclopedia of applied linguistics*, New York: Wiley, 2013, pp. 3701-3709.
- [4] Y-T.Sung, K-E. Chang, and J-M. Yang, "Mobile devices for language learning" A meta-analysis. *Educational Research Review*, 16, 2015, pp. 68-84.
- [5] H. Ogata, and Y. Yano, "Knowledge awareness for computer-assisted language learning using handhelds". *International Journal of Learning Technology*, 5(1), 2015, pp. 435-449.
- [6] P. Thornton, and C. Houser, "Using mobile phones in English education in Japan", *Journal of Computer Assisted Learning*, 21 (3), 2005, pp. 217-228.
- [7] H. Reinders, and M. Lewis, "Podquests: Language games on the go," In Andreade, M. (Ed.), *Language Games*. Alexandria: TESOL, 2009.
- [8] D. Farber, Duolingo brings free language learning to the iPhone. CNET News. Retrieved from http://news.cnet.com/8301-1023_3-57548608-93/duolingo-brings-free-language-learning-to-theiphone, 2012
- [9] R. Vasselinov, and J. Grego, "Duolingo effectiveness study", Final Report, Retrieved from http://static.duolingo.com/s3/DuolingoReport_Final.pdf, 2013.
- [10] A. Kukulska-Hulme, "Will mobile learning change language learning?" *ReCALL* 21(2), pp, 2009.
- [11] E. Klopfer, K. Squire, and H. Jenkins. "Environmental Detectives: PDAs as a window into a virtual simulated world." In: *Proceedings of IEEE International Workshop on Wireless and Mobile Technologies in Education*. Vaxjo, Sweden: IEEE Computer Society, pp. 95-98, 2002.
- [12] A. Kukulska-Hulme, and J. Traxler. (Eds.). "Mobile learning: A handbook for educators and trainers". London: Routledge, 2005.
- [13] G. Stockwell. "Investigating learner preparedness for and usage patterns of mobile learning". *ReCALL*, 20(3), 2008, pp. 253-270.
- [14] A. Kukulska-Hulme, "Will mobile learning change language learning?" *ReCALL* 21(2), pp. 157-165, 2009.
- [15] Microsoft research program. (2010). At: <http://research.microsoft.com/enus/collaboration/papers/berkeley.pdf>, accessed Jul. 2010
- [16] C. Kennedy, and M. Levy. "L'italiano al telefonino: Using SMS to support beginners' language learning". *ReCALL*, 20(3), 2008, pp. 315-350.
- [17] L. Anderson,. *Analytic Autoethnography*. *Journal of Contemporary Ethnography*, 2006, 35(4), 373-395.
- [18] D. Larsen-Freeman, *Techniques and Principles in Language Teaching*. Oxford: Oxford University Press. 2000.
- [19] , S. Krashen, *Explorations in Language Acquisition and Use: The Taipei Lectures*. Portsmouth: Heinemann. 2003.
- [20] M. Grgurovic, C. Chapelle, and M. Shelley, 2013. A meta-analysis of effectiveness studies on computer technology-supported language learning. *ReCALL*, 25(2), 165-198.
- [21] A. Oberg., and P. Daniels, 2013. Analysis of the effect a student-centred mobile learning instructional method has on language acquisition. *Computer Assisted Language Learning*, 26(2), 177-196.