«Exploring the potential of commercial language apps to meet students' learning needs when studying English at High School and University»

Autora: MARÍA DE LOS ÁNGELES OLMO GIL

Tutores: Anke Berns y Manuel Palomo-Duarte

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ABSTRACT AND KEYWORDS

Nowadays, it is not difficult to see people with smartphones. They are part of our daily life and we use them all day for almost everything. Thanks to this, Mobile-Assisted Language Learning (MALL) is gaining popularity. The purpose of this study is to analyze the 15 most downloaded commercial apps from Google Play in order to identify first, whether these apps meet students' learning needs and second, whether they explore the full potential of smartphones to support students' in their learning process. Considering this, in this work a literary review has been done in order to identify the different types of learning that are supported by MALL. Besides, an analysis of the most downloaded apps for learning languages has been carried out to gather information on what is offered on Google Play. Apart from this, a questionnaire for students from High School and University has been designed in order to know students' needs when learning English as a foreign language. The results obtained from the analysis of the questionnaires are highly revealing regarding students' learning needs when using apps.

Keywords: MALL, apps, foreign language learning, higher education, educational and motivational potential.

Resumen y palabras clave

Hoy en día no es difícil ver gente con smartphones, ya que son parte de nuestra vida cotidiana y los usamos constantemente para casi todo. Gracias a esto, el aprendizaje de idiomas mediante tecnología móvil (MALL) también está ganando popularidad. La finalidad de este trabajo es mostrar que las apps se centran principalmente en enseñar vocabulario y si éstas explotan todo su potencial educativo. Teniendo esto en cuenta, se ha llevado a cabo un análisis de la literatura para ver los diferentes tipos de aprendizaje que soportan las apps. Además, se han analizado las apps para aprender idiomas más descargadas de Google Play para saber qué se ofrece en éstas. También se ha diseñado un cuestionario para estudiantes de bachillerato y estudiantes universitarios para así conocer las necesidades de los estudiantes a la hora de aprender un idioma. Los resultados obtenidos del análisis y los cuestionarios son muy reveladores en cuanto a satisfacer las necesidades educativas de los alumnos con apps.

Palabras clave: MALL, apps, aprendizaje de lenguas extranjeras, educación superior, potencial educativo y motivador

1. INTRODUCTION

My interest in the use of apps for learning languages comes from my own experience as a learner as well as teacher. I have learned English, French and German and all of them were taught in different ways according to the teachers' teaching approaches. My first contact with apps was some years ago when I wanted to improve my level of English. Later on, I started using apps in my German language course at the University of Cádiz. Thanks to this, I became aware that it was easier for me to learn certain aspects of the foreign language through apps (especially vocabulary and basic syntactic structures) than doing it in the traditional way with books or worksheets. Based on my own experience as a language learner, I then, started using apps also with my language students (always in combination with other more conventional learning tools such as worksheets, videoclips, etc.) and I could notice that most of them felt motivated by using them. Besides, some research papers on MALL have underlined that students feel more interested and motivated towards learning languages when they use apps (Demouy et al. 2016: 11; Sato et al. 2015: 500; Bárcena et al. 2015: 38).

Apart from what has been said before, we live in a world that is constantly evolving and creating new things to make life, learning, etc. easier. In line with this, languages and the way we learn them are also changing. Therefore, the use of technologies for language learning is increasing and with it, the use of smartphones. Nowadays, we use smartphones not only to interact with our social environment but also for playing all kinds of games, searching on the internet, watching videos and even for learning languages. As stated by Bárcena (2015: 27-38), the use of MALL is increasingly breaking into language classrooms and there are many teachers that have bet on the use of apps with their students as they seem to make learning more engaging than books or more conventional tools do. Mobile apps have many advantages that make them remarkably useful. One of the advantages is that they offer the possibility of learning a language for free or at least for low-cost prices and they can be used anytime and everywhere (always depending on external facts such as the noise of a specific place, among others). We can find hundreds of different apps for learning languages on Google Play[1] that assure their users to help them learning languages from the very beginning up to advanced levels. Furthermore, if we look at the apps for learning languages available on Google Play, we can find not only conventional apps based on traditional exercises such as *fill in the gap* or

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[1] Due to (Heil et al. 2016: 33) it was estimated that there were about 1.000-2.000 in 2012.

choose the correct answer, as the ones done on worksheets but also game-based and gamified apps[2], that embed learning contents in a more attractive and engaging environment. The apps that we can find on Google Play usually offer exercises related to vocabulary, grammar, reading, listening or translation, but not all of them focus on each of the mentioned items. Some apps solely focus on a specific aspect (i.e. vocabulary learning) (Stockwell, 2007: 368). However, according to (Heil et al., 2016: 34) "to gain communicative competence in a language, one must develop a multifaceted range of knowledge", which implies that a person cannot focus only on one skill but must focus on all of them. Thus, a person needs to practice each skill in order to be able to communicate with others. This should be done either talking or writing, because focusing on just one skill, for example, vocabulary will not give this person the key to produce grammatical sentences or to pronounce words properly (Heil et al.,2016: 34).

In this context, the purpose of the current Senior Thesis is, on the one hand, to analyze whether the apps (available on Google Play) are designed in line with learners' needs, and on the other hand, to determine whether these apps take full advantage of the potential of mobile devices such as smartphones. For this purpose, first, a literature review on various analysis of mobile learning apps and their use has been carried out. Second, a questionnaire for A level students from two different High Schools from San Fernando (IES La Bahía and IES Isla de León) and 52 students of the first year of English Studies Degree at the University of Cádiz has been designed. The aim of the questionnaire was to gather direct feedback from students who have been learning English for a long time. Thanks to this, we will be able to compare their points of view with the analyzed apps and make some proposals for future line of research.

From this point on, the paper will be arranged as follows: Section 2 offers a summary of what has been done on the topic, followed by Section 3 which describes the purpose and hypotheses of my Senior Thesis. Next, Section 4 explains the methodology that has been used to do the analysis in Section 5 and to find evidences in support or against our initial

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[2] Game-based apps are apps which include games that have been designed for language learning, while gamified apps are apps that include game features such as points, rankings and levels to increase students' motivation (Berns et al. 2016: 2).

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hypotheses. Finally, Section 6 summarizes the conclusions drawn from the analysis in Section 5 and depicts some future line of research.

2. STATE- OF-THE-ART

It is known that the conventional learning materials, understanding by this the use of course books, and worksheets in and outside the classroom to learn languages do not cover students' needs. Moreover, in many language courses, especially at the university, language is not practiced enough in class, due to the high percentage of course participants and the reduced number of face-to-face teaching hours. Thus, face-to-face teaching has proved to be quite limited when it comes to students' needs, that is, learners often lack opportunities to interact and negotiate with others in the target language (Berns et al., 2014: 61; Berns et al., 2016: 1). This requires students to practice outside the classroom, where smartphones could be a good option due to their portability. Besides, teachers often do not have the time to focus on students' individual needs, as this would hold up the syllabus and take more course hours that they usually do not have (Çakir, 2016: 173). Because of this, many teachers and learners have started integrating in their teaching and learning process the use of what is known as MALL.

2.1. MALL

2.1.1. Definition of MALL

Nowadays, it is not difficult to hear about MALL as it is a fast-growing field of research. This growth can be seen in the great number of research papers that have been published in recent years by authors such as Kukulska-Hulme (2008; 2015; 2016), Levy (2009; 2013), Burston (2014), Stockwell and Hubbard (2013).

MALL has been defined by many authors. (Kukulska-Hulme and Shield, 2008: 273) for example, defined MALL as learning with handheld devices that can be used anytime and anywhere. Another definition is the one provided by (Selwood, 2015:165), who describes MALL as learning involving a portable device with access to the Internet so that the user can

use it whenever he/she wants and needs. Thus, we can understand MALL as the use of mobile devices such as smartphones, tablets or other portable devices for learning languages. It is worth mentioning that even if the term seems to be something new, the term was coined by Chickering and Ehrmann in 1996 (Chickering and Ehrmann, 1996: 3), with the use of mobile devices such as PDAs.

2.1.2. Driving forces behind MALL

There are many language experts that have already bet on the use of apps for learning languages. One of the most well-known ones is Kukulska-Hulme who has published numerous papers and books on MALL. One of her fundamental contributions to the field is the paper called "An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction" (2008), in which she analyzes the evolution of MALL. Levy and Steel are also great pillars of MALL. In "Sustainability and CALL: Factors for success in a context of change" (2009), Levy and Steel analyze the use and the opinion about apps from the student's perspective. Other important researchers are Stockwell and Hubbard who, amongst others, published in 2013 a paper called "Some emerging principles for mobile-assisted language learning", in which they offer a literature review and present the different features that apps should explore in order to meet students' needs. Another important author is Burston, who examines the evolution and acceptance of MALL in "The Reality of MALL: Still on the Fringes" (2014).

In addition to the authors mentioned above, there are several universities that have contributed to the field, especially, distance universities. One of the most important ones is The Open University in the United Kingdom (with the collaboration of Kukulska-Hulme). The Open University was one of the first promoters of the use of mobile devices for language learning as they encouraged the use of iPads/tablets and mobile phones in and outside their classrooms (Berns et.al., 2017: 3). Likewise, the Spanish Distance University (UNED), and especially the research group ATLAS is also considered one of the promoters of MALL (Castrillo de Larreta-Azelain et al., 2016: 27). Another driving force behind it is the University of Cádiz, that has been contributing to the field especially through the numerous apps and research works that have been developed and published by the research group called SPI&FM (Palomo-Duarte, 2016; Ruiz-Rube et al., 2016; Berns et al., 2015, 2016 and 2017).

2.1.3. Perspectives of MALL

According to Winters, there are basically four approaches to MALL (Winters, 2016: 5). The author states that researchers usually focus on only one perspective instead of using a holistic approach, that means working on all of them. Adopting his idea, would avoid possible problems when working with MALL such as leaving some approaches in a second level. An example of a problem could be focusing only on technocentrism and avoiding the learner-centred aspect, what would leave the student in a second level. The four approaches to MALL are the following ones:

Technocentric: Mobile learning is concerned with the use of technological devices, in particular, mobile devices such as mobile phones, PDAs, iPads, tablets, etc. The priority is on the device as it is the main part of the learning process, so the interest is on developing new and improved devices as well as a better software.

Relationship to e-learning: For some researchers, mobile learning has to be understood as an extension of e-learning because of what have been said in the previous approach. As e-learning is understood as learning with technological devices, MALL has to be an extension of it instead of a new way of learning.

Augmenting formal education: If we look at the researches already done in the area of MALL, we can see that formal or traditional education is usually seen as face-to-face teaching. However, this is not always true, we also have distance universities for example, that could also be considered as "traditional" education. Researches on MALL usually talks about how to introduce mobile phones in "traditional" education only meaning face-to-face education but it is a reality that MALL is entering both, face-to-face education and distance education.

Learner-centred: At the beginning, MALL was strongly linked and focused on the device but later, it became clear that the focus should be on the learner's mobility as it was a portable device. Nowadays, apps try to focus on the students, offering them a lot of possibilities to improve their level of a given language in many ways. However, not every app uses its whole potential to satisfy the learner.

2.1.4. The use of mobile apps nowadays

It is known that mobile apps can be useful since they offer many advantages such as portability, low costs, connectivity, immediacy, flexibility, and they can also be used in most smartphones (AbuSa'aleek, 2014: 469; Berns et al., 2015: 55; Kennedy and Levy, 2008: 315-316). In addition, thanks to these and other features, the use of language learning apps seems to be a good option for students. A European study carried out in 2010 has shown that 52 per cent of daily learning situations included, at least, one electronic device (AbuSa'aleek, 2014: 471). In 2011 (Steel, 2013: 311), carried out an experiment in which students were asked to choose between learning through mobile apps or through books and the results showed that 38 per cent preferred mobile apps. The experiment was repeated in 2012 and 2013. The percentage grew up to 51 per cent and then in 2013, to 72.5 per cent. Besides, another reason why this number is increasing could be because learning through apps is perceived as informal learning. Students find this type of learning more motivating than learning at school with books and workbooks because they are free to choose their own tasks and goals (Demouy et al., 2016: 11). However, the use of MALL has also some disadvantages. The majority of apps are designed for learning outside the class. According to (Burston, 2014: 105), 90 per cent of the apps were designed for out-of-class learning, what could take advantage of the full potential of mobile devices. However, as pointed out by (Bárcena et al., 2015: 37) most of these apps do not provide activities different from those provided in traditional language classroom settings. It is worth mentioning that apps, which have been designed for being used outside the classroom are able to take advantage of learner's free time, increasing students' autonomous learning.

2.2. Types of learning

There are several types of learning such as problem-based, project-based, task-based learning, game-based learning, etc. However, in this section, we are going to examine only the most common types of learning that can be identified in commercial apps. These are on the one hand, form-focused and task-based learning, and on the other hand, individual versus collaborative learning.

2.2.1. Form-focused learning

Form-focused learning has to be understood as the function that a particular structure performs (Laufer, 2010: 4). According to researchers, there are two types of Form-focused Learning/Instruction: Focus on Form (FonF) and Focus on Forms (FonFs). FonF refers to learning linguistic elements as part of a communicative task, for example, learning vocabulary through a text in which we have to look words up in a dictionary. Unlike this, FonFs can be understood as learning linguistic structures separated from a communicative context. Following the previous example of vocabulary learning, in FonFs the words would be given decontextualized and with their translation to match them with their definitions or to fill in gaps (Laufer, 2010: 4-5; Lessard-Clouston, 2011: 2).

2.2.2. Task-based learning

Task-based language learning, as its name indicates, is based on tasks presented to students in order to achieve a specific goal. According to (Van den Branden, 2009: 269) tasks are activities in which people try to achieve a non-linguistic objective using language. Besides, (Ellis, 2009: 223) stated that tasks must meet several aspects: first, tasks should mainly focus on meaning, that is, students have to be concerned with processing the semantic and pragmatic meaning of utterances. Second, there is a need for a gap to be filled in with some information or an opinion to contribute to its meaning. Third, students have to rely on their linguistic and non-linguistic resources to complete the task. Fourth, the goal of the task should not only be the use of language, language is needed to achieve the goal but there should be a predefined goal. Tasks can be divided into two great branches: unfocused or focused and input providing or output-prompting (Ellis, 2009: 223-224). An unfocused task is a task in which learners have the opportunity of using language in general, whereas focused tasks are designed in order to use some specific linguistic features. Apart from these two types, a task could also be input providing, which means that they are related to listening or reading or output-prompting, which involves speaking or writing skills. An example of task-based learning would be the one by (Van den Branden, 2009: 271) with the 'zoo task'. The zoo task is based on an information gap in which students have to talk with other students in order to find out how the animals are distributed in the zoo.

2.2.3. Individual vs. collaborative learning

MALL can also be described in terms of individual or collaborative learning. Individual learning refers in this context to the students' individual interaction with the device, that is, students practice the language only by interacting with the app rather than with other users. On the other hand, collaborative learning involves the interaction with the device as well as other users. Collaborative learning seems to be a good way of learning as students can interact with each other. However, as stated out by (Berns et al., 2015:51, 2016:1, 2017:3) and (Kukulska-Hulme, 2008: 283) not many apps support this type of learning. However, thanks to technology, this type of learning can be supported by nowadays smartphones. Instead most of the apps available on the market only support individual learning rather than exploiting the potential for increasing versatile interaction among users. According to (Burston, 2014: 111), in 2014, 75 per cent of apps were based on individual learning and only 25 percent on collaborative learning. Nevertheless, in recent years the number of apps supporting collaborative learning seems to be increasing, even though the majority of apps still support individual learning (Berns et al., 2017: 3).

3. PURPOSE AND HYPOTHESES

The purpose of our study is to analyze the most downloaded commercial apps (available on Google Play) for learning languages, especially for learning English. We will focus on analyzing whether these apps meet students' real learning needs. For our analysis, we have established the following hypotheses:

H1: *Most of the apps available on Google Play focus mainly on vocabulary learning.*
H2: *Most of the apps do not take advantage of the educational potential mobile devices such as smartphones offer to enhance language learning.*

Nowadays, due to the technological era in which we live, smartphones are essential in our daily life. Many teachers have already adopted them for their foreign language classes. Thus,

apps for learning languages should provide a wide range of possibilities to support students in their learning process.

4. METHODOLOGY

In order to find evidence in support or against our initial hypotheses, a literature review on the topic of MALL and a study on the most downloaded apps for learning languages have been conducted. Moreover, we have designed a questionnaire to gather direct feedback on the topic from current English language learners. The target groups for the questionnaire were students from the A level of two High Schools from San Fernando (IES La Bahia and IES Isla de León) and students from the degree in English Studies at the University of Cádiz. The reason why these groups were selected instead of other levels (lower levels) was because they had already been in contact with the English language for several years, hence had probably experienced different teaching/learning approaches as well as learning tools. Once the methods carried out for the analysis have been described, the research questions that have been leading the analysis are posed:

R.Q.1: *Which type of apps for learning languages are offered on Google Play?*
R.Q.2: *What kind of commercial apps for learning languages are the most downloaded ones?*
R.Q.3: *Which sort of learning is supported by the available apps?*
R.Q.4: *To what extent do the available apps meet students' learning needs?*

Answering R.Q.1 (*Which type of commercial apps are offered on Google Play?*) and R.Q.2 (*What kind of commercial apps are the most downloaded ones?*) will show the variety of apps we can find nowadays on the market as well as the user's preferences regarding different types of language learning apps. To do so, the top 15 of the most downloaded language learning apps[3] has been analyzed. The search term for this work was "language learning" and the app market Google Play. This analysis will add more information to the previous analysis

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[3] Based on the most downloaded apps on March 11, 2017.

done by (Heil et al., (2016) which constitutes the basis for this Senior thesis. The results of the analysis are stored on FigShare[4] in case they want to be verified or updated.

The aim of R.Q.3 (*Which sort of learning is supported by these apps?*) is to analyze the use these apps make of the different types of learning and to identify the most frequently used types of learning. To answer R.Q.4 (*To what extent do the available apps meet students' learning needs?*), a questionnaire with some open-ended questions has been carried out. The questionnaire was designed for English students from different levels, in order to know their learning needs and opinion about apps for learning English. A total of 134 students took part in the questionnaire. This way, we aimed to know what they think about the apps they have used and what would they change from them. The results of the questionnaires are also uploaded on FigShare together with the results from the analysis. After this, we would be able to compare the results from the questionnaire with those obtained from the analysis of the apps and draw some conclusions on whether commercial apps, as the ones available on Google Play, meet students' real needs or, instead would better meet students' needs by integrating additional tools.

5. ANALYSIS

In this section, we present first the results obtained from the analysis of the different language learning apps available on Google Play, and second, those obtained from the questionnaires. The results will be illustrated with the help of graphs and charts. The guidelines that will be followed are those mentioned in Section 4, where the diverse Research Questions are posed.

### 5.1. Results from the analysis of the apps

First of all, to find evidences in support or against of our hypotheses, we need to answer R.Q.1. (*Which type of commercial apps are offered on Google Play?*). To do so, we

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[4] FigShare is an online repository where users can share their researches and download other users' researches. The link for the present results is **https://doi.org/10.6084/m9.figshare.5086852.v1**

searched for the term "language learning" on Google Play. More than two hundred apps were found. However, not all of them met the search term. Some of the apps we found focused on culture or news rather than on language learning. Taking only into account the apps that met the search term, we found that there are those apps that provide activities for practicing all language skills as well as those that focus solely on some or even one single skill. We can find apps for learning vocabulary and grammar rules, apps for practicing reading, pronunciation, writing and translation. Another type of app that we found would be apps based on chats with other users to learn languages. Apart from those types, some of these apps were either gamified or games, as well as "traditional" apps, presenting learning contents by means of different *drill-based* or *fill in the gap exercises*, etc.

Once we have identified the different types of apps available on Google Play, we downloaded the fifteen most downloaded apps in order to answer R.Q.2. (*What kind of commercial apps for learning languages are the most downloaded ones?*). *Figure 1* shows customers' preferences when downloading apps for learning languages. The most popular apps are the gamified apps, which are 10 out of the 15 analyzed apps. We found that most of these apps used provide the user with instant feedback (by means of a sound or emojis) on his/her performance. Another common element of gamification is the use of points which are given to the user once he/she has successfully completed an exercise. In some cases, these points are used for a weekly or monthly ranking showing players' individual results in comparison to those obtained by other users. The second most popular type of app among users is the traditional app, that is, apps without sounds, points, rankings or goals. These apps constitute only 2 out of 15 apps, showing a big difference with the first type. The next most frequently used type are games, being also 2 apps. However, games seem to be the less popular apps; maybe because they are designed for kids as we have noticed when we were analyzing them. The less used types are chats, representing only 1 app out of the 15 most downloaded that we have analyzed. Thus, the results have shown that gamified apps are clearly the most popular apps among users leaving far behind traditional apps, games and chats. The data also suggest that game features increase students' motivation towards the use of apps.

Figure 1. Types of apps analyzed
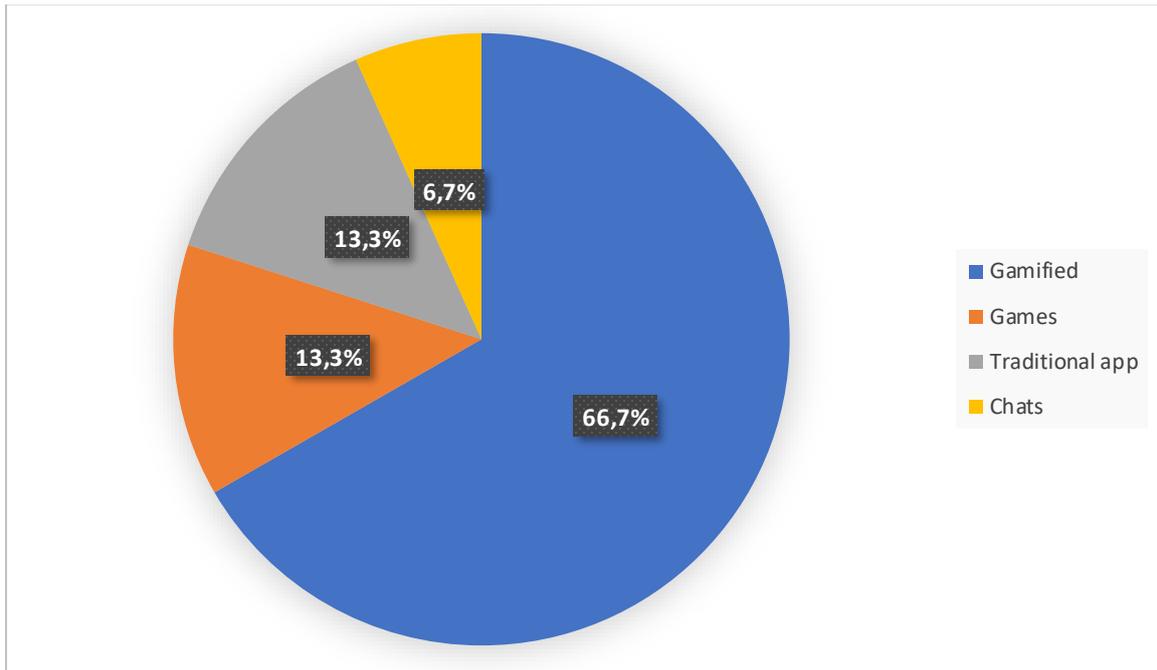
With regard to the language skills users can practice with the mentioned apps, *Figure 2* provides some very interesting insight.

Figure 2. Language skills that can be practiced by the analyzed apps
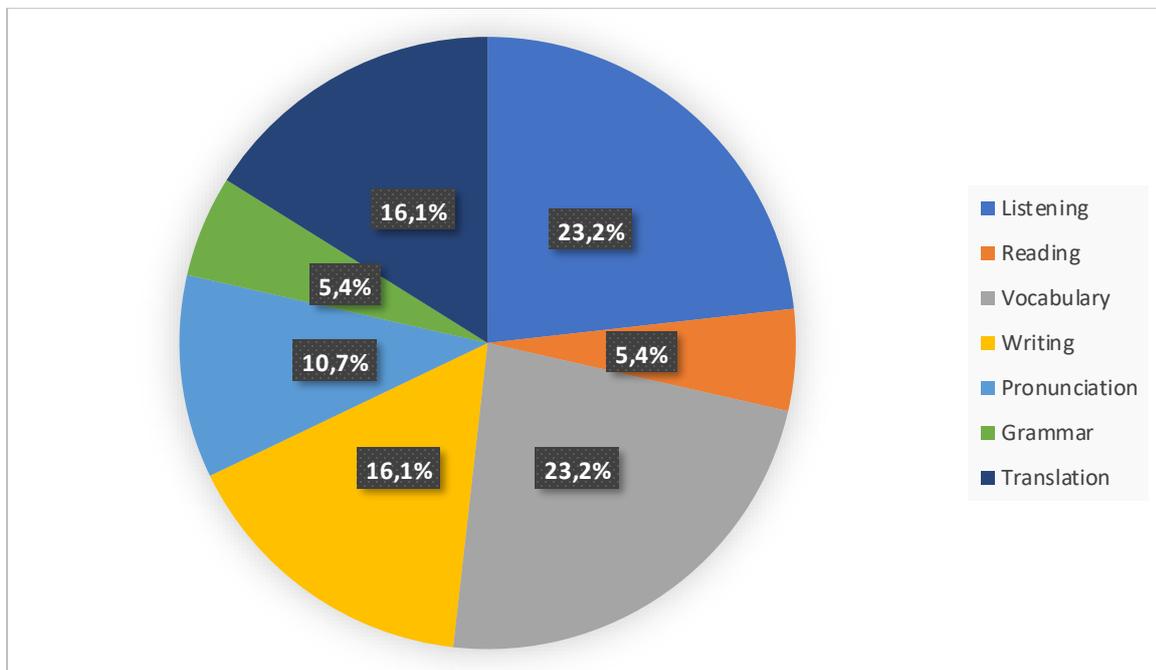
It is noteworthy that there are four skills that prevail among the others. There is a draw with listening and vocabulary, as both skills are present in 13 of the 15 apps, we have analyzed for this study. The same happens with the second and third most frequently practiced skills which are writing and translation. The figures show that 9 out of 15 apps focus on these skills. The third most frequently practiced skill is pronunciation, with 6 out of 15 apps. The rest of the skills experiment a great fall concerning its practice. Only 3 out of 15 apps focus on reading and grammar, which means that we would get a different level of knowledge in each of the skills. The results suggest that apps have done so far little to help students to improve their reading and grammar skills.

Since we have already answered R.Q.1 and R.Q.2, we can now move on to analyze R.Q.3. (*Which sort of learning is supported by these apps?*). We have analyzed the different types of learning dividing them into FonFs, FonF or task based, and individual or collaborative learning (*Figure 3*).

Figure 3. Types of learning supported by the analyzed apps
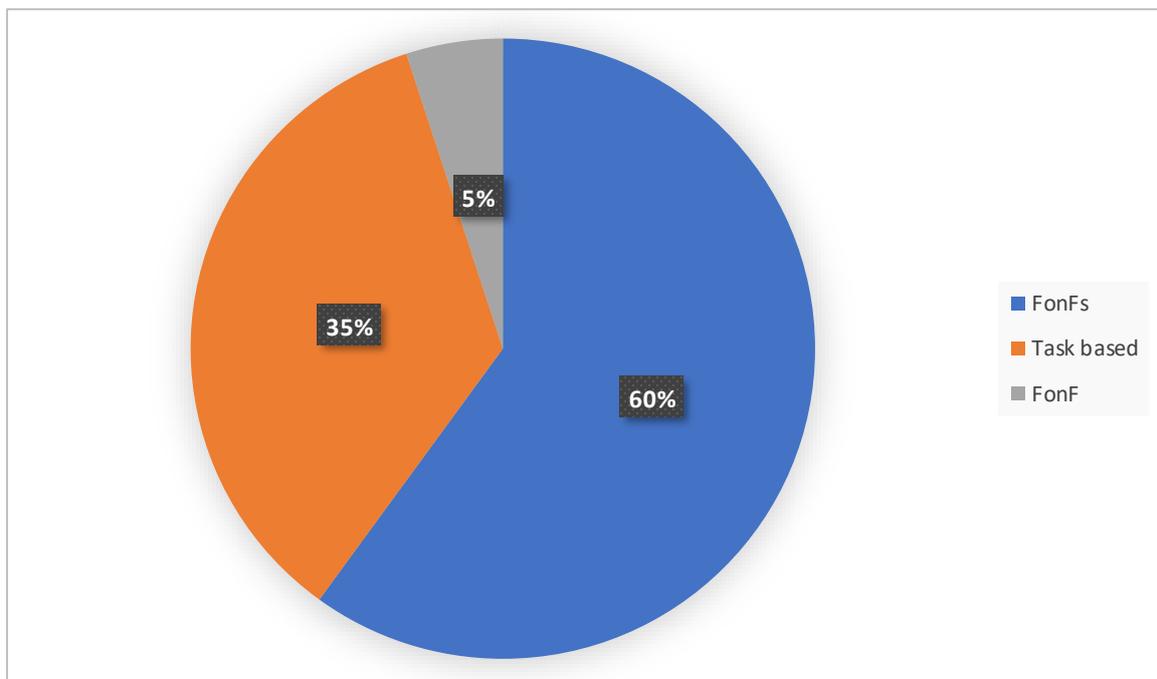
As we can see in *Figure 3*, based on the first division, it is quite interesting that Focus on Forms (FonFs) seems to be the most popular type of learning apps among software developers, being present in 12 out of 15 apps. The second type would be task based

activities, present in 7 apps, so we can appreciate the gap between the two types. The third and last one would be Focus on Form (FonF), which is only seen in 1 out of 15 apps.

Figure 4. Individual vs collaborative learning apps
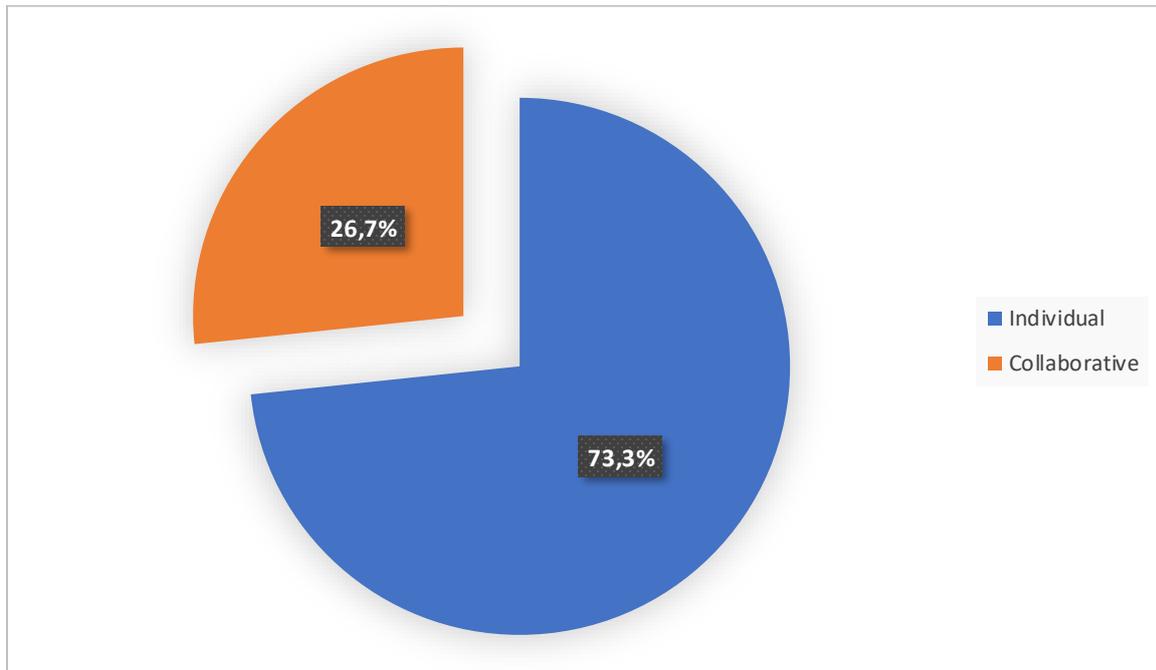
Taking a look at *Figure 4*, based on the type of learning the different apps provide their users with (individual versus collaborative learning), we can notice that the results are highly revealing. Only 4 of the apps support collaborative learning, as opposed to the high number of apps supporting individual learning (11 out of 15). These results are particularly interesting, taking into account what we have said in Section 2.2.3. As we said in Section 2.2.3., collaborative learning has proved to be a good way of learning because of its communicative function that allows students to learn a language interacting with others in the target language. Besides, technology has improved a lot these years, thus, smartphones nowadays have lots of features and improvements that allows collaborative learning to work properly.

5.2. Results from the students' questionnaires

Once we have finished the analysis on apps, we know what is offered on the market, so we can compare it now with the results of the questionnaires. We can now focus on R.Q.4. (*To what extent do the available apps meet students' learning needs?*).

In order to answer R.Q.4., as described in Section 4, we carried out a questionnaire for students to compare their results with those obtained from the analysis of the apps. In one of the questions, students were asked about their main motivation when learning a foreign language (see Annex, question 2). Based on students` answers, we could know which skill they wanted to develop most (*Figure 5*).

Figure 5. Students' motivation for using language apps
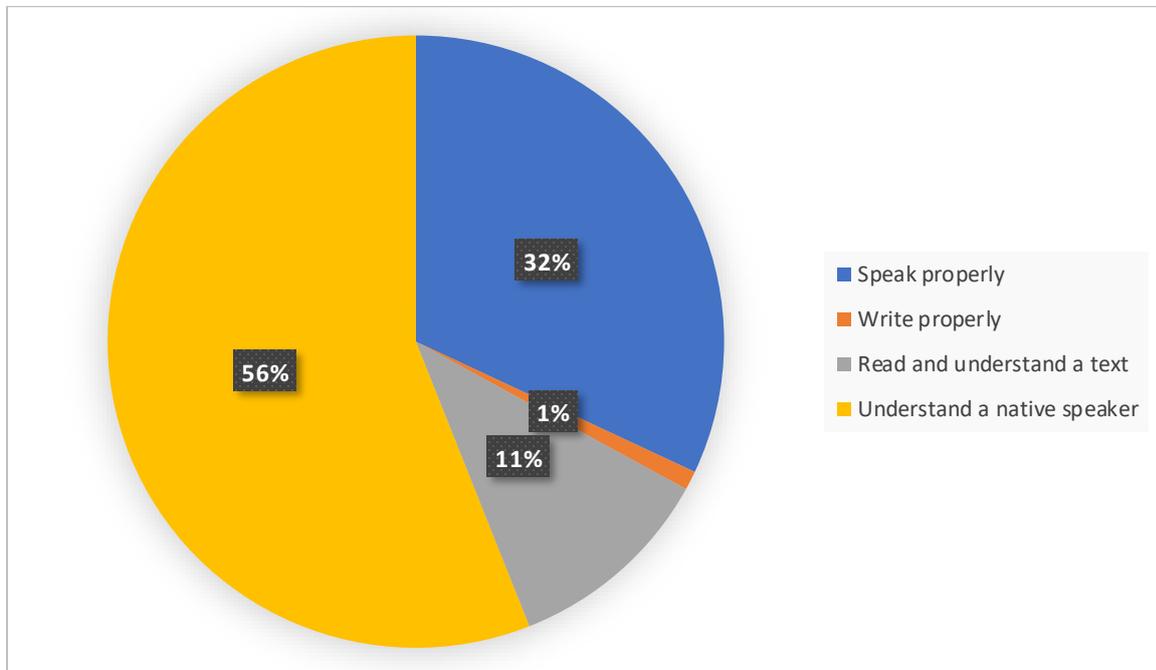
The data from *Figure 5* illustrates that there is a clear preference for understanding a native speaker (56 per cent), what tells us that most students learn a foreign language focusing on listening in order to achieve this goal. To be able to speak properly, was the second most chosen answer, that is, 32 per cent of students consider speaking as their focus on a language. The third motivation most chosen was read and understand a text, telling us that 11 per cent of the students consider reading comprehension as their priority when learning a language. In contrast to the aforementioned results, writing properly did not seem to be the focus for students as it was only chosen by 1 per cent.

The next question, asked them about their strongest language skill so that we could assume which skill they do not need to focus on (see Annex, question 3). As we can see in *Figure 6*, the results are quite controversial depending on the year of study.

Figure 6. Students' strongest language skill
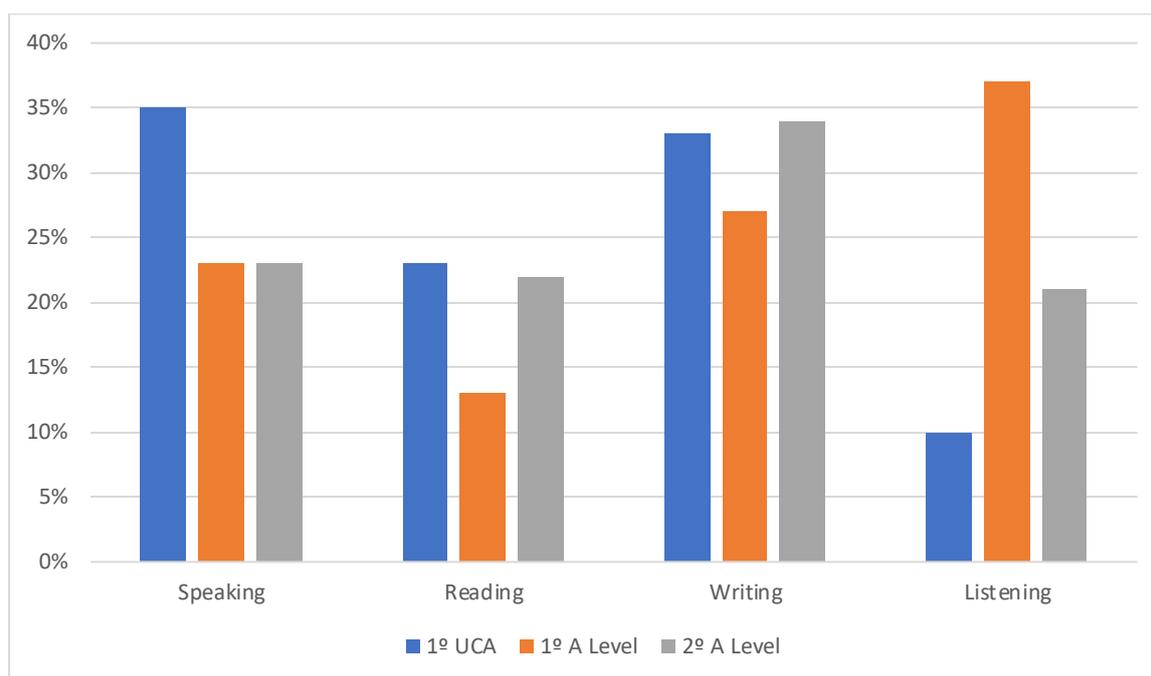
So, it is interesting that the majority of university students, who participated in the questionnaire (35 per cent) consider that speaking is their strongest skill, followed by writing (33 per cent). Instead, reading would be the third most chosen skill (23 per cent), leaving listening as the less chosen one with only 11 per cent. In contrast to these results, 37 per cent of both of the first A level year students chose listening as their strongest skill. Writing in this case, was again the second most chosen one with 27 per cent, and speaking being not so far from it, with 23 per cent. In the case of the first A level year students the less chosen skill was reading (13 per cent). Both second A level students' answers are quite similar among them. For 34 per cent of them, writing is their best skill, followed by 23 per cent that affirms speaking to be their strongest skill. Reading was chosen by 22 per cent of the students, being listening in this case the less considered (21 per cent). Thus, even if the results are different for each level, writing and listening seem to be the strongest language skills among students.

The next question was the opposed to the previous one, asking them to choose their weakest skill (see Annex, question 4). In this case, the results from the different years were more or less similar, as you can see in *Figure 7*.

Figure 7. Students' weakest language skill
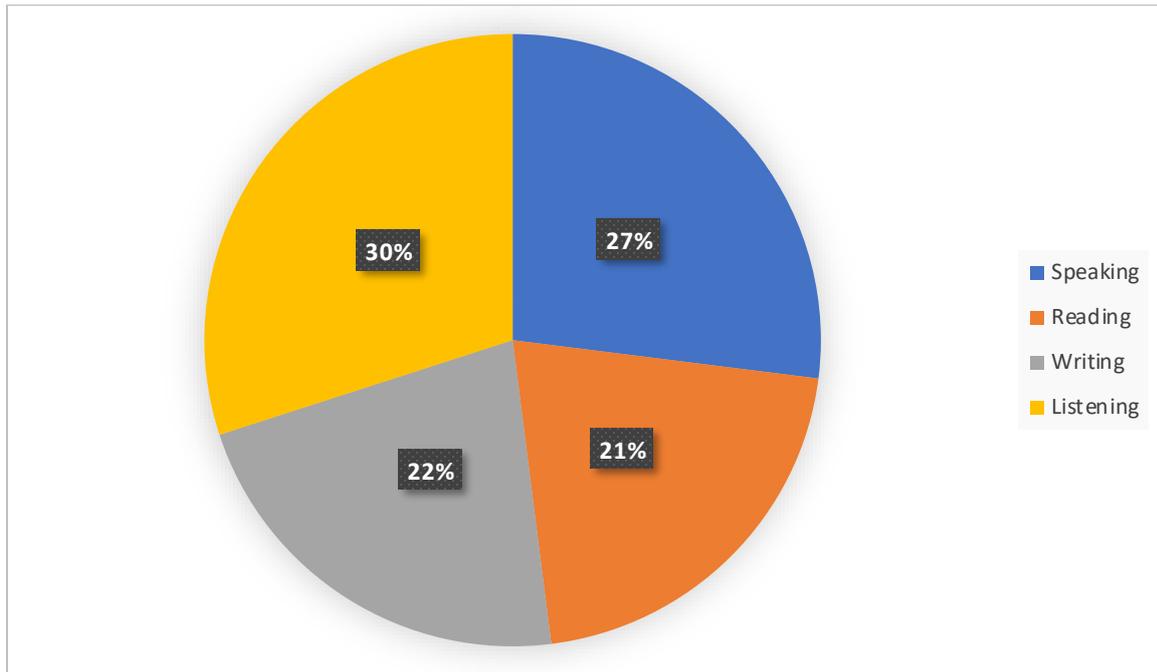
Listening was selected by 30 per cent of the students as their weakest skill, a result that does not differ too much from speaking, selected by 27 per cent. Writing and reading were the third and fourth less selected ones, being the first one selected by 22 per cent of the students and the second one by 21 per cent, which is not a big difference. It is noticeable that there is no clear predominance, as all the skills have been selected in a similar percentage.

Once we know their weakest skill, we can move on to the next question which tries to specify which aspects of language they need to improve (see Annex, question 5). If we compare *Figure 7* and *Figure 8*, we can see that even if the point of the questions were almost the same, there is a visible difference between them.

Figure 8. Language aspects students need to improve
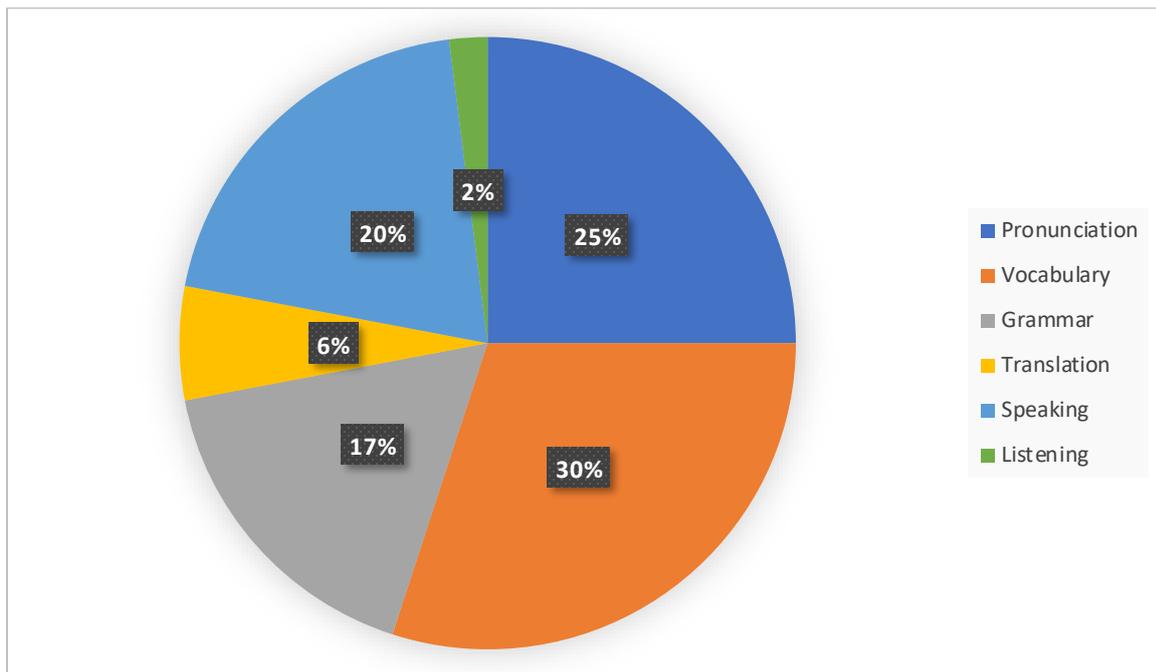
In *Figure 8*, we can see that 30 per cent of the students believe that they need to improve their vocabulary, followed by 25 per cent that consider pronunciation as the aspect they need to work on. Pronunciation, as we know, is related to speaking, which is the next most chosen aspect selected by 20 per cent of the students. Speaking was also the second most chosen skill in the previous question, showing that there is a real necessity among students to improve speaking skills. Grammar was the next most chosen aspect, selected by 13 per cent of the students. There is a big jump from this aspect to the last two which are translation and listening, aspects selected by 6 per cent and 2 per cent respectively. Comparing again the two figures, we can see that in *Figure 7*, listening was considered as the weakest skill by most of the students, while in *Figure 8*, it is the less selected aspect to improve.

In order to know more about how they improve in these aspects, they were asked about what they do in their free time to improve them (see Annex, question 6).

Figure 9. What students do to improve their language skills
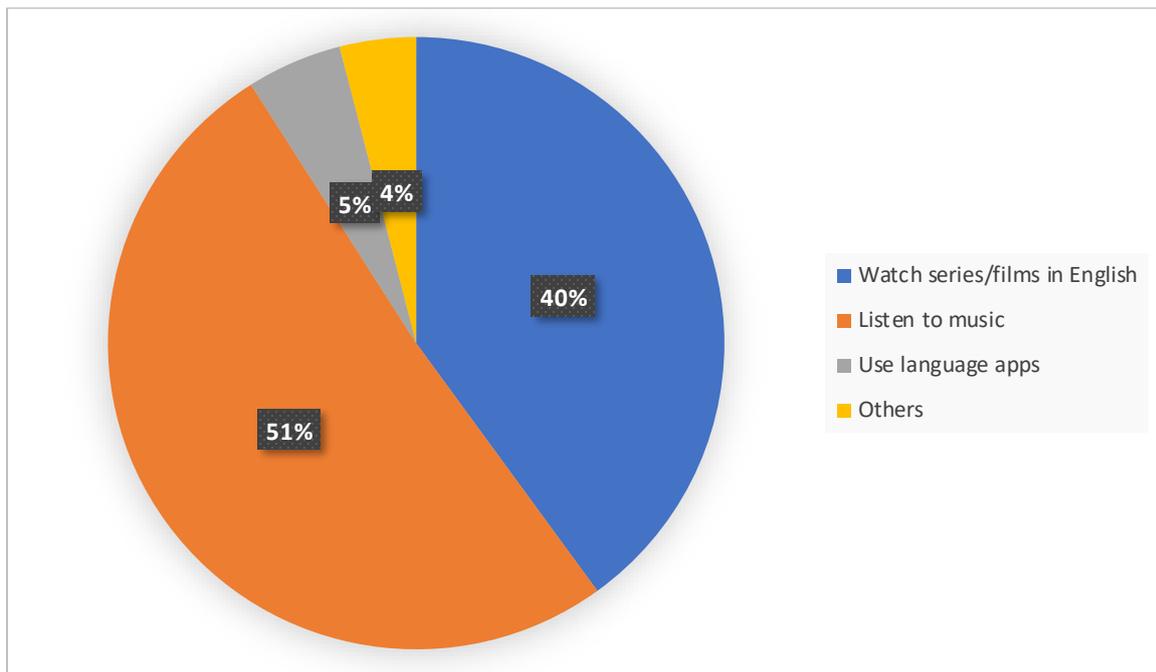
The results are posed in *Figure 9*, showing that there is a visible preference towards listening to music in English, as 51 per cent chose it. The second big trend would be watching series or films in their original version (English), which was chosen by 40 per cent of the students, in contrast to the third trend, using apps for learning languages, which was only chosen by 5 per cent. The 4 per cent left, chose other activities such as read books in English, talk with natives on the Internet or playing video games. These results are not really encouraging as only 9 per cent of all the students have used any technological device for learning English.

For those students who had used any kind of language app, there was a question to know which one/s they have used (see Annex, question 7). Surprisingly, only 29 out of the 134 respondents had used any language app in their lives.

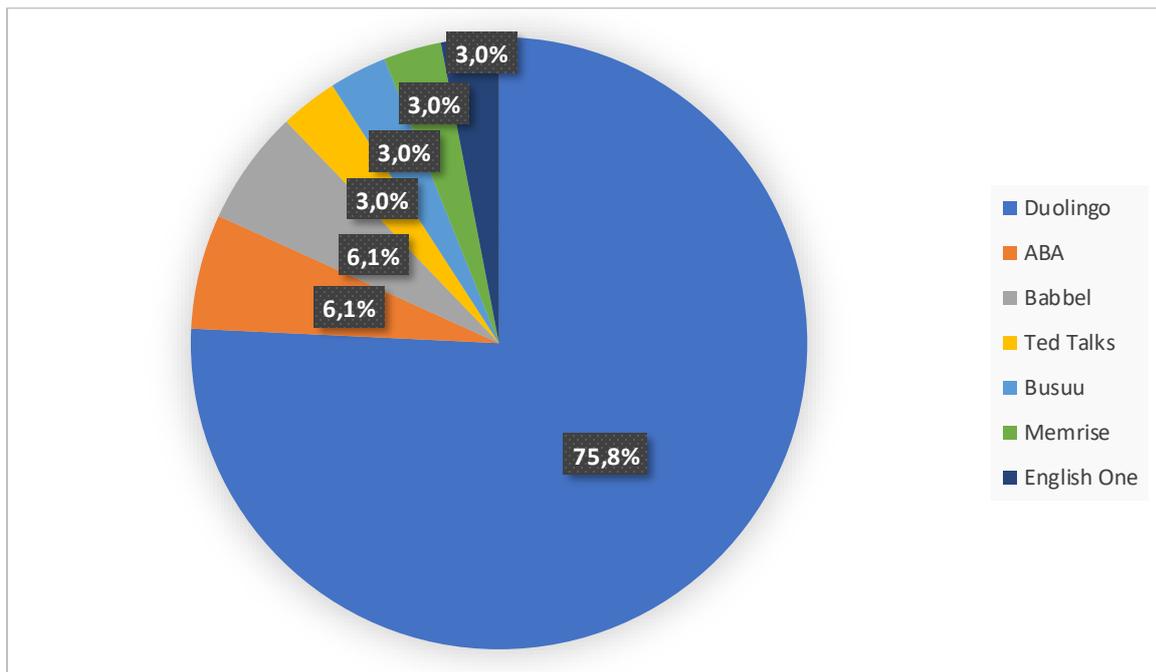**Figure 10. English learning apps used by the students**

Figure 10 shows the tendency towards each app. The apps used by the students were Duolingo, ABA English, Babbel, Busuu, Ted Talks, English One and Memrise. Duolingo was the most used one, used by 75.8 per cent of the students, followed by ABA English and Babbel, used by 6.1 per cent of the students. Busuu, Ted Talks, English One and Memrise were only used by 3 per cent of all the students.

The next question (see Annex, question 10) aimed to identify whether these apps have or have not helped them improving their weakest skills (*Figure 11*).

Figure 11. Usefulness of apps according to students' answers in the questionnaire
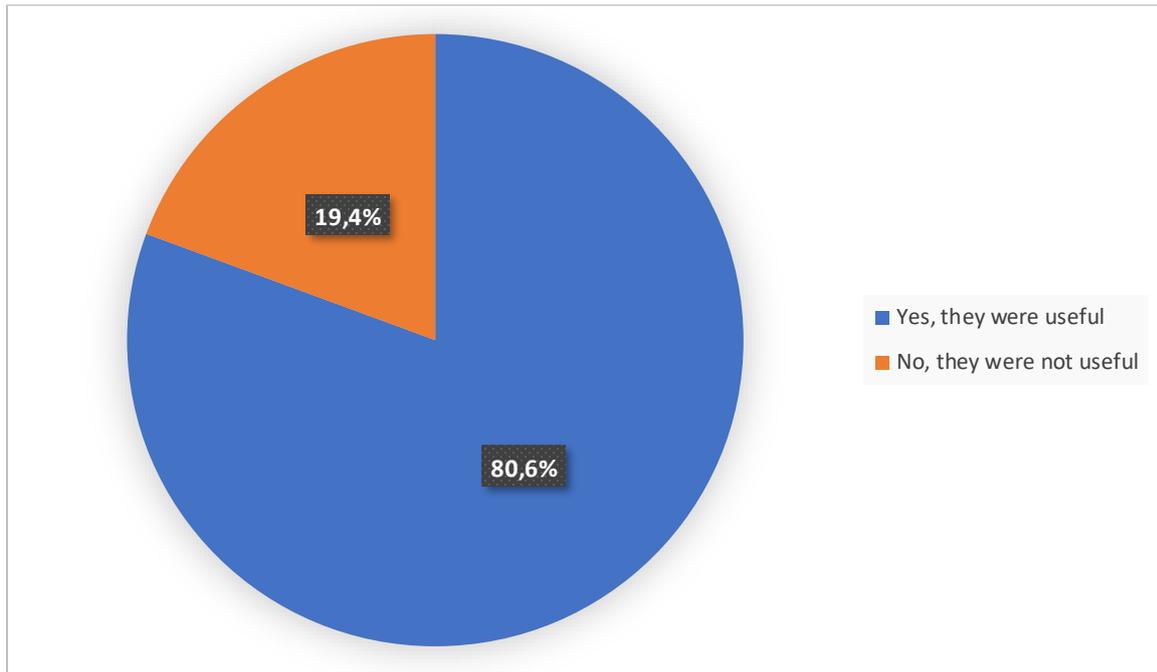
The results from *Figure 11* show that 80.6 per cent of the students consider that these apps really helped them. Some of these students point out that good features of these apps were their interface, game-like appearance, ease of use, methodology, ranking system, feedback or their free use. However, there is still 19.4 per cent that thinks that these apps did not help them to improve their weaknesses. It stands out that the students who consider that these apps did not helped them, were students who had used Duolingo.

Students that have used apps were also asked about what they missed in these apps (see Annex, question 13). In *Figure 12*, we can see that the results are highly revealing.

Figure 12. Students' demands for learning exercises
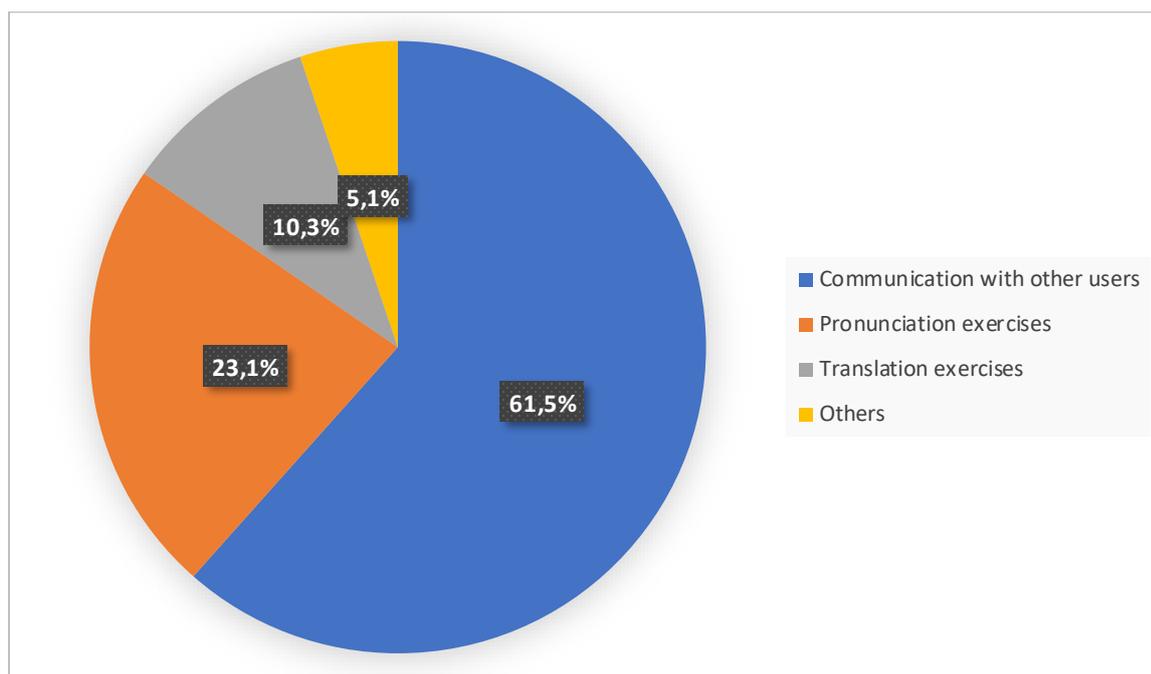
More than half of the students (61.5 per cent) consider that apps should provide more opportunities to interact and communicate with other users, followed by 23.1 per cent who considers that there should be more exercises on pronunciation. Besides, 10.3 per cent of the students think that more translation exercises are needed. The rest of the students (5.1 per cent) consider that apps should incorporate more writing exercises and opportunities for engaging in real life conversations with other users.

Taking into account the results obtained from the questionnaires and comparing them to those from the analysis done on apps, we can now answer R.Q.4 (*To what extent do the available apps meet students' learning needs?*). The questionnaires showed that students need to focus more on vocabulary learning, which as we saw in the analysis, is present in most of the apps. However, there is also a need for including more exercises on pronunciation, speaking and grammar, which are not practiced enough in most of the apps. Apart from this, there is a claim for more collaborative learning tasks, allowing for more communication with other users. The analysis has shown that solely 26.7 per cent of the analyzed apps provide their users with opportunities to interact with other learners, while the rest of apps focus on individual learning tasks. Another claim was to include more exercises on pronunciation, which are present in only some of the apps. In addition, students seem to be very interested in apps for

practicing translation. The results from the analysis has shown that many of the commercial apps we can find on Google Play offer exercises for translation, hence meeting students' claims, at least in this area.

6. CONCLUSIONS

The aim of this Senior Thesis was to find evidence in support or against our two initial hypotheses:

H1: *Most of the apps available on Google Play focus mainly on vocabulary learning.*

H2: *Most of the apps do not take advantage of the educational potential mobile devices such as smartphones offer to enhance language learning.*

The results obtained from the analysis of the most downloaded commercial apps together with those obtained from the questionnaires, have proven that both hypotheses are true. On the one hand, the first hypothesis was proven by the results from the analysis of the apps, which has highlighted that 23.2 per cent of these apps focus either on vocabulary learning or on listening. This fact could be related to students' demands on their need to know more vocabulary. However, if this is the case, app designers should work in adapting their apps to all their needs instead of focusing on just one of them.

On the other hand, the second hypothesis has been proven both, by the data obtained from the analysis of the apps as well as from the questionnaires. The results from the analysis compared to those from the questionnaires confirm that the majority of the most downloaded commercial apps do not really meet students' learning needs. Thus, most of the here analyzed apps still focus on vocabulary and listening (23.2 per cent of the apps focused on both), forgetting about the rest of students' necessities such as speaking, pronunciation, and grammar. In addition, according to students' feedback there is a great demand for apps which allow for more interaction and communication with other users in the target language (requested by 61.5 per cent of the students) as well as to work more on pronunciation and translation.

Besides, smartphones have improved and developed lots of features such as connectivity, high-quality cameras, and fast processors. It is not difficult nor too much expensive to find a smartphone with those features. Knowing this, app designers should take more advantage of these features and incorporate other types of exercises such as role-play games, collaborative learning activities based on the exchange of information by means of voice or text messages, etc., instead of focusing on traditional exercises such as *drill-based* or *fill in the gap* exercises, that do not differ from the typical workbook exercises.

Some future line of research could therefore focus on the design of apps which integrate more versatile tools to increase students' interaction with the learning environment as well as with other users.

App designers could add exercises that would require the use of any component of the smartphone (i.e. camera). Another feature they could take advantage of is connectivity (either Wi-Fi or data connection), as we saw that only 26.7 per cent of the apps included collaborative learning.

In conclusion, the results from our analysis suggest that commercial apps neither explore the full potential mobile devices such as smartphones provide to increase students' interaction in the target language nor they meet students' real learning needs. They already meet one of the students' needs but not all of them. Besides, some of the apps do take advantage of the potential of smartphones but they are still too less. Considering the results obtained in this Senior Thesis, further research on this topic need to be done. Taking into account these results, future works on meeting students' learning needs could be possible, in order to provide students with useful apps to help them learning a language.

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ANNEX

Student questionnaire

Gender: Woman ___
Man ___

Age: ___

Year of study: ___

Level of English: _____ (A1, A2, B1, B2, C1, C2)
Accredited level: _____ (Cambridge, Trinity, CSLM)

1. For how long have you been studying English?

a) 1-4 years: ____
b) 5-8 years: ____
c) More than 8 years:___

2. What is your main motivation when studying a foreign language? Mark only 1 response!

a) To know how to speak properly
b) To know how to express myself writing
c) To be able to read a text and understand it
d) To be able to understand a native speaker

3. What is your strongest skill in English? Mark only 1 response!

a) Speaking
b) Reading
c) Writing
d) Listening

4. Which of the following language skills are your weakest skills? Mark only 2 responses!

a) Speaking
b) Reading
c) Writing
d) Listening

5. In your opinion, which aspects do you need to improve? Mark maximum 2 responses!

a) Pronunciation
b) Vocabulary
c) Grammar
d) Translation

e) Speaking

f) _____32_____

6. What do you do in your free time to improve these aspects?

a) Watch series/films in their original version
b) Listen to music
c) Use language apps for learning English
d) _____

7. If you have ever used any language app for learning English, which one/s have you used?

_____

8. What kind of language skills did you practice with this/these apps?

_____

9. From which app store did you download the apps?

a) Google Play
b) App Store
c) _____

10. Did these apps help you improving your weakest language skill/s?

a) Yes
b) No

11. Which app helped you the most? Please indicate its name and explain briefly the reason!

_____

12. What did you like most about the apps you have used?

_____

13. What did you miss in these apps? Choose maximum 2 responses!

a) Communication with other users
b) Pronunciation exercises
c) Translation exercises
d) _____