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Learning English beyond Limitation, Duolingo Case Study for Arab Users

GRADUATE THESIS

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Learning English beyond Limitation, Duolingo Case Study for Arab Users



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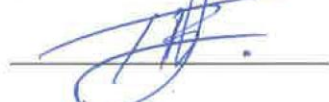
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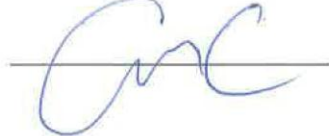
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“I, Hala Mahmoud, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.”



Hala

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## ABSTRACT

Learning English beyond Limitation, Duolingo Case Study for Arab Users

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Master of Arts in New Media

Advisor: Associate Professor. Eylem Yanardağoğlu

January 2017

Duolingo is one of the successful examples of games with a purpose (GWAPs) that teach languages for free. Recently, Duolingo started providing Arabic interface for Arabic speakers and the number of subscribers is increasing day by day. This research aims to explore the Arabic interface of the game, precisely the one that teaches English. In this interface the number of learners reached 7.18<sup>1</sup> million users in December 2016. All the users are Arabic native speakers that are trying to learn English for different reasons. The study examines the reasons and motivation of Arab learners to learn English in Duolingo. In order to do that, 111 active participants were surveyed, six interviews were run and personal observations of the researcher was used. The majority of researched sample are young and unemployed and trying to use the advantage of internet connectivity and the free game to learn English as a foreign language. The result of research revealed that motivation of learning English differs according to gender, country of origin and educational background. Also, it stated disadvantages of the Arabic version that teaches English for Arabs from users' point of view.

**Keywords:** Duolingo, English language learning, motivation

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<sup>1</sup> <https://incubator.duolingo.com/>

## ÖZET

Sınırların Ötesinde İngilizce Öğrenimi, Arap Kullanıcılar için Duolingo Örnek Olayı

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Duolingo, dil öğretme amacıyla hazırlanan ücretsiz oyunlar içerisinde en başarılı olanlardan biridir. Kısa bir zaman önce, Duolingo Arap kullanıcılar için Arapça arayüz kullanmaya başladı ve bu sayede takipçileri büyük bir hızla arttı ve artmaya devam ediyor. Bu çalışma, İngilizce öğretiminde oyunun Arapça arayüzünü araştırmayı amaçlamaktadır. Bu arayüz sayesinde İngilizce öğrenmek için Duolingo'ya kayıt olanların sayısı Aralık 2016 itibarıyla 7.18 milyonu bulmuştur. Anadil olarak Arapça konuşan kullanıcılar İngilizceyi farklı amaçlar için öğrenmek istemektedirler. Çalışma, Duolingo ile İngilizce öğrenen Arap kullanıcıların İngilizce öğrenme sebepleri ve motivasyonlarını incelemektedir. Bu inceleme için, 111 aktif Duolingo kullanıcısı ile anket, 6'sı ile mülakat yapılmış ve araştırmacının kişisel gözlemlerinden faydalanılmıştır. Araştırmaya katılanların büyük çoğunluğunun işsiz ve internetin sağladığı kolaylıkla yabancı bir dil olarak İngilizce öğrenmek isteyen gençlerden oluştuđu görülmüştür. Araştırmanın sonucunda İngilizce öğrenme motivasyonunun cinsiyete, ülkeye ve eğitim düzeylerine göre farklılık gösterdiği tespit edilmiştir. Ayrıca, bir başka açıdan Arap kullanıcılar için İngilizce öğretiminde kullanılan Arapça versiyonun dezavantajlarına da değinilmiştir.

Anahtar Kelimeler: Duolingo, İngilizce öğrenimi, motivasyon



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## Chapter 1

### 1.1 Introduction

Games are used almost every day by wide categories of players of different ages. They have been used for various purposes from fun to other serious purposes like education and business. Here the research is interested in exploring an example of games which are designed to be used for educational goals as Serious Games. Particularly, Serious games and games with a purpose (GWAPs) that are used in the language education sector. Here, Duolingo will be studied as an example of GWAPs (Lafourcade, et al. 2015). Precisely the Arabic version that teaches English language to Arabic speakers.

The topic of the current thesis focuses on investigating the reasons of learning a foreign language via using serious games, here represented in the Duolingo game. The research aims to answer why Arab speakers learn and enjoy English language in Duolingo as a game. The research first tried to understand the different users' profiles then explore their motivation of learning English in Duolingo. Also, the research tried to explore what are the difficulties of the Duolingo Arabic interface from users' point of view.

By doing so, throughout the research the research group is Arabian youth, mainly aging from 18 – 35 years old who are aimed to learn English as a foreign Language. Duolingo Arabic interface that teach English has reached 7.18 million users on December 2016<sup>2</sup>. The studied sample is 111 Arabic users who learn English language through Duolingo.

The study is based on previous literature on Duolingo that proved that game based technique that is used in Duolingo can be a successful method to learn a new foreign language. In this thesis, the area of study was the Arabic interface that enables learning

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<sup>2</sup> <https://incubator.duolingo.com/>

English for Arabic speakers. The research tried to explore the reason behind the motivation of users to learn in the game, the advantages and disadvantages, determining users' problems and discovering their goals through the game.

My experience as an Erasmus student in Germany in 2014 led me to research this topic. I met Spanish friends who introduced Duolingo to me, and I was passionate about games that serve and help in education sectors in general and languages in particular. It was interesting for me that a mobile application is teaching new languages and trying to provide certified exams and planning to compete with TOEFL and other certified English tests later on (Lardinois, 2014). Duolingo started to provide its English language test that marketing as affordable to international students. The test cost \$49 less than other certified English tests (Duolingo English test center). But here the question pops up about the certification and accreditation of that test. Duolingo announced that its English test accepted from universities and organizations without determining the names of these organizations or schools (Duolingo English test center). The examples of schools and organization that accept Duolingo English test are, on the top of the list is Harvard Extension schools, Ashton College and websites like oDesk; freelancer website and LinkedIn (Anaestrada, 2015, Duolingo Wiki, Harvard extension school, Ashton College 2015). LinkedIn allows publishing Duolingo test scores on it and oDesk shows the test scores on the profile page (Lardinois, 2014). Moreover, Duolingo won different prizes. Duolingo won prizes, such as 2013 iPhone App of the Year and 2014 Google's best of the Best awards. (Vogel, 2015, p.386).

Game usage in education is not a new trend, it had been used before to learn language or some school subjects like science or math. Universally, most of experiments were applied on children in early stages. Although there are some sceptics, it proved

success many times.

Duolingo is a “language learning application “(Munday, 2016) that is easy to use and students enjoy using it for various reasons. Thus Duolingo has diversity of tasks, available on mobile phones plus Gamification as a feature in the application. (Munday, 2016).

The idea of Duolingo mainly was based on translating web content for free. Nevertheless Using translation done by students to translate the web is a double edged weapon. From one side, it is a free way to get tremendous data translated in different languages by millions of volunteers. On the other hand, the accuracy of data provided by volunteers is not guaranteed. In his Tedx Talk Duolingo speech (von Ahn, 2011) Von Ahn announced his innovation of the new project; Duolingo. Von Ahn is the creator of CAPTCHA (spam-catching words you type in online) and reCAPTCHA systems <sup>3</sup> (Figure 1.1). CAPTCHA is a string of random letters, which usually have no meaning that users need to type online to verify that they are not a robot, usually when using online banking and email. An article linking CAPTCHA and Duolingo (Geron, 2012) announced that reCAPTCHA was acquired by Google in 2009 and the settlement of Duolingo. Duolingo was able to get \$15 million to start translating web for free and to teach people languages for free as well.



Figure 1.1: reCAPTCHA

<sup>3</sup> <https://support.google.com/recaptcha/?hl=en#6080904>

Duolingo idea was developed by von Ahn after he created reCAPTCHA. The goal of reCAPTCHA mainly was to create meaningful content instead of typing nonsense letters. This was the start of digitizing books, as the system shows some words; which are originally parts of books; people start typing these data. The system depends on reading and typing words by human beings that computer is unable to recognize. The system presents two different words, one of them the computer already knows the other it doesn't, so when 10 users type the unrecognized word the same it is considered as a new digitized word.

In his Tedx Talk Duolingo speech, von Ahn declared that the number of words that were being digitized in single day is about 100 million a day which is about 2.5 million books. Thus approximately the number of users who participated in digitizing books through reCAPTCHA was about 750 million users. (Von Ahn, 2011)

The same idea for Duolingo depends on humanity large scale achievement, having millions of people translating the web for free accurately and they are learning their language of interest for free as well. As we are now able to digitize English books why don't we translate it to other languages? People are learning languages with no cost and their entries were used for translation by using Duolingo.

This idea encouraged many bilinguals to volunteer by translating in Duolingo for free. In an interview with S.S, developer for iPhone app, he emphasized that was the reason for him as bilingual to join Duolingo as a volunteer. He dreams that all the data will be available in Arabic language one day as it is available in English language. So he considers his participation in Duolingo to translate from English to Arabic and vice versa is a step to increase the Arabic content on the web for free.



But now there is reevaluation concerning Duolingo financing policy<sup>4</sup>, so they are trying to find other resources for financing Duolingo. SS, continued that “it is really disappointing if Duolingo take a decision to change their mission; which is translating web for free, in that case we as bilingual volunteer will rethink about our participation in the game”, he said.

The thesis contains four chapters. The first chapter is the introduction that includes methodology and research process, obstacles in research and limitation of the study.

The second chapter is overviewing the GWAPs, serious games, games mechanics and review of previous literature.

The third chapter discusses Duolingo as an educational game and its features as game mechanics and motivational tools.

The fourth chapter discusses Duolingo for Arabic language users’ case study. It discusses the analysis of the questionnaire, results, findings, suggestions, discussion of the research and conclusion.

## **1.2 Methodology and Research Process:**

The study used both quantitative and qualitative research methods in this research. For the qualitative method personal interviews and personal observations were used for the game. For the quantitative research method a questionnaire was used.

The usage of the survey as a research method was mainly to get a feedback from game’s users, since questionnaire is a reliable method to get information from people who had the first-hand experience with the software. The questionnaire included 111 participants from 14 different counties.

The usage of qualitative research method represented here in personal interviews

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<sup>4</sup> <https://www.duolingo.com/comment/15695026>

and personal observations for the program was mainly to avoid the insufficiency of the survey results that might occur. Moreover, the interviews helped to get a better understanding of the game and the problems that the users face and to test some recommended solutions.

### **1.2.1 Process of research**

In order to understand the principles of Duolingo, an account was created by the researcher and it was used to contact Arabic users in the game forum for interview and questionnaire participation. In preparation for this the account was used for the game and my personal observations were recorded for four months. Then, in order to understand why users learn English in Duolingo personal observation method was used. By starting a topic in the discussion board, a topic was published titled as “Why do you learn English in Duolingo?”<sup>5</sup>. The topic contained list of questions like: why do you learn English in Duolingo? How did you know about it? Is it possible for someone to learn English here if they have no English language knowledge? Is it better to join a formal English class and use Duolingo to enhance the language skills? If they play other games for the same purpose?

Chatting with users was started to explore how good it is to learn here, is it beneficial or not and what is missing here and so on. Then next step was moving to the discussion board, read all the published topics from admins team and from users on the game’s forum. In that stage the survey was designed and ready for publishing.

For personal interviews, five one to one interviews had been run through Skype as audio calls and one as a written interview. Three interviews were run with users and

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<sup>5</sup> <https://www.duolingo.com/comment/15503019>

the rest with Duolingo moderators. The invitation was sent randomly for participants. The interviews had been run parallel with survey. The main aim of interviews was to clarify the points that weren't clear, discuss the problems that has been noticed through the personal experience, test some recommended solutions and to double check the initial survey results.

The survey had been run online to be able to reach users easily regardless of their location and was targeting 100 users. In spite of the huge number of Arabic version subscribers, the response was weak. In order to get a sample of 100, around 600 persons had to be contacted. Then a pilot survey<sup>6</sup> was launched, it included 10 people and getting their feedbacks. According to the pilot survey results, the questionnaire was edited as some questions were deleted, others questions became clearer.

## **1.2.2 Questionnaire**

### **The questionnaire sample**

The research was designed for native Arabic speakers who are using Duolingo to learn English. The questionnaire was sent to active Duolingo users through Duolingo forum randomly and the respondents were 111 active English learners in Duolingo Arabic interface. The sample includes different age ranges, males and females, students and workers. The completed response of the questionnaire represents 70% of the sample (78 respondents completes the whole questionnaire).<sup>7</sup>

### **Process of questionnaire**

The questionnaire was published and answered online through a web page called (umfrageonline.com). The questionnaire was accessed through that online link sent to random users through the forum of the game. So all the participants of the survey is

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<sup>6</sup> <https://www.duolingo.com/comment/16333469>

<sup>7</sup> <https://www.umfrageonline.com/results/b2223a6-e4f0d1d>

already current users of the game and learning English through Duolingo. Mainly the link was sent to users in a form of personal message to user's wall in Duolingo. Also, as a topic in discussion board in "Duolingo English from Arabic" discussion board. Moreover as a post in Facebook fan page, for Duolingo Arabic learners. The page named "Magmoat Duolingo Lel Arab- Le Ta'alem El englizia "or Duolingo group for Arabs learning English "<sup>8</sup>

The Pilot version of the questionnaire was published on 25/6/2016. The participants in the pilot survey included two users who participated already in the interview previously. The publishing was announced as a post in discussion board and also private message for people who were invited for interviews but they refused to participate for different reasons, whether refusing to contact them personally by voice as a matter of privacy issues, no time, no Skype account or no smart phone.

The final version of the questionnaire was available for a month (from 2nd of July to 2nd of August 2016). It was created in the Arabic language as it is designed for Arabic speakers. The questionnaire includes 66 questions, 8 questions are open question and the rest are multiple choice questions. The open questions contained five questions about demographic data in the beginning of the questionnaire and the other three were at end of it as a recommendation part from users to us trying to discover what they like or dislike most about Duolingo and what they wish to see available in the future. The complete questionnaire is in the Appendix A. The questionnaire was sent in Arabic, here is a translation of the questions to English language for the purpose of this thesis.

### **1.3 Obstacles in research**

In order to run this research, some barriers were faced. Some were expected, such

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<sup>8</sup> <https://www.facebook.com/groups/1376161072714579/>

as weak or slow participation and some were not expected like barriers related to customs and traditions.

### **Culture and traditions barriers**

Private message were sent to males and females for invitation to interview. But none of the females accepted to run an audio interview with me. Some weren't aware what an interview is, others were afraid it might be fake and I'd be invading their privacy. Furthermore, running a written interview was offered with any program rather than Skype or even chat programs and they also refused. In addition to this, some of them refused to fill in the survey for the same reasons as it is a case of ambiguity for them as it is something they don't know much about it so it is better to ignore it.

Some males refused to run an audio interview because of religious reasons. Here, there is one interview as chat "written conversation" because of this reason. This was highly surprising, since there would be no physical contact during the audio interview.

### **Ignorance barrier**

It was hard to convince people that I'm doing something serious. Fortunately, some people were aware of what a survey is and cooperated or refused to cooperate for other reasons. As previously mentioned, a large number had to be sent out in order to get a sufficient sample. The most unpleasant part was that some people were thinking that I'm seeking a romantic relationship.

### **Contact barriers**

Reaching my target group brought difficulties, some of them related to technology and the others related to Duolingo rules.

For technology side, I chose Skype as an audio communication tool for interview as it is the only program that users allow to add to their profile. Also, it could be used on computers as well as on cell phones and there are a lot of free programs that allow me to

record the call for archiving purposes. But I was surprised that there are people who are not able to contact me on Skype as they don't own computer or smart phones.

For Duolingo rules, personal messages were received from Duolingo admins to stop the sending messages, which were, to many members, in fact survey invitations since they consider this spam (see figure 1.2).



Figure 1.2 : warning from Duolingo moderator (the translation: “my dear friends, this questionnaire is partial of fulfillment a Master degree, the research is aiming to research game usage in education and Duolingo used as an example in this study. This research is aiming to evaluate the usage of Duolingo as an educational game that teach English for Arabs. Also, to understand the weakness and strength points in the program. Moreover, your recommendations that I will consider and also send a copy from it to the company to apply what they think it is applicable from it. Here is the link of questionnaire in Arabic language, answering the questionnaire requires five minutes “).

#### **1.4 Limitation of the study**

The study is limited to the Arabic version of Duolingo, precisely to main features on the Arabic version that is related to English learning. So the study didn't address or evaluate the English test that Duolingo provide for example. Also, it didn't research other features that are under progress or missed in the Arabic version as for example; the translation section of Duolingo.

The studied Arabic version which is addressing the native Arabic users who are there to learn English as a second language. This segment of users are different from other users from educational and cultural side. From educational side, they are not familiar with learning through games. Moreover, they have limited access to other learning technology as usually it is offered in English language. From the cultural part, they are less trained in technology, which causes inaccurate feedback or distraction from learning goals.

Furthermore, the study didn't explore the relation between Duolingo and language teachers and the facilities that Duolingo supports for that. Duolingo provides facilities for educators "Duolingo classrooms" and "Duolingo for schools"<sup>9</sup>. Hence, it works as a panel between teachers and students as teachers can create their virtual class and follow their learners' language learning path.

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<sup>9</sup> <https://schools.duolingo.com>

## **Chapter 2: literature Review**

### **2.1 Serious Games, Gamification, GWAPs and game mechanics**

Education as a process is not always motivating and when it comes to learning a language it can be even harder. A lot of tools have been used in education, one of them is using games. A game is defined as “a problem-solving activity, approached with a playful attitude “(Janitzek et al. 2012, p5, as cited in Schell 2010, p.37). Games are entertainment tools that help in engaging people in different activities. Game are not only used for fun but also for purposes as education. Moreover they are not limited only to young people. In a research in 2011 done by Bond University for the Interactive Games & Entertainment Association found that “43% of people aged 51 or over are gamers” (Forsyth, 2012).

Nowadays game mechanics and game elements are used in non-games situations in a process known as Gamification.

Gamification in education is used as an approach to enhance users’ motivation using technology. The main goal of using Gamification is making the education a process more amusing and to increase the users’ engagement in the educational process (Monterrat, Lavoué, and George, 2014, pp.578-579). Zichermann and Cunningham (2011, p. xiv) define Gamification as “The process of game-thinking and game mechanics to engage Users and solve problems”<sup>10</sup>.

The usage of Gamification aims to solve problems by influencing both of human behaviors and motivation (Zichermann and Cunningham, 2011). Education is one of the areas that Gamification had been applied successfully in. (Nah et al., 2014, pp. 401-409). The idea of using games during the learning process is not new. It is normally used

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<sup>10</sup> Gabe Zichermann, Christopher Cunningham: Gamification by Design Implementing Game Mechanics in Web and Mobile Apps 2011



specially as a direct interaction between teacher and learners. The transfer into digital form is the new approach (Muntean 2011).

Game mechanics are the tools that are used in Gamification or in the gamified system. The gamified system mechanics include a chain of tools that, when used properly, gets effective response from players. There are seven main elements: points, leaderboards, levels, badges, boarding, challenges/quest and engagement loops (Zichermann and Cunningham, 2011, pp. 36-76). In this part, the elements of game will be discussed briefly are the mechanics that used in Duolingo or related to this study.

The first element is points, which are collected in accumulative process whether between player and the system or between the players themselves. One of the most famous point system is experience points (XP). The experience points are non-redeemable ones, usually are used to watch or guide the player. They can expire during a specific time: weekly / monthly; the player gains experience points as long as he plays the game. The second element is levels. Usually levels are showing progress, sometimes designers use different layouts or colors to express different levels. Usually the difficulty of the increases as the level increases. The third element that is widely spread is leaderboards. It is used for making comparison between the player and his peers. The last element to discuss here is badges, collecting badges is a pleasing thing for many people. In some games badges replace levels. Generally badges are used as a motivational tool to encourage the social promotion or to show that goals have been completed (Zichermann and Cunningham, 2011, pp. 36-76).

In the virtual world learning is fun and users can learn easily by making mistakes, as opposed to real world where making mistakes represents high risk. The usage of game

elements in the virtual world's atmosphere is mainly to increase users' engagement by achieving given educational goals.

The usage of game mechanics and elements to promote certain behaviors is widely used. Gamification has achieved significant success in many sectors; starting from business ending by education.

There are two approaches to use Gamification in education. The first one is known as "serious games"; which means redesigning an educational environment from A to Z, which make this an expensive approach. The second way is using the game elements and mechanics in the educational process (Monterrat, Lavoué, and George, 2014, pp.578-579).

Nowadays games are classified to many types, it will be discussed here serious games and games with a purpose.

Serious games are games mainly designed for another purpose rather than entertainment; for example education. This doesn't mean that the game is not enjoyable or fun. (Michael et al. 2005). Serious game is defined by many scholars as "a game in which education (in its various forms) is the primary goal, rather than entertainment" (Michael et al. 2005). Another type of games that will be discussed here is games with a purpose.

The idea of games with a purpose (GWAPs) is to try using the time that people are spending on playing games and transfer it to useful time and work. Thus, dealing with human brains as if it is computer processors that contain intelligence to solve problems that computers are incapable of solving yet. Therefore, in this case the human brain needs a reward to be able to perform a process or solve a problem which is in the game (Von Ahn, 2006). Nevertheless, that players doesn't care about the value that is behind the

game. So, the amusement of the game is main factor that attracts the players regardless how great the goal is behind the game itself. (Lafourcade et al. 2015).

## **2.2 Language learning and Technology:**

Personalizing education was a dream that nowadays became reality. However, providing information for every student according to his interest, motivation and background is not an easy job. Online education is deploying day by day using crowdsourcing mechanics, which help in personalizing the education, providing to every student what he needs and adapt information provided according to his skills and his requirements (Weld et al. 2012).

Technology proved its success in foreign language learning (Golonka et al. 2014). Internet technology is proved to achieve significant success in language learning, one of the famous learning platforms is internet assisted technology. Celik, (2013, pp.468-483) researched in a study the use of internet for education purposes in Turkish universities. The study was focusing on usage of internet in learning English as a foreign language. It revealed that instructors employ internet as a methodology in their teaching techniques but the quality of their usages requires more improvements. The research tried to discover the tools that are used in Turkish universities in internet assisted language teaching (IALT), discussing the advantages and disadvantages and the availability of IALT. Also, the study reveals some difficulties that are facing English language instructors like exploring English teaching materials that are appropriate and could integrate with their teaching curriculums.

Another successful study was applied in Japan (Thornton, P, et al. 2005). This study proved the potential of Japanese students to learn through using mobile phones, even though the rate of daily communication as sending e-mail mostly was replaced by

using mobile phones rather than using personal computers. At end of the study, the students appreciate and evaluate the mobile learning process positively. The study had started by a questionnaire to investigate which mobile technology students use in Japanese universities. It tried to explore the usage patterns of mobile phones for students, the features they use in mobile phones and the purposes of that features' usage. Then the application of the study got on two stages. The first stage called "learning on the move", that was concerned with (2G) mobile phones or mobile phones that use second generation technology and it is usually cheap mobile phones. They depend on sending emails on different stages contain English vocabulary activities. (As cited in Thornton & Houser 2001; Houser et al. 2001). The second stage was addressing the higher technology of (3G) mobile phones and PDAs (personal digital assistance). This stage called "Vidioms" depending mainly on web video and 3D animation that were created by students. They created a learning website of the same name to teach English idioms to student. They were sending multimedia messages that explain the meanings of the idioms on their mobile phones and PDAs (As cited in Thornton et al. 2003).

Nowadays students are described as the "net generation" Hsu 2013 (as cited in Oblinger, 2003) as they are used to deal with internet and its applications all their life. Mobile learning (M-learning) is developed day by day and it enriched the learning process in many fields, one of that fields is English as a foreign language (EFL). Despite that computer assisted learning (CALL) is rapidly growing and became very popular, a lack of internet connectivity represents a learning problem to many people. That's why (M-learning) came as a solution for this problem. Thus, mobile technology is one of the fast growing high-tech technology worldwide. (Hsu 2013). Mobile applications include learning materials that language teachers can use in their educational process, which is an

advantage was not available before (Lindaman et al. 2016).

CALL is a platform that has been researched for years. There are different types of technologies used in language learning field. A lot of programs and methods are used in that field, some are as class room based technology like interactive wide boards and some are individual study tools like electronic dictionaries and grammar checker. Moreover, the network based social computing as serious games, virtual world, chat, blogs and social networks that enables person to person communications and integration. Furthermore, internet forums for example Wikis and also portable devices like phones, tablets and iPods. All of the previous types have its advantages and disadvantages but also they participate in one way or another in language learning (Golonka et al. 2014).

Mobile assisted language learning (MALL) is a partial area of mobile learning field (Viberg et al. 2012). Furthermore, MALL can overcome restrictions of time and space that CALL faces as MALL is offering mobility (Hsu 2013). Moreover, mobile learning offers advantages that attract learners as it is an interactive tool, immediate, accessible, user friendly, low in cost and flexible as learning tool. Although that M-learning still under research tutors need to find productive materials and techniques for MALL (Viberg et al. 2012). In order to achieve the requested goal of mobile applications it is recommended to be prepared and designed under supervising of educators, even if the application development project will be applied on small group of learners and teachers. In addition to that, nowadays the majority of learning applications are being prepared with the absence of language pedagogy. That's why it is recommended that teachers should be encouraged to prepare their own application development projects (Lindaman et al. 2016).

A study discussed by Hsu (2013, pp.197-213) revealed that cultural differences play an important role in English learning as a foreign language. As per this study, there

were significant differences in students' attitudes towards MALL course that was designed for international students. The study included 45 students that study a MALL course that was designed for them followed by a survey of 15 questions to get their feedbacks. The result of the study was to determine the differences between the attitudes of students concerning affordability of technology, application, and constructive approach of learning that is provided by MALL.

Comparing to traditional methods, MALL is one of the tools that invade the language learning nowadays. Taking into considerations the advantages and disadvantages of mobile learning, it can help in designing a mobile application that help in foreign language learning and overcomes some obstacles that face students in learning process. Thus, mobile language learning is opening new spaces and using digital tools in an interactive way (Lindaman et al. 2016)

An important point is also the motivation strategy difference between MALL and CALL methods. While computer learning or web learning tools depend on "pull strategy" the mobile phones as learning tool depends on "push strategy". The push strategy pushes the information and send it to user or learner which make the learner passive as always receive the information which breaks his motivation. In learning through mobile phone, the learners receive the learning materials and they have to read or listen to the data that already sent to his mobile. Moreover, most of students in developing countries own mobile phones but not all of them own personal computers. That's explain why learning through mobile phones is easier than learning through the web (Saran et al. 2008). Mobile learning can increase chances of foreign language learning (Thornton et al. 2005).

Furthermore, Introducing new words or vocabulary for students or sending them short audio clips to their mobile phones proved its success in learning English vocabulary (Anaraki 2009). Vocabulary learning is an important part of English learning (Yang

2012). One of the main factors that affect students' proficiency of language learning is the limited vocabulary that they have. That's why vocabulary learning is very important in learning English as a foreign language (Saran et al. 2008). Researches proved that student needs a minimum number of English words to be able to read English texts that are non-specialized; the minimum number of words is 5000 words for any foreign language as a basic (Thornton et al. 2005, as cited in Laufer 1997 ; Nation 1990).

Learning English through playing games is effective tool of learning that increase students' self-confidence (Huyen et al. 2003). People are looking forward to learn exactly what they need with low cost and away from location barriers (Anaraki 2009). Besides that technology tools can motivate students in learning foreign languages. Chat helps in language production and increases levels of language complexity. Thus, chat helps students to develop their foreign language skills, as the students who used written chat had proved better performance in their foreign language learning as they gain more vocabulary and decrease their worries towards the foreign language. On the other side using blogs improved writing skills for students who learn second language as they gain some skills like better spelling skills and new sentences. Beside, blogging improve writing skills of the students and also increased their self-confidence plus they are enjoying writing in blog or commenting there (Golonka et al. 2014).

## Chapter 3

### 3.1 Duolingo as an educational Game

An article linking CAPTCHA and Duolingo (Tomio Geron, 2012) declared that Duolingo use the same technique that CAPTCHA uses to translate text which is the crowd sourced recognition of language. The difference here between both that Duolingo depends on people language learning to translate texts not on captchas.

Much has been written about Duolingo and translation. Garcia, (2013, pp.19- 24) for example points out that Duolingo is a free learning software and they promised that it would continue being free, since its launch in June 2012. As its user-friendly designed software and easy logging a lot of people are encouraged to join day by day.

In release year, June 2013, Duolingo had over 300.000 active users. Logging in Duolingo requires only an email address (or Twitter or Facebook account, if you want to link your Duolingo account with social media) and a password.

On the other hand, Duolingo is a software that is available to teach languages for free, one of the differences that it helps in translating web for free. Garcia (as cited in Farber 2012), stated that the daily activity of users is around 30 minutes of involvement.

Krashen (2014, pp.13-15) stated that Duolingo claims that they are scientifically proven. In addition to, the study states that unconscious learning is more effective than the conscious one that Duolingo and most of foreign learning instructions are depending on. Garcia, (2013, pp.19- 24) discussed that users are able to get an immediate feedback once they finish the task. Then, they can see if their answer is correct or not. If their answer is wrong, they can know what the correct answer from Duolingo is.

A study done by Ye (2014), discussed the reliability and validation of Duolingo English test. The study depends on a research on students who had set before for TOEFL



test in the last 18 months. Then it compared the Duolingo English test results with their original TOEFL scores. The study proved that Duolingo English test is valid and reliable comparing to TOEFL test. Moreover, it associates between the Duolingo English test result and TOEFL IBT test results of the participants. Considering that the scale of Duolingo test is from 0-10 while TOEFL IBT scale is from 0-120, the study presents that Duolingo English test score of 5 equals 80 score in TOEFL IBT test, which is the average score needed for application to study for international students.

Duolingo allows users to learn any languages using your laptop, tablet or even mobile phones. The application depends on developing mainly four skills in its learning process: reading skills, writing skills, listening skills and speaking skills. The content provided by learners is used to translate the web. For example if 50 users of Duolingo decided that “Elma” in Turkish language means “Apple “in English then Duolingo will consider it as a correct translation. The same idea used for single words is used for phrases and texts.

There is a section for translation in Duolingo. Translation is open for users who are able to translate, that section is not available yet in the Arabic interface that teaches English that we study here. A business model provided by Duolingo was discussed by Garcia, (2013, pp.19- 24) which is a future plan for translation section, an upload center was held for that purpose for users who have text they want to translate it. That section is also for free right now but with the plan of acquiring a charge for these translation when they can guarantee that translation is accurate.

Duolingo for Arabic users provides four languages which are English, German, Swedish and French<sup>11</sup>. The Arabic interface for teaching English language reached 4.53

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<sup>11</sup> (<https://www.duolingo.com/courses/ar>).

million users in July 2016<sup>12</sup>. The English language courses for Arabic speakers started in April 2014, after first month the number of users reached 6500. Later on, after 1 year of launching the number increased to 200.000 English learners with Arabic as their native language. Thus, it was really encouraging to Duolingo team to enhance the Arabic version and develop it faster. 11 months after (approximately in September 2015), the program graduated from Beta version and reached the final stage. In March 2016, Arab users were 3 million users and the number jumped to 4 million users in June 2016.

Many studies tried to explore Duolingo or one of its features and aspects. Here, a summary of some previous studies that includes its way of researches and their results will be presented.

According to digital resources standards, Duolingo counted as a convenient English learning tool (Mahmudah, 2015, p.9). The researcher tried to analysis part of exercises that Duolingo provide which is pronunciation section and whether or not it contributes to learning of English language. The researcher used qualitative and quantitative research to explore and understand pronunciation tasks and whether it is functional or not. She depends on her personal analysis for Duolingo data content and she had run a questionnaire for Duolingo users. The research was interested in English-Indonesian version of Duolingo. Moreover, the questionnaire were been run in Indonesian language, includes 10 close ended questions and the respondents were 20 (Mahmudah, 2015, p.53).

Another study aimed to explore Duolingo awareness in Czech Republic as an E-learning language tool and the interest of people in learning foreign language (Jašková, 2014, p.49). Thus, the study stated that majority of the research sample are interested in

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<sup>12</sup> <https://incubator.duolingo.com/courses/en/ar/status>

learning a foreign language. Furthermore, they are looking for interesting way of learning as they are not satisfied with their current learning tool. The majority of them doesn't use E-learning as a learning platform although they prefer the modern way of learning comparing to the classical one. Although, most of them never heard about Duolingo, they think that they can give it a try but they don't think they will learn through Duolingo. It should be mentioned that there is few of people who stated that they have used Duolingo as a learning tool in that study (Jašková, 2014, p.59).

The researcher depends on quantitative research, he run an online bilingual questionnaire in the Czech and English language. His questionnaire was available for a month and he sent it the questionnaire request randomly through Facebook. Thus, he tried to configure whether Duolingo is known to Czech people or not and then if it is known are they interested in using it or they will not give it a try. The number of respondents for this questionnaire was 118 out of 300 people, it includes 15 questions and it has both questions types, closed questions and open ended questions (Jašková, B.V., 2014, p.50).

One more study was done to test Duolingo effectiveness by comparing it with university class (Ratzlaff, N.J., 2015). The research compared between using Duolingo to learn basics of German language and an entry German language class in university. The comparison made through a test to compare the obtained skills between the different groups. The number of participants in this research were 15. First group includes five participants, this group's members were using Duolingo daily for three months until they achieved specific number of hours. The second group had 10 participants and they commissioned them an entry German class in university, German A1 class for specific period of time (Ratzlaff, N.J., 2015, p1). Both groups were supposed to study the same number of hours upon the end of experiment also to study according the skills provided

according to the given learning tool. At the end, both groups set for a German language exam, the exam was prepared by the researcher and his professor. Hence, the test was created to measure the differences between the obtained skills and set the differentiation between the two groups. The result of the test showed that both of the two groups were able to gain different language skills but the second group, who was in university class exceed the other group who depended on Duolingo as a learning tool (Ratzlaff, 2015, p32- 33).

Krashen (as cited in Vasselinov and George 2012) observed in a study to evaluate Duolingo effectiveness in learning Spanish language. In that study they didn't classify if Duolingo is better or worse than any other learning course or class. The study proved the progress of learning that is achieved by Duolingo. It was based on analysis of a volunteer task, an ad which was published on internet. Participant were mostly college graduates were able to select from volunteer subjects .The target was using Duolingo for 30 hours then they were able to take a test later. The test was a standardized test basically multiple choice test.

The study tried to know if Duolingo Spanish class can be equal to college class, whether or not beginners who are learning Spanish in Duolingo can learn the same knowledge provided in college and are able to join the second level of Spanish in college. Furthermore, they found that student on Duolingo needs to learn averagely 34 hours and get minimum 270 in the exam. Taking in consideration, that Duolingo students are missing motivation and experience provided in college, the study noted the variation of different users' performance and also the high number of users who stopped using the program without knowing the reason. Nevertheless, participants who joined Duolingo for learning Spanish for achieving a target for travel or business have better results than others who used because of school or self-improvement.

But how does Duolingo works what is the feature of the application and which game mechanics does it depend on? This is what we will discuss in the next part.

### **3.2 How does Duolingo Work?**

#### **Playing the game:**

A level is completed after completing a number of lessons. The player needs to finish the complete lesson as a whole if he wants to keep his gained points. If the player decided to stop playing in the middle of the lesson, then he or she has to start playing from the last completed lesson. Every lesson includes new words, grammar rules or a combination of both.

To exceed the current lesson, the player needs to be aware completely of the basic new words that are introduced otherwise the player can't move forward. The system of the game is designed to mark grammar mistakes and spelling errors. Hence, the game records player's weak points and continues repeating these words in different forms of exercises, until the player is familiar with these words and understands them.

#### **3.2.1 Duolingo game mechanics:**

##### **1. Levels:**

Player is required to play and go up in specific levels in sequence as any game. Thus, every player will start playing with first level and will be upgraded to upper levels until the player finishes the "Learning Tree"; it means all learning levels. Before the player starts the first level he has the choice to run an English placement test or to start directly from first level (see figure 3).<sup>13</sup>

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<sup>13</sup> <https://www.duolingo.com/>

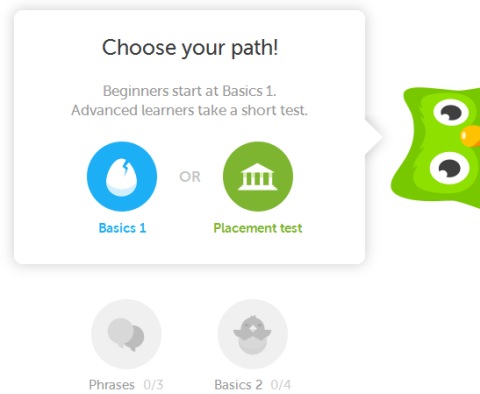


Figure 3: Beginner interface

## 2. Leader board:

The leader board in Duolingo shows your scores comparing to your friends' scores. The player has the option to choose the view of the scores, it could be displayed weekly / monthly or all the time. So player can compare his gained Linguits (the virtual currency in Duolingo, will be discussed later), current level with their friends.

## 3. Experience points (XP):

After every skill the player learns, it shows the player how many Experience points (XP) you gained. Then it present a map displaying your performance of playing today comparing to other days.

### 3.2.2 Duolingo features:

#### Linguits:

This is the virtual currency of Duolingo virtual store. Usually the player can gain some Linguits after completing any level. Linguits are used as a kind of rewarding tool

for players the more you play, the more you gain. The players only gain new Linguits by completing new levels, not by replaying completed levels for revision. Linguits are used as a “like” button in the game. Linguits are used as a reward or gift between the players.

### **Virtual store:**

The player can use Linguits; which is the game virtual currency; to buy items from the virtual store. The items that are provided are items to enhance the learning process. For example : an item to freeze his current playing level in the same level or position for days even if you stop playing.

### **Social Media:**

The player is invited to link his Duolingo account with his LinkedIn one. Also the player can share his winning scores to his Facebook and /or his LinkedIn accounts. Also, the player can invite his friends on Facebook to play in Duolingo and gain new Linguits upon their participation in the game.

### **Daily goal alerts:**

Every player can set daily goal for himself, it ranges from basic goal to crazy goal, according to how often and how long he wants to play Duolingo. There is also a virtual coach represented by “owl” figure that encourage you achieving your setting goals.

### **Daily alerts:**

It is an alerting system, sent to users as a daily email or as a notification message in the game according to his preferences. The player receives the alerts if he or she forgets to play in a day.

## **Chapter 4**

### **Duolingo for Arabic language users case study**

#### **4.1 Questionnaire data analysis**

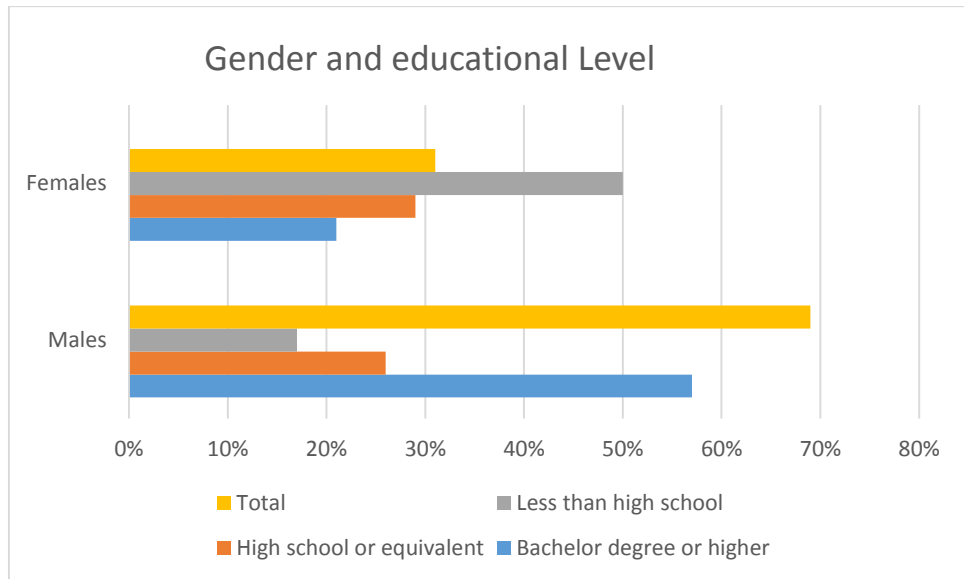
The analysis of data obtained from questionnaire starts with demographic data, then we will go through the language learning process generally and in Duolingo specifically then English learning.

##### **Demographic data analysis**

The sample represents 111 active English learners from the Arabic interface for Duolingo. The males are representing 69% of the sample and females are 31%. The majority of males have bachelor degree or higher while in females the majority their education less than high school represents 50% (See figure 4.1). The majority are single, only 2% of females and 3% of males are married (Results of question 7). Moreover, the majority of sample is between 19 to 35 years old which represents 62% of the total number of participants, While 37% of participants is under 18 years old and only 1% is older than 36 years old.

For males sample the larger part is for participants who have bachelor degree or higher representing 57%, while the females' sample the half of the participants who studied less than high school (See figure 4.1). This conclude that a great bulk of the studied sample is males who are high educated that representing 40% of the total sample.





*Figure 4.1: Gender and educational level*

Generally, the majority are students either in high school or university that represents 47%. Some of them are unemployed, they represent 27 % and 26% of participants are working. The employed segment varies from high educated people like engineers, developers, programmers to low educated people like mechanic helper and cleaners and the average of income among the employment segment is 360\$ (Results of question 5).

The participants came from 14 different countries, the numbers of each country vary. At the top of list, Egypt represents 25%, Algeria is 24%, and Saudi Arabia is 16 %. Then moderate participating countries are 3; Morocco is 9%, Syria is 7% and Palestine is 6% (See figure 4.2). Furthermore, there are 14% of them are living in other countries rather than their home countries (like: Egypt, United Arab Emirates, Turkey and France). The rest of the sample which represents 86% are divided into two groups. The small group is 36% that shows people who are living in capitals or big cities while the majority of people who lives in their home countries are living in suburbs or small cities and they

serves as 64% of people (Results of question 4).

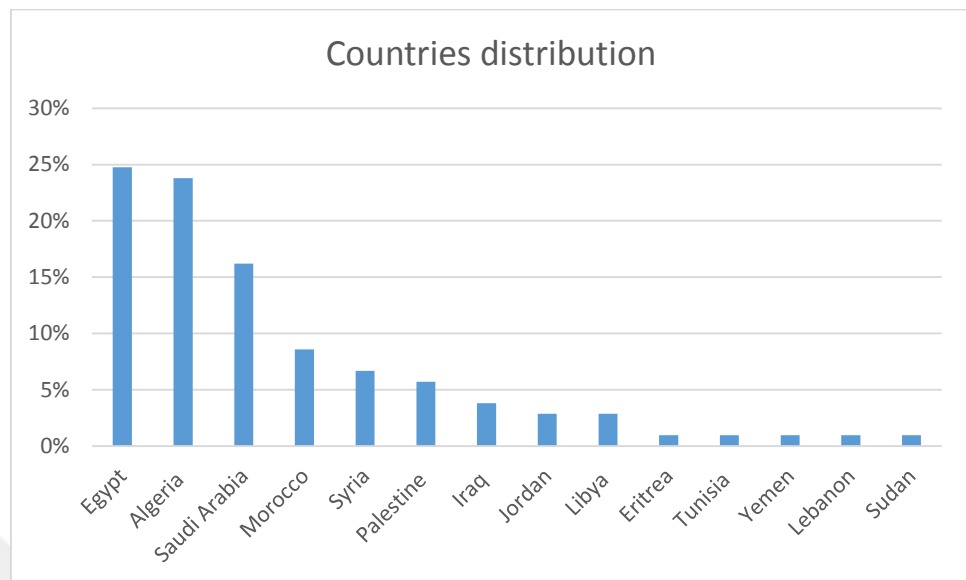


Figure 4.2: Country Distribution (Results of questions 3)

For males, the majority is employed and their age is between 19 to 35 and that represents 49% of males. For females, the big bulk is students and they are aged 18 years old or younger and that represents 33% then followed by the unemployed females who are aged also 18 or younger and they represents 22% of females (see figure 4.3). That implied that the majority of females are 18 years old or younger while the majority of males are in the age between 19-35 years old.

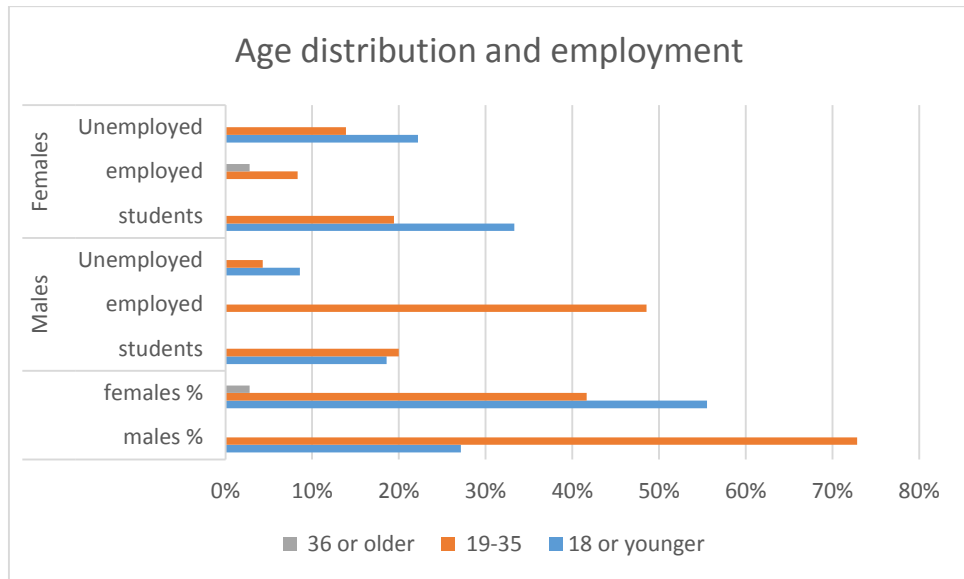


Figure 4.3: Age and working status among the participants (Results of questions 1, 2 and 5)

### **Motivations for Learning English in Duolingo:**

The main motivation for learning English in Duolingo for males who have Bachelor degree is “to travel abroad” representing 71%, while for males of high school background the main motivation is self-improvement representing 79% and for males who studied less than high school their motivation is “self-improvement” as well representing 67% (see figure 4.4)

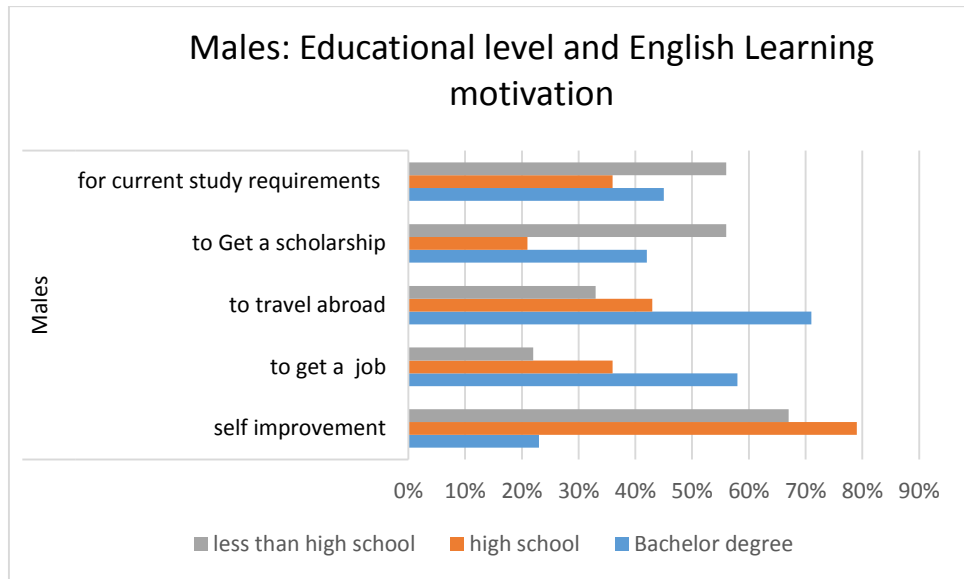


Figure 4.4: Males: Educational level and English Learning motivation

For females and their motivation in learning English in Duolingo; it is noticed that the prime motive for female participants who have a bachelor’s degree is self-improvement that represents 100% of the studied sample. On the other hand, 83% of females with only high school education or lower, were motivated by self-improvement (see Figure 4.5).

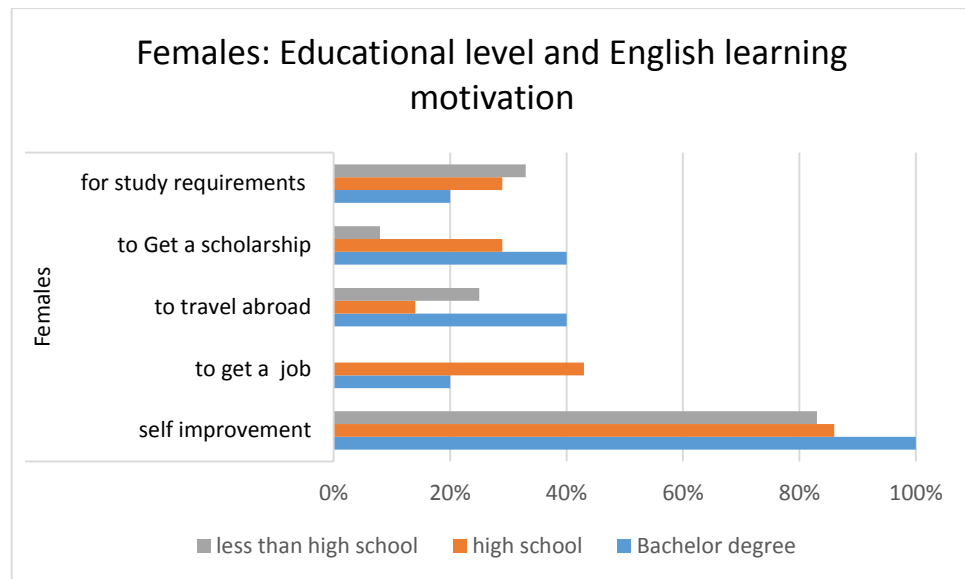


Figure 4.5: Females; Educational level and English learning motivation

So, we can conclude that the bulk of motivation for people to learn English in Duolingo is self-improvement then followed in importance by the wish to travel abroad ( here is referring to travel to find a job or to study) in the male sample.

The motivation of learning English is different from country to another, and between males and females. Saudi Arabia and Algeria are quite similar with difference in percentages, the males learn English primarily for self-improvement and secondarily to travel abroad. While for females self-improvement comes on the top of the list, current study requirements (see figure 4.6).

In Egypt, for the males they learn English for current study requirements or to get

scholarship. While for Egyptian females they learn English for self-improvement and then to get a scholarship.

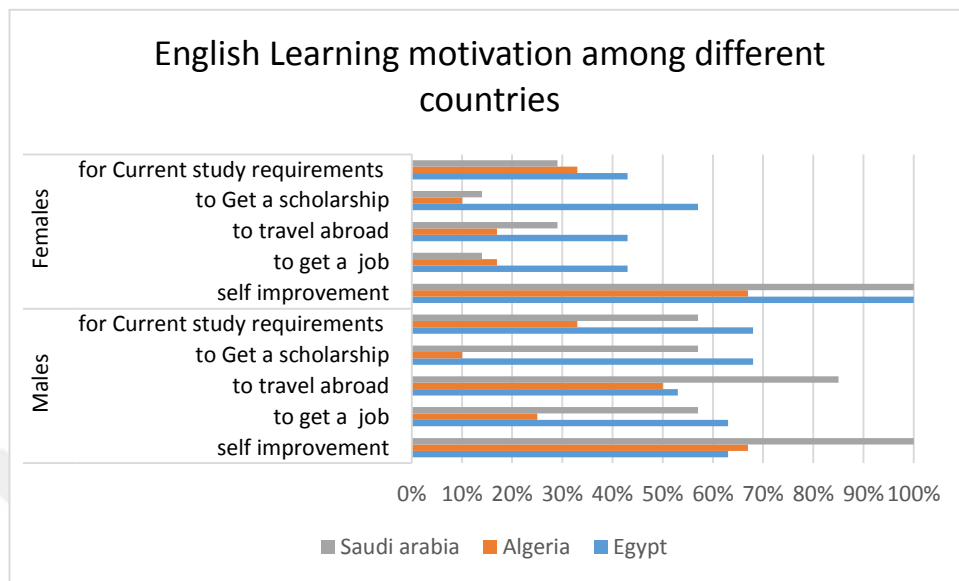


Figure 4.6: English learning motivation among different countries (Results of questions 1, 3 and 15)

Finally, As a clarification for self-improvement, users mentioned that they want to enhance their English language in order to be able as communication tool or for friendship , to read English books, play English video games ,watch English movies and they can be able to communicate for limited purposes for tourism purposes. Furthermore, as a clarification for traveling abroad here refers to travel to find a job or to study.

In order to understand English learning motivation among low participation countries, four countries were selected to be examined: Tunisia, Lebanon, Jordan and Yemen. The result shows that in Tunisia, all males study English for current work requirements while the research didn't have any Tunisian females' participation. In Lebanon, the motivation for males to study English is to travel abroad to get a job, while the research didn't have any Lebanese females' participation. In Jordan, females are

learning English to get a job in Jordan, while males learn English in Duolingo to travel abroad to get a job. In Yemen both males and females are learning English for self-improvement (see figure 4.7).

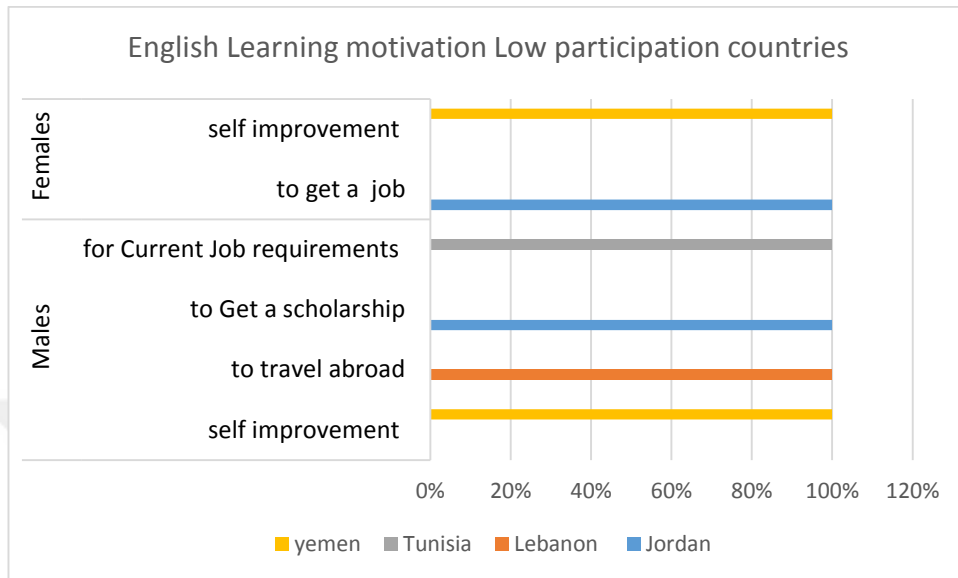


Figure 4.7: English learning motivation among low participation countries (Results of questions 1, 3, and 15)

It can be concluded, that males and females motivation reasons are quite different among the analyzed Arab countries. Generally, for females the future plans for learning English are limited to their home countries except for Egyptian females as they strive to get a scholarship which might be an overseas one. On the other hand, for males their future plans for learning English are mainly overseas plans except for Yemen and Tunisia.

### Language Learning

57% of all participants don't speak any other languages rather than their native language. Among the rest 43% foreign language knowledge ranges from English to other languages, such as French and Spanish (Results of question 9). Although 23% of the sample didn't have any English learning background before Duolingo, 77% of the sample

learned English before in school, university or language classes. Furthermore, English learning is a requirement for study or work for 69% of learners. (Results of question 13, 14).

### **Duolingo Learning Experience**

42% of participants never tried any learning game before Duolingo. Also, they found out about Duolingo in different ways: through another website 35%, from a friend 26%, 28% through blogs, chat groups or fan pages, only 2% through educational institutions and 22% other resources (web search, mobile app store, YouTube or Ted Talks).

It is worth to mention that 49% tried Duolingo before and they stopped using it later. The users who stopped using Duolingo, 7% of them stopped because of lacking internet connectivity, 11% of Duolingo deficiency and the rest generally because of different personal reasons. Moreover, it was found that 58% of the respondents using Duolingo to learn other languages rather than English, on the top of the list French and German languages. Majority of users agree that they use Duolingo because it is free and easy learning that shows highest results (Comparing results of questions 16, 17, 18, 20) (See figure 4.8).



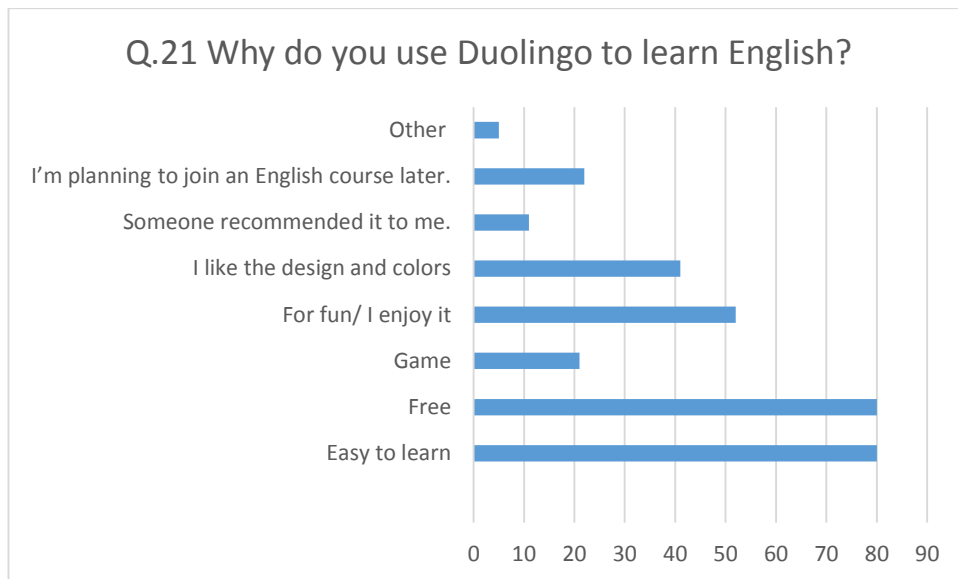


Figure 4.8: Reason given for learning English in Duolingo

### Internet consumption & Duolingo usage

Answers to question 10 showed that, the internet connectivity is really strong as 97 % of the sample has internet access in their homes. The usage pattern ranges from one user to another, But 89% of users use internet on daily basis. (Results of question 11).

The consumption patterns vary between users, as Duolingo is used by 66% in their free time, while 34% use it in a specific time of the day or in the week. Some users care about using it daily 55%, while others 43% prefer to use it on irregular basis and only 2% use it weekly.

The duration of use varies as well. 33% of the participants use Duolingo from 30 minutes to an hour monthly. Then there is a group of intensive learners; 29% who use it for more than 3 hours monthly. While 17% use it from one to three hours monthly and 21% are light users who use the program less than 30 minutes per month.

The majority of users 96% think that they will continue using Duolingo in the future. Only 46% of learners believe that Duolingo is enough to learn 50% - 70% of the

language. Only 17% think that Duolingo is enough to learn a language by 70% or more. In addition to that 37% of users believe that Duolingo is enough to learn a language by less than 50%. Although the majority don't think that Duolingo could be a sufficient language source, they are planning to continue use it in the future, because it is a free and well-designed program. Furthermore, 72% of learners are planning to join an English language course later (Comparing results of question 25-29 and 35). In interview with M.S (fresh graduate Engineer) and A.A (Student in Faculty of Arts) they both confirmed that they will not use Duolingo if it is not free as they don't have money to learn English.

### **English Learning in Duolingo**

Duolingo has 25 levels for learning a language<sup>14</sup>, according to Duolingo when a user finish the learning tree ( it means all lessons) in Duolingo that equals completing A2<sup>15</sup> level according to common European frame standard courses which is Elementary level<sup>16</sup>.

This research shows that 28 % of the learners are beginners and their level of learning English in Duolingo ranges from level 1 to level 7. While 59% of them are intermediate learners from level 8 to level 15 and the rest of them are upper intermediate as their level of English above than level 15 (see figure 4.9). This matches the result of their usage of Duolingo, as 45% are new users who are using Duolingo less than 1 month, while 29% are using Duolingo from one month to three months and only 26% are using it for more than three months (comparing results of questions 19 and 33).

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<sup>14</sup> <https://www.duolingo.com/comment/1316260>

<sup>15</sup> <https://www.duolingo.com/comment/1980768>

<sup>16</sup> <http://parentconcept.com/Key-Stages-and-Grades-in-UK-and-France#grades-languages>

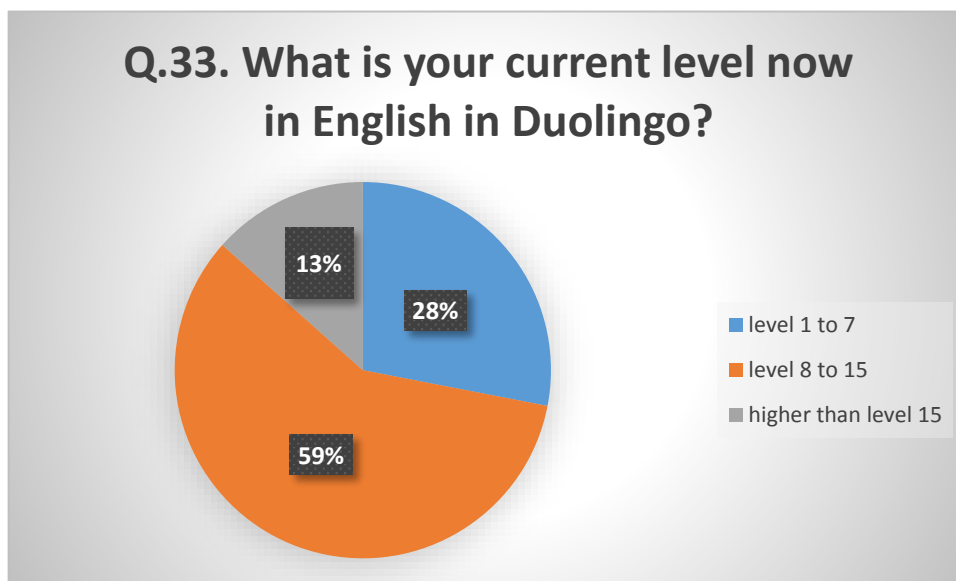


Figure 4.9: users' proficiency of using Duolingo

Although the majority of sample are not advanced learners, they are trying to learn English seriously through other tools. Question 31 shows that 59% of users play other games to learn English. More interesting answers were revealed when asking about mobile applications or programs that they own on their mobiles. 68% of users have other language apps or games (results of question 30).

For learning preferences, they prefer to use Duolingo more on computer rather than on mobile phones. This is quite interesting as the mobile version of Duolingo is considered usually easier than the version that is designed for computer. Furthermore, it was found that 89% of Duolingo English learners use it on their computer while only 56% use Duolingo on their mobile phones. Thus this declare the high percentage of learners read Duolingo grammar notes as it is only available in the computer version. 81% of English learners read these grammar notes (Comparing Results of questions 22, 23, 24).

It is my personal observations that mobile learning version is easier to use than the computer one. For example the mobile version, accepts minor translation mistakes like spelling mistakes while the computer version sometimes doesn't. Also, for speaking exercises; the user can delay the whole speaking part for an hour or more in case he doesn't want to use the microphone while this facility is not available in the computer version.

### **Duolingo and social media networks**

72% of learners prefer to link their Duolingo account with their social media network accounts. 21% of them links their Duolingo account with their LinkedIn account, while 51% prefer to link their Duolingo account with their Facebook account. , although 82% of participants doesn't share their Duolingo learning score on Facebook (Comparing questions 32, 12, and 58). Linking Duolingo account with social networks allows the learner to share fluency level in English, sharing their scores and inviting their friends to join Duolingo. It is the same as some users mentioned in an interview (A.A: student, S.S: Developer for iPhone app).

Some users like M.S engineer, prefer to share their fluency score to their LinkedIn account, since it reflects their professional improvement in the language.

So here the interview trend matches with questionnaire results in a way that informs us that social networks play an important role for Duolingo users. It is worth mentioning that some of Duolingo fans created a Duolingo group for Arabic users on Facebook to contact and help each other.<sup>17</sup>

It should be noted here that there is no official page in Arabic language for Duolingo.

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<sup>17</sup> <https://www.facebook.com/groups/1376161072714579/>

## Duolingo skills & functions

Duolingo enables the users to improve different language skills. For skills, writing comes on the top of the list, then listening come as a second skill users think that Duolingo help them at. Then reading, grammar skills and the last skill is speaking skill (see figure 4.10).

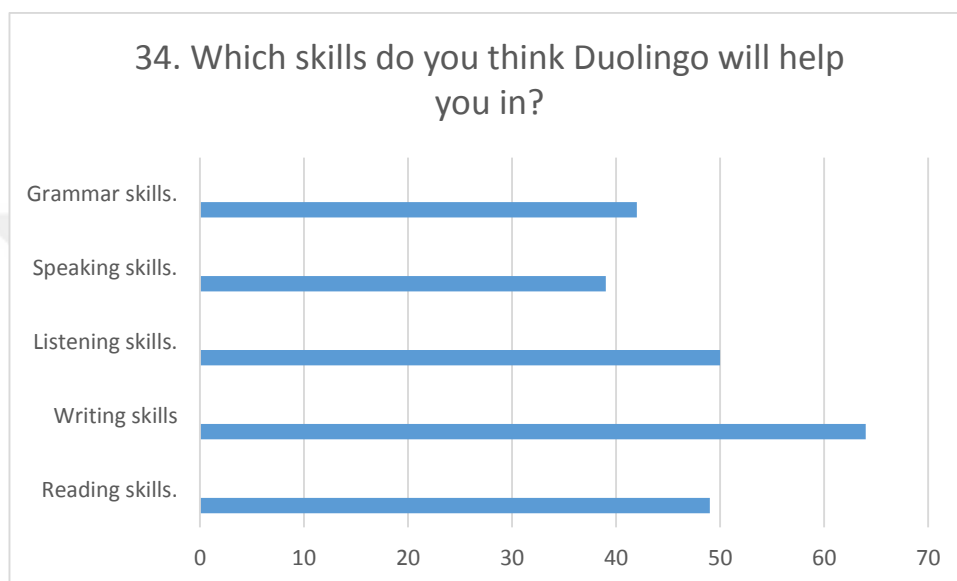


Figure 4.10: Language skills as prioritized by the users (Results of question 34)

Users are very eager to learn grammar rules and Duolingo helps in that, but not enough. More details will be discussed later (page 44).

As for Duolingo functions, users find some more useful than others. In the top of the list for their usefulness are: setting daily goal, compare Duolingo scores with friends, receiving daily reminders then participation in Duolingo discussion board.

Thus, 65% of learners usually set their daily goals while 21% set goals only sometimes. For competition part, 43% usually compare their learning scores with their

friends in Duolingo while 19% compare it only occasionally. At the same time, for receiving reminders 51% usually like to receive it and 21% prefer to receive it sometimes. For participation in discussion, 46% of users sometimes participate in or start discussions.

On the other hand, the functions that users don't have a great interest in are: giving or receiving Lingots and using virtual store. Only 30 % of users use it sometimes while 41% use it rarely or never. The less important is the virtual store: 27% of learners sometimes use it while 38% try it rarely or never.

This results are logical as virtual store and Lingots are linked to each other, as mainly users will spend Lingots to buy something from the virtual store. (Comparing questions from 36 to 63).

This also corresponds with interview result, as on an interview with expert O.H, data analyst, and Duolingo moderator. He confirmed that the virtual store in the Arabic version is missing varieties as there are not many things you can buy from the store. He himself has 1000 Lingots he can't spend.

## **4.2 Findings, Suggestions and discussion:**

In this part is a discussion for all the findings that had been discovered through the research. The advantages and disadvantages from users' point of view in the Arabic version of Duolingo. As well as some interesting suggestions. Besides, discussion for these findings and its relation to current literature.

### **4.2.1 Reasons for using Duolingo:**

This finding completely agree with literature, the literature indicated that Duolingo is a free application and easy to use (Munday, 2016). Students enjoy using it for various reasons. Thus Duolingo has diversity of tasks, available on mobile phones plus Gamification as a feature in the application (Munday, 2016). Garcia (as cited in

Farber 2012) represented that Duolingo brought free languages learning to iPhone. The questionnaire analysis shows that 80% of users use Duolingo to learn English because it is free, 52% of users use it because they enjoy it and 80% of users use it because it is easy to use. Moreover, in the qualitative analysis results, users mentioned that they use Duolingo mainly because it is free and if they have to pay for the application they will not use it, as they don't have money to afford it and if they have they are not sure about invest in the program or not.

#### **4.2.2 Motivation of Duolingo users:**

This finding don't completely agree with literature, however there is no disagreement. Literature proved that using Gamification influences motivation (Zichermann and Cunningham, 2011). It stated that Gamification supports to regulate the fundamental motivations for the players. Moreover, Gamification affects human behaviors and motivations. Therefore, any problem can be solved using gamified environment through understanding players' motivations. In order to understand players' motivation, it is important to investigate the source of motivation for the players whether it is external or internal motivation (Zichermann and Cunningham, 2011). The questionnaire analysis shows that 66% of users are comparing their achieved learning goals in leader board (as a main element of Gamification in Duolingo), while 34% of users are not interested to use leaderboard.

The results revealed that Duolingo users are self-motivated to learn English language to achieve different goals like: travel abroad for work, acquiring a scholarship and to keep up with their current study or work requirements. However, according to participants' opinion that Duolingo is not enough to learn English but they try to benefit from the program and use external ways of learning. As the analysis shows most of 96% users have internet connectivity in their homes so this makes the learning process easier

for them.

Furthermore, literature spot the light on technology tools that can motivate students in learning foreign languages (Golonka et al. 2014). It implies that Technology strengthen learners' motivation, feedback, interactions and metalinguistic knowledge. Technology can boost students' access to a foreign language, increase communication chances, develop attitudes to learning, increase motivation to practice a language and enhance the students' confidence and ability to use the language. Therefore, technology leads to more motivated students and more engaged students in the learning process (Golonka et al. 2014). The questionnaire analysis shows that 79% of users are enjoying learning in Duolingo without understanding that it is a game, only 21% of users are used it and they are aware that is a game.

#### **4.2.3 Learning tools preferences:**

This finding don't completely agree with literature, however there is no disagreement. Literature states that mobile assisted language learning overcome restrictions that computer assisted language learning has (Hsu 2013). This because of the facilities that mobile provides. As it overcome the space, time restrictions and offers mobility (Hsu 2013). Moreover, literature indicated that Mobile learning has more attractive tools comparing to computer (Lindaman et al. 2016). Besides, mobile application offers different learning materials that make the learning process easier and this is an advantage wasn't available before. Furthermore, literature implied that mobile is easier to learn through, it is justified by the fact that most of students in developing countries owns mobile phones but not all of them own computers (Saran et al. 2008). Literature stated that mobile learning attracts users more. By cause of mobile learning is low in cost, more accessible, immediate and interactive learning tool (Viberg et al. 2012). The questionnaire analysis outcome indicated that 89% of Duolingo English learners use



it on their computer while only 56% use Duolingo on their mobile phones.

The results showed that users prefer to learn English in Duolingo using computers rather than learning English using mobile phones. Although, the facilities that Duolingo provide on mobile phone version and the fact is mobile phone is portable device.

#### **4.2.4 Cultural impact:**

These findings practically confirmed the literature. Literature proved that cultural differences plays an important role in learning English language. Hence, it proved that there are differences between the attitudes of students concerning affordability of technology, application, and constructive approach of learning that is provided by MALL (Hsu 2013, pp.197-213). The questionnaire analysis results shows that 2% of research sample, mainly females, were deprived from learning English in classes or language schools. Moreover, the produced results by qualitative analysis, it shows that users got offended easily by using the sentences in Duolingo that are against their cultural values.

The results indicated that Duolingo have a surprising cultural impact in countries like Saudi Arabia where some female participants answered they use internet platform to learn because their parent wouldn't allow them to enroll in a language class. Due to the cultural stereotype of a woman as the member of the family that stays at home and cares for the household rather than educating herself. For this people learning through internet is one of the few ways they own to learn. (Results of q.35<sup>18</sup>).

Another sensitive point is discussing the words which are not a part of the Arabian culture. For example "Beer, Pork" is not a daily used word in Arabian culture due to prohibition of alcohol in Islam. So users get upset that this word is there in many examples. Language teaching experts believe that this is an important word in the English

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<sup>18</sup> "Do you plan to join English course later?"

language that should be taught and discussed. Then a lot of discussion topics were published concerning that on discussion board, later on Duolingo moderators had to explain that topic separately to users to clarify it<sup>19</sup>.

Another cultural difficulty is that the community doesn't accept "jokes" as experts like to call them. Some sentences sound unusual like "I'm a dog, "I speak with horse". Users feel offended and think that it is inappropriate to include this in the Arabic content. In the meantime, experts explain that this happens because of the limited vocabulary that is learned in previous lessons. This happens because the content provided and is really limited and needs more revision and corrections. In order to avoid examples that users are not comfortable with.

#### **4.2.5 Language Difficulties:**

##### **Grammar skills**

This finding don't completely agree with literature, however there is no disagreement. Literature states that technology enhances interactions and outputs of language learning, which Grammar is one of these outputs. Moreover, "With technology, learners demonstrate pretest–posttest gains in different areas, including speaking, reading comprehension, vocabulary, grammar, fluency" (Golonka et al. 2014). The produced results by questionnaire shows that, users have some complaints concerning grammar. They think that the grammar provided is not enough, they require to have a summary for the important grammar rules and to introduce a grammar explanation before every lesson.

Although the grammar part is usually hard to learn for users especially self-learners. The majority of the users is motivated in Duolingo to learn and they think that Duolingo grammar notes are not enough. Usually before the start of the lesson, grammar

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<sup>19</sup> <https://www.duolingo.com/comment/13344975>

skills are provided in the form of grammar notes. But sometimes they are there and usually it is too summarized. Therefore grammar is often explained outside of lessons, in the discussion form.

This finding leads to a suggestion that it will be better if there is an index for summary of all the grammar rules from the lessons as well as on discussion board from admins so it could be used as a reference at any time. Moreover, there is a need to enrich the grammar content more for examples, add one or two exercises with answers after every rule or adding a part for questions from users. It happens daily that users don't understand a rule and need more explanation or having some questions, so maybe having a section for questions will help. Moreover, they can add an explanation when the answer is wrong grammatically, it can help for better understanding of grammar rules.

### **Vocabulary problems**

This finding completely agrees with literature that states that vocabulary learning plays an important role in learning English. Therefore, one of the main factors that affect students' proficiency of language learning is the limited vocabulary that they have (Yang 2012). Also, literature indicated that vocabulary learning is very important in learning English as a foreign language and it affects students' proficiency (Saran et al. 2008). Furthermore, literature represents that researches proved that student needs a minimum number of English words to be able to read English texts that are non-specialized; the minimum number of words is 5000 words for any foreign language as a basic (Thornton et al. 2005, as cited in Laufer 1997; Nation 1990). As a result of qualitative analysis, users mentioned that Duolingo doesn't provide useful sentences for daily conversation and there is a need to develop the vocabulary contents and provide new topics for daily situations.

It is the opinion of many participants that it would be good idea to start the English curriculum that is provided for Arabic speakers with the alphabet and its pronunciation, because the alphabetic systems are different which makes the English educational process hard for the people who don't have English background. This will affect the listening part effectively as many of the problem will disappear as users learn from scratch how to read and pronounce English letters correctly.

Many participants wrote that, the curriculum doesn't really increase new rules and vocabularies in the advanced levels. It needs to provide more new words and to focus more on completely new sentences or questions on these levels. Moreover, many problems occur when users try to answer a question but their answer is not one of the inputs of the program. The available inputs of the same word as synonyms are limited and some words have strange inputs as a very rare words or a word that belongs to one of the dialect which many of us can't understand.

These findings leads for few suggestions for possible improvements in language difficulties. Duolingo team should increase synonyms from formal Arabic language that will be more beneficial instead of adding the most common dialect. Additionally, the language vocabularies are limited. Lessons are not really related to daily situations or daily conversations. Users need sentences that they likely will use in different situations (For example: in the hospital, in the hotel ...etc.).

#### **4.2.6 Listening Audios:**

This finding agrees with literature as stated that audio clips proved its success in learning English. Furthermore, Introducing new words or vocabulary for students or sending them short audio clips to their mobile phones proved its success in learning English vocabulary (Anaraki 2009). The qualitative analysis shows that users need more audio clips, they prefer to receive audio message for the new introduced words

accompanying by its pronunciation to their mobile phones.

The Listening part causes a problem of not understanding the audio and thus not being able to repeat it. Others complain that the available audio is a machine voice and not clear for beginners as they need a man or a woman voice. That has a negative effect on the speaking part as well.

Possible improvements in listening and speaking area that are through adding conversations with a script and then some questions about it. Besides, adding varieties in questions and sentences. Then users will be able to use this sentences to start a conversation as a practice.

#### **4.2.7 Game amusement factors:**

These findings don't completely agree with literature, however there is no disagreement. The literature states that game amusement plays an important role. It implied that the amusement of the game is main factor that attracts the players regardless how great the goal is behind the game itself. (Lafourcade, et al. 2015). The results produced by qualitative analysis shows that users doesn't enjoy the game amusements' factors that Duolingo provides such as virtual store. Thus, there are not a lot to do in this store, so they don't think that it is useful except for one feature which is "English progress test".

##### **Virtual store**

People gain Lingots or the virtual money of Duolingo to spend in virtual store but they found few items to buy, which is really disappointing for users.

Nevertheless, gaining Lingots is a motivation tool and if users can't have worthy gain from collecting them they lose their motivation. For example: one of users mentioned that "why should I collect Lingots that I don't have anywhere to spend it Unless 1 or 2 items?" that's why the virtual store needs to include.

The suggestion here is adding other features to Duolingo store to attract users it could be from the features that are already available in other English versions for example: idioms and proverbs, uploading documents and leveling up.

#### **Weekly performance graph**

Duolingo displays a graph or a chart for the weekly performance for every user in the different days of the week. So users can notice their performance of learning and get motivated. Users complain that they can't see their performance for longer period of time.

Possible change here is to display the performance of the user for last three month and also it can be an item to be sold in virtual store "monthly performance item".

#### **4.2.8 Lack of communication tools between members:**

This finding agrees with literature which states that chat plays an important role in learning a foreign language. Learners who use chat in the learning process gain more self-confidence and more complexity in their foreign language content. On the other hand, using blogs improved writing skills for students who learn second language as they gain some skills like better spelling skills and new sentences (Golonka et al. 2014). The produced results by questionnaire, users have some suggestions in this area. The results show that users require more contact tools between members in Duolingo like chat. Also, they asked for allowing the possibility to able to chat and to talk to native speakers.

There are not many ways for members to contact each other. You can contact other members or Duolingo moderators only through sending message to their wall and everybody will see it. Users are not allowed to send their number or email in a message otherwise they will be blocked. The majority of members are complaining of need more tools to communicate with each other.

In addition to that, one of complains was that there is no way to contact a tutor, native speakers or a tool to talk between members. Of course every software has its

pattern and Duolingo doesn't allow its users to talk to each other.

Possible changes in the area of lack communication tools are adding some features that allow users to contact each other easier and guarantee the required privacy. For example: adding private message as a feature, so users who have the interest to practice the language can contact each other easier. Maybe it is also possible to create a channel for conversations between English learner and English speakers in the program.

#### **4.2.9 Social media and Duolingo:**

This finding agree with literature that states the social networks participate in language learning (Golonka et al. 2014). Thus, social networks increase the communications between users specially who have common interests and "Allow for synchronous and asynchronous communication". Also, it allows the communication between students and native speakers (Golonka et al. 2014). The questionnaire analysis shows that 45% of users doesn't link their Duolingo account with their social media, while 45% of users link their Duolingo account with their LinkedIn or Facebook account.

No official page for Duolingo in Arabic language was found in social media. This decreases the communication between the company that owns Duolingo and the potential users. Also, majority of users link their Duolingo account with their Facebook but they don't share their learning score on Facebook.

The suggestion for Duolingo is to build an Arabic content on social media platforms. It can be used as a tool of publicity and also would create a channel for users who complain about the lack of communication in Duolingo, for example: chatting is not available in Duolingo but it is available on Facebook. So it could be a tool for users to contact each other, exchange their learning experiences and so on.

#### **4.2.10 Users experience with Duolingo:**

Users are able to understand the website and learn through it easily. The

questionnaire analysis shows that 85% of users enjoying learning in Duolingo and believe that time passes quickly through learning while 15% of users are not enjoying learning in Duolingo. Also, it is the opinion of many participants, that they like Duolingo because it is easy and simple.

In addition to that, 70% of users found that Duolingo's owl, music, color and design are attractive, while 30% of users don't think it is attractive. Additionally, Duolingo uses an owl as their mascot character. The produced results by qualitative analysis declare that users like the owl and they find it as distinctive item for Duolingo. Moreover, the Arabian users receive it as a parrot not as an owl.

For the menu items and its functions, some items are highly used by users while others are not. Here we will discuss these items: "Discussion", "Lingots" as menu items and "daily goals" as a function in the "Home" menu item.

For Discussion item, this is one of the popular items. According to questionnaire results, 80 % of users are following the discussions on Duolingo while only 20% of users are not interested in discussions.

For Lingots item, few users are interested in this item. According to questionnaire results, only 38% of users are interested in Lingots while 62% of users don't care about collecting Lingots. That's because there are few things to do with Lingots (virtual currency of Duolingo).

For Daily goals according to questionnaire results, 85% of users are highly interested in setting their daily goals while 15% of users are not setting daily goals.

Furthermore, users have common difficulties concerning the Arabic-English keyboard and punctuations.

### **Arabic English Keyboard**

The manual shifting from English to Arabic in Duolingo is irritating for some



users. The study in the questionnaire suggested to have a virtual keyboard in Duolingo interface but users didn't agree to that. Some users suggested that language can be changed automatically with the selected screen or text without the need to shift with the keyboard. For example: in the Arabic translation text; the keyboard will be programmed to type in Arabic automatically and vice versa.

### **Punctuations in Translation**

Users have many mistakes using the translation section due to punctuation mistakes. So the users have to type the one word many times in the system in different formats in a trial to pass the current level without understanding what the mistake is.

Possible change in this area that the system can ignore these minor mistakes more as the same way errors are ignored in mobile version. Otherwise, as punctuation rules are really important it might be taught in Duolingo.

## **Conclusion**

Duolingo is a software that is aiming to learn language for free. Duolingo's Arabic interface introduced four languages for native Arabic speakers, which are English, German, French and Swedish. The interface that teaches English for native Arabic speakers; which is the area of study here; has launched two years ago. That interface started by 6500 users and reached 7.18 million users in December 2016.

The study examined the Arabic interface that teaches English for Arabic users. For the sake of understand motivations for learning English in Duolingo. The advantages and disadvantages according to users' opinion. In order to do that, 111 active users were surveyed, six interviews were run with users and Duolingo experts and personal observation was used.

The studied sample came from fourteen different countries. The high represented countries are Egypt, Algeria and Saudi Arabia. The majority of users are young males; between 18- 35 years old; single and unemployed. Also, a great bulk of users have bachelor degree or higher education. All the users are active users in Duolingo and they are learning English from Arabic interface before the research. Moreover, the majority has internet connection in their homes.

The research finds that users primarily use Duolingo because it is free and easy to use application. Additionally, users have different motivations for learning English in Duolingo according to their country of origin and gender. The reasons of motivation are varied from one person to another, whether to travel abroad to find a job, to get a scholarship, for current work or study requirements, to get a job in their home country or for self-improvement.

Moreover, the study stated that users prefer to use Duolingo on their computers rather than using Duolingo on mobile phones. Besides, the research confirmed on the

importance of creating an Arabic content on social media networks for the Arab users. Additionally, the study revealed that culture plays an important role for the process of learning English in Duolingo for different users. As, Duolingo and online learning is the only way of learning for some females due to family restrictions. Also, the research determined some difficulties that users face during learning English in Duolingo. As it finds some feature of the game are not usable like virtual store due to lack of varieties. Besides, the research discovered that there is a necessity to develop the available vocabulary and increase its' complexity. Also, there is a need to progress the English grammar content and display it in an intensive way in the game.

There are many studies on Duolingo's proficiency, reliability and validity and some studies evaluating some features or aspects of Duolingo. However, there is no study related to the Arabic content that Duolingo provide in the English content, although the high numbers of Arabs learners in Duolingo. For this reason, this study is important as it is exploring a new area that wasn't studied before.

The study is limited to the Arabic interface that teaches English language and only concerned to answer the question "why do Arab users learn English in Duolingo?". The study didn't evaluate the English curriculum provided by Duolingo or compare the current English class provided by Duolingo with a regular English class provided on campus for example. Also, the research didn't address the incomplete features that Arabic version have, as for example translation part. Besides, the study didn't analyze other characteristics of Duolingo like Duolingo for schools.

For future research, it is recommended to analyze Duolingo features and aspects that is provided in the English version. Then, compare these aspects with the available one in the Arabic version. At this point, the research can recommend which features that could be convenient to be added to the current Arabic interface.

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APPENDIX A

**Kadir Has University – New media Master thesis questionnaire**

(English learner from Arabic language interface In Duolingo game)

1. Gender

- Female
- male

2. How old are you?

- 18 or younger.
- 19-35
- 36 or older

3. Your Country

4. The City you live in

5. occupation

6. what is your monthly income

7. Marital status

8. What is the highest level of education you have completed?

- Less than high school.
- High school or equivalent
- Bachelor degree or higher.

9. Do you speak another foreign language rather than your mother language?

- Yes, please specify
- No.

10. Do you have internet connection in your home?

- Yes
- No

11. How often do you use internet in your regular week?

- Everyday.
- From 3- 5 days.
- Once.



12. Which applications types you have in your mobile phone?

- Games
- Sport apps
- News apps
- Learning apps
- Social media apps (Facebook, Instagram, twitter)
- Entertainment apps (movies, radio)
- Other : please mention

13. Have you studied English before?

- Yes. For how long? .....
- No.

14. Does your current study or work currently requires knowledge of English language?

- Yes.
- No.

15. Why are you interested in learning English?

- For study requirements in your country
- Get a job
- To travel abroad
- To get a scholarship abroad
- Self-improvement
- Other: please determine

16. Have you used games before to learn a second language?

- Often
- Sometimes
- Never

If yes, for which language have been used games? .....

17. Have you used Duolingo before and then stopped it?

- Yes, why?
- No.

18. Do you learn other languages through Duolingo?

- No.

- Yes, please mention
19. How long have you used Duolingo for English learning?
- Less than 1 month
  - 1 month- 3 months
  - More than 3 months
20. How did you know about Duolingo?
- Friend
  - Blog / chat groups/ fan pages
  - Website
  - Educational institution (Ex: faculty, school, language center, cultural center...)
  - Other : please mention
21. Why do you use Duolingo to learn English?
- Easy to learn
  - Free
  - Game
  - For fun/ I enjoy it
  - I like the design and colors
  - Someone recommended it to me.
  - I'm planning to join an English course later.
  - Other : please mention
22. Do you use Duolingo on your mobile phone?
- Yes
  - No
23. Do you use Duolingo on your Computer?
- Yes
  - No
24. Do you read the grammar notes and advices that Duolingo provides?
- Yes
  - No
25. How much time do you spend on Duolingo averagely in a month?
- Less than 30 minutes.

- 30 minutes – 1 hour.
- 1 hour – 3 hours.
- More than 3 hours.

26. When do you use Duolingo?

- In my free time.
- Certain time every day / week

27. How often do you use Duolingo?

- Daily
- Weekly
- Not on a regular basis

28. Do you think that you will continue playing Duolingo in future?

- Yes.
- No, why? please mention :

29. To which extent do you think using Duolingo is sufficient to learn a language?

- Less than 50% of total language learning.
- 50% - 70 % of total language learning.
- More than 70 % of total language learning.

30. Do you use on your mobile phone application/ websites/ games for learning English?

- No
- Yes , please mention it :

31. Did you play any of these games before to learn English?

- Rosetta stone
- Pimsleur
- Fluent U
- Live mocha
- Memrise
- Other: please mention

32. Does your Duolingo account connected to your social media websites?

- No.
- Yes, please choose
  - i. LinkedIn

ii. Facebook

33. What is your current level now in English in Duolingo?

- level 1 to 7
- level 8 to 15
- higher than level 15

34. Which skills do you think Duolingo will help you in?

- Reading skills.
- Writing skills
- Listening skills.
- Speaking skills.
- Grammar skills.

35. Do you plan to join an English course in language center/school later?

- Yes.
- No.

**Which of these Duolingo functions are you interested in and how often? Ranges from usually to never (usually, often, rarely, never)**

	usually	often	rarely	never
36. Setting daily learning goal in Duolingo				
37. Using Duolingo store.				
38. Give and / or receive Lingot				
39. compare your learning scores with your friends in Duolingo				
40. Following/ participating the discussions on Duolingo.				
41. Receiving daily reminder messages from Duolingo.				
42. Making new friends through Duolingo.				

**Choose for the following to which extent you agree or not, ranges from strongly agree to strongly disagree (Agree, strongly agree, disagree, strongly disagree)**

	Agree	strongly agree	disagree	strongly disagree
43. I can speak English language well enough to conduct a conversation.				

44. I'd like to spend time to learn English.				
45. I think that I can help my friends to learn English.				
46. Duolingo Owl, colors, music and design are attractive.				
47. I can't depend only on Duolingo to learn English.				
48. I use other resources (books, websites) to learn English.				
49. I hope to learn more about English and its grammar.				
50. I can ask someone for help in discussions for English vocabulary that I don't know.				
51. I often participate on discussions in Duolingo from other players who learn English.				
52. I compete with my friends in Duolingo while playing.				
53. When I learn English through Duolingo the time passes quickly.				
54. In the Translation part, I report translation problems to Duolingo team.				
55. In the Translation part, I can't understand why my answer is wrong and I discuss it with others.				
56. In the listening part, I can't understand the audio easily and I prefer the slow audio mode.				
57. In the speaking part, I can't pronounce words correctly.				
58. I share my Duolingo scores to my Facebook account.				
59. I think that Duolingo grammar notes are really helpful.				
60. My English learning will be easier if I don't have to learn grammar.				

61. Learning English through Duolingo is enough.				
62. Shifting the keyboard from Arabic to English isn't comfortable.				
63. Punctuation mistakes cause me problems while translating in Duolingo.				

64. I think Duolingo may be better to learn English, if "You can mention here:

65. Three things I really like in Duolingo

66. Three things I don't like in Duolingo.

APPENDIX B: Questionnaire for Arabic Speakers Active English Users in Duolingo-  
Arabic version

جامعة قادر هاس - استقصاء خاص بماجستير فى الإعلام الجديد

( للناطقين باللغة العربية والدارسين للغة الانجليزية من الواجهة العربية فى لعبة ديولينجو )

١. النوع

- ذكر.
- أنثى.

٢. كم عمرك؟

- ١٨ سنة أو أقل.
- ١٩ - ٣٥ عام.
- ٣٦ عام أو أكبر.

٣. بلدك

٤. المدينة التى تقيم بها

٥. الوظيفة

٦. ماهو مقدار دخلك الشهرى

٧. الحالة الاجتماعية

٨. ماهو أعلى مستوى تعليمى أكملته؟

- أقل من ثانوية أو بكالوريا
- ثانوية أو ما يعادلها
- بكالوريوس أو ليسانس أو أعلى (دراسات عليا - ماجستير )

٩. هل تتحدث أى لغة بخلاف لغتك الأم؟

• نعم ، من فضلك حدد :

• لا

١٠. هل لديك اتصال بالانترنت فى المنزل ؟

- نعم
- لا

١١. فى اسبوعك المعتاد ، كم مرة تستخدم الانترنت؟

- كل يوم
- من ٣ - ٥ أيام
- مرة.

١٢. أى من أنواع هذه التطبيقات لديك فى تليفونك المحمول؟

- ألعاب.
- تطبيقات ألعاب رياضية ( كرة قدم .... الخ)
- تطبيقات أخبار.
- تطبيقات برامج تعليمية.
- تطبيقات خاصة بشبكات التواصل الاجتماعى.
- تطبيقات ترفيهية ( راديو ، أفلام...)
- أخرى ، من فضلك حدد :

١٣. هل درست اللغة الانجليزية من قبل؟

- نعم، ماهى المدة؟
- لا

١٤. هل يتطلب عملك/ دراستك المعرفة باللغة الانجليزية فى الوقت الحالى؟

- نعم.
- لا

١٥. لماذا انت مهتم بتعلم اللغة الانجليزية؟

- لمتطلبات الدراسة فى بلدك
- للحصول على وظيفة.
- للسفر الى الخارج.



• للحصول على منحة دراسية.

• للتنمية الذاتية.

• أخرى ، من فضلك حدد :

١٦. هل سبق لك استخدام الالعاب لتعلم لغة أخرى؟

• غالبا

• بعض الاوقات

• أبدا

• لو الاجابة نعم ، ماهى اللغة التى استخدمت الالعاب لتعلمها؟.....

١٧. هل سبق لك ان قمت باستخدام ديولينجو ثم توقفت عن استخدامه؟

• نعم، لماذا

• لا.

١٨. هل تتعلم لغات أخرى عن طريق ديولينجو؟

• لا.

• نعم، من فضلك حدد :

١٩. ماهى المدة التى قمت فيها باستخدام ديولينجو لتعلم اللغة الانجليزية؟

• أقل من شهر.

• من شهر الى ٣ شهور.

• أكثر من ٣ شهور.

٢٠. كيف عرفت ديولينجو؟

• صديق

• منتدى، مناقشات فى بعض المجموعات /الجروبات ، صفحات على الفيس بوك.

• موقع الكترونى.

• منظمة أو هيئة تعليمية ( على سبيل المثال : جامعة، مدرسة، مركز تعليم لغة، مركز ثقافى ...الخ).

• أخرى ، من فضلك حدد :

٢١. لماذا تستخدم ديولينجو لتعلم اللغة الانجليزية؟

- سهل للتعليم.
- مجاني.
- لعبة.
- للمتعة / أستمتع بإستخدامه.
- يعجبني تصميم البرنامج وألوانه.
- شخص رشح ديولينجو لى .
- أخطط للانضمام الى درس/كورس لغة انجليزية فى المستقبل.
- أخرى ، من فضلك حدد :

٢٢. هل تستخدم ديولينجو عن طريق التليفون المحمول؟

- نعم.
- لا.

٢٣. هل تستخدم ديولينجو عن طريق الكمبيوتر؟

- نعم.
- لا.

٢٤. هل تقوم بقراءة ملاحظات قواعد اللغة الانجليزية التى يقدمها ديولينجو؟

- نعم.
- لا.

٢٥. فى خلال الشهر المعتاد ، ماهو مقدار الوقت الذى تستخدم فيه ديولينجو؟

- أقل من ٣٠ دقيقة.
- من ٣٠ دقيقة الى ١ ساعة.
- من ١ ساعة الى ٣ ساعات.
- أكثر من ٣ ساعات.

٢٦. متى تستخدم ديولينجو؟

- فى أوقات الفراغ.
- فى وقت محدد كل يوم أو اسبوع.

٢٧. ما معدل استخدامك لديولينجو؟

- يومياً.
- اسبوعياً.
- ليس بشكل منتظم.

٢٨. هل تعتقد أنك سوف تستمر فى استخدام ديولينجو بالمستقبل؟

- نعم.

- لا، لماذا؟ من فضلك اذكر السبب.

٢٩. لأى مدى تعتقد أن استخدام ديولينجو كافى لتعلم لغة ما؟

- أقل من ٥٠% من اجمالى تعلم اللغة.
- من ٥٠% - ٧٠% من اجمالى تعلم اللغة.
- أكثر من ٧٠% من اجمالى تعلم اللغة.

٣٠. هل تستخدم أى تطبيقات أخرى بالتليفون المحمول أو مواقع ألكترونية أو ألعاب بغرض تعلم اللغة

الانجليزية؟

- لا.

- نعم، من فضلك حدد:

٣١. هل قمت باستخدام أى من هذه الالعاب لتعلم اللغة الانجليزية؟

Rosetta stone •

Pimsleur •

Fluent U •

Live mocha •

Memrise •

- أخرى ، من فضلك حدد : ....

٣٢. هل حسابك الشخصي بديولينجو مرتبط بحسابك الشخصي في مواقع الاتصال الاجتماعي؟

- لا .

- نعم، من فضلك اختار:

i. لينكد ان LinkedIn

ii. فيس بوك Facebook

٣٣. ماهو مستوى لغتك الانجليزية الحالي في ديولينجو؟

- المستوى ١ - ٧ .

- مستوى ٨ - ١٥ .

- أعلى من المستوى الخامس عشر.

٣٤. أى من مهارات اللغة الانجليزية التالية تعتقد أن ديولينجو يساعدك في تحسينها؟

- المهارات الخاصة بالقراءة.

- المهارت الخاصة بالكتابة.

- المهارت الخاصة بالتدريبات السماعية.

- المهارت الخاصة بالتحدث باللغة الانجليزية.

- المهارت الخاصة بقواعد اللغة الانجليزية.

٣٥. هل لديك أى خطة للانضمام الى كورس لغة انجليزية في مدرسة/معهد لغة فيما بعد؟

- نعم.

- لا، لماذا

٣٦. أى من خصائص ديولينجو أنت مهتم بها ، وكم عدد المرات التي تستخدمها ؟ مدى الاختيار يتراوح بين

عادةً الى أبداً، للاختيار (عادةً ٤ ، أحياناً ٣ ، نادراً ٢ ، أبداً ١ )

أبداً	نادراً	أحياناً	عادةً	
				تحديد هدف يومي على ديولينجو.

				٣٧. استخدام المحل الافتراضى بديولينجو
				٣٨. اعطاء أو أخذ لينجوت.
				٣٩. مقارنة الاهداف اليومية مع أصدقائك فى ديولينجو.
				٤٠. متابعة أو المشاركة فى مناقشات ديولينجو.
				٤١. استقبال رسائل التذكير اليومية من ديولينجو.
				٤٢. تكوين صداقات جديدة من خلال ديولينجو.

٤٣. إختار مما يلى تبعاً لدرجة موافقتك للرأى، مدى الاختيار يتراوح بين موافق جداً الى غير موافق جداً ،  
للاختيار (موافق جداً ٤ ، موافق ٣ ، غير موافق ٢ ، غير موافق جداً ١ )

غير موافق جداً	غير موافق	موافق	موافق جداً	
				أستطيع أن أتحدث اللغة الانجليزية بدرجة كافية تمكنى من اجراء محادثة باللغة الانجليزية.
				٤٤. أحب أن أمضى الوقت فى تعلم اللغة الانجليزية.
				٤٥. أعتقد انى أستطيع مساعدة أصدقائى فى تعلم اللغة الانجليزية.

				٤٦. بومة ديولينجو والألوان والتصميم والموسيقى الخاصة به جذابة.
				٤٧. أنا لا أستطيع الاعتماد فقط على ديولينجو فى تعلم اللغة الانجليزية.
				٤٨. انى أستخدم مصادر أخرى بجانب ديولينجو لتعلم اللغة الانجليزية مثل : ( كتب ، مواقع إلكترونية .....الخ).
				٤٩. أتمنى أن تعلم المزيد عن اللغة الانجليزية والقواعد الخاصة بها.
				٥٠. أطلب المساعدة من الأصدقاء عن طريق مناقشات ديولينجو وذلك عندما تواجهنى كلمة أو مصطلح باللغة الانجليزية لا أعرفه .
				٥١. عادة ما أشارك فى المناقشات المفتوحة فى ديولينجو، التى يناقشها مستخدمين آخرين يتعلمون اللغة الانجليزية.
				٥٢. أنافس أصدقائى فى ديولينجو أثناء اللعب.

				٥٣. يمر الوقت سريعاً عند استخدامى ديولينجو لتعلم اللغة الانجليزية.
				٥٤. فى الجزء الخاص بتدريبات الترجمة ، أقوم بالابلاغ عن مشاكل الترجمة لفريق ديولينجو.
				٥٥. فى الجزء الخاص بتدريبات الترجمة ، لا أستطيع أن أفهم لماذا اجابتى غير صحيحة وأناقش ذلك مع الآخرين.
				٥٦. فى الجزء الخاص بالتدريبات السماعية، لا أستطيع فهم المادة الصوتية بسهولة، وأفضل الاستماع عن طريق النمط السماعى البطئ (يرمز له برمز السحفاة فى البرنامج).
				٥٧. فى الجزء الخاص بتدريبات المحادثة ، لا أستطيع نطق الكلمات بشكل صحيح.
				٥٨. أشارك نتائجى فى ديولينجو على حساب الفيس بوك الخاص بى.

				٥٩. فى رأى ان ملاحظات ديولينجو الخاصة بقواعد اللغة الانجليزية مفيدة بشكل حقيقى.
				٦٠. تعلم اللغة الانجليزية سوف يكون أسهل لو لم أكن مضطراً لتعلم قواعد اللغة الانجليزية.
				٦١. تعلم اللغة الانجليزية عن طريق ديولينجو كافى.
				٦٢. تغيير لوحة المفاتيح من اللغة العربية الى اللغة الانجليزية أثناء استخدامى لديولينجو غير مريح.
				٦٣. أثناء الترجمة فى ديولينجو ، أخطاء الترقيم (النقطة ، الفصلة، الهمزة ...) تسبب لى العديد من المشاكل.

٦٤. فى رأى ديولينجو من الممكن أن يكون أفضل لتعليم اللغة الانجليزية لو

٦٥. أذكر ٣ أشياء تحبها فى ديولينجو.

٦٦. أذكر ٣ أشياء لا تعجبك فى ديولينجو.



## APPENDIX C – List of Interviewees

### **1. Duolingo moderators:**

O.H: data analyst, aged 27, male, Egyptian lives in Germany, Duolingo moderator and curriculum contributor in the Arabic interface that teaches English (May 2016, Audio Skype interview).

L.K: house maintenance worker, aged 56, Female, Australian lives in Australia, Duolingo moderator and curriculum contributor in the Arabic interface that teaches French (June 2016, Audio Skype interview).

M.F: Student, aged 18, male, Syrian lives in Saudi Arabia, Duolingo moderator in the Arabic interface that teaches English (May 2016, written Skype interview).

### **2. Duolingo users:**

M.S: fresh graduate Engineer, aged 23, male, Egyptian, (June 2016, Audio Skype interview).

A.A: Student in Faculty of Arts, aged 20, male, Egyptian, (June 2016, Audio Skype interview).

S.S: Developer for iPhone app, aged 32, male, Lebanese, (June 2016, Audio Skype interview).

APPENDIX D – Interview questions for Duolingo moderators

1. Demographic data: Name initials, age, sex, country, job.
2. How did you know about Duolingo?
3. Have you been player before you became an admin?
4. Are you working on voluntary basis?
  - a. If yes why did you decide to invest your time here?
5. What is the area of supervision you are responsible for?
6. Are your working in the Arabic interface section?
  - a. If yes what do you think that is missing in the Arabic version?
  - b. Did you notice unusual behaviors/ comments/ usages from these users?  
Something different/ interesting rather than the English interface users.
7. Do you have access to virtual store usage data?
  - a. How do you evaluate the store usage experience?
  - b. Are users are interested to use it? Can you give an approximate percentage?
8. What are the main common questions/problems from players?
9. What are the most interesting/weird experiences you had with Duolingo  
/players?
10. Why do you think the main attractive point for people to join Duolingo?
11. In your opinion, who is your main competitor?
12. Duolingo will be better/ practical if? ...

APPENDIX E – Interview questions for Duolingo Arabic users:

1. Demographic data: Name initials, age, sex, study, job, country.
2. Are you a bilingual?
3. How did you know about Duolingo?
4. Did you recommend it to a friend?
5. Do you have common friends playing here with you?
  - a. If yes, are you encouraging each other or studying together?
  - b. If no, do you make friends through Duolingo?
    - i. If yes, do you have any activities together?
6. How long you have been using it?
7. What is the first thing comes to your mind when you remember Duolingo? Or describe it with a word
8. Did you join a formal English class before?
  - a. If yes, for how long?
  - b. Compare this experience with your Duolingo experience.
9. What is your main reason to learn English?
10. Do you think Duolingo is helping you achieving your goal of learning?
11. What is your future plans, concerning English language?
12. Will you play Duolingo if it is not free?
13. Did you face any problems using the game?
  - a. If No, did you face any problem in translation from English to Arabic or vice versa
    - i. Explain your experience with audio files.
  - b. Was easy to understand? Do you think it is necessary?
14. What will be better if Duolingo provide? Recommendations

- a. If nothing recommended: What do you think about
  - i. Adding a virtual Arabic or English keyboard to the game?
  - ii. The availability to upload documents and share it among players?
  - iii. Adding an index; contains words list; at the end of every section.  
So you can review your words from time to time.

