

MOBILE APPS FOR TEACHING AND LEARNING ENGLISH AS A FOREIGN LANGUAGE TO A TEENAGERS AND ADULTS

Aplicaciones de Teléfonos Celulares para la Enseñanza-Aprendizaje del Inglés como Lengua Extranjera a Adolescentes y Adultos

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Recibido 15/01/2020
Aceptado 25/02/2020

ABSTRACT

This study evaluated and reviewed phone apps designed to aid in the learning of English of English as a Foreign Language (EFL). From among ninety frequently-downloaded free Android apps, the authors selected and reviewed twelve apps for their potential use by teenagers and adults in EFL classrooms at the intermediate and advanced levels. They employed an author-developed rubric with eight criteria: curriculum connection, authenticity, feedback, differentiation, performance, sharing, user-friendly, and appeal. Findings suggest that several Android apps exist that can potentially enhance the teaching and learning of English. Implications suggest that if teachers are trained at reviewing apps, they can become empowered at selecting digital tools for making their lessons more compelling and student-centered. Yet, to maximize the efficacy of these apps in their EFL classrooms, teachers should provide support and feedback related to the skills being practiced by their students on these apps.

Keywords: language learning, language skills, mobile learning in language teaching, smartphone applications

RESUMEN

Este estudio evaluó y revisó aplicaciones telefónicas diseñadas para ayudar en el aprendizaje del inglés como lengua extranjera (EFL). De entre noventa aplicaciones de Android gratuitas que se descargan con frecuencia, los autores seleccionaron y revisaron doce aplicaciones para su uso potencial por adolescentes y adultos en las aulas de EFL en los niveles intermedio y avanzado. Emplearon una rúbrica desarrollada por los autores con ocho criterios: conexión curricular, autenticidad, retroalimentación, diferenciación, rendimiento, intercambio, facilidad de uso y atractivo. Los resultados sugieren que existen varias aplicaciones de Android que pueden mejorar potencialmente la enseñanza y el aprendizaje del inglés. Las implicaciones sugieren que, si los docentes están capacitados para revisar aplicaciones, pueden obtener el poder de seleccionar herramientas digitales para hacer que sus lecciones sean más convincentes y centradas en los estudiantes. Sin embargo, para maximizar la eficacia de estas aplicaciones en sus aulas de EFL, los docentes deben brindar apoyo y comentarios relacionados con las habilidades que practican sus alumnos en estas aplicaciones.

Palabras clave: TIC en la educación, aprendizaje de idiomas, aplicaciones de celular, criterios de evaluación

INTRODUCTION

Advances in technology have led to smartphones becoming more powerful and accessible to the public as essential tools for work, entertainment, social interaction, and information sources (Sarwar & Soomro, 2013). Because today's learners were born into a world grounded in digital technology, they are accustomed to multitasking, instant information, and worldwide communication (Pletka, 2007). Technology has redefined student-centered approaches in education, changed learners themselves, and also affected the role of the teacher (Eato, 2010). To meet the needs of today's youth, teachers need to learn

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how to reexamine and adapt their approaches by allowing students to take advantage of available technology in an effective way.

Technology has been present in English language instruction since the early 1940s (Richards & Rodgers, 2014). Yet, these earlier uses of technology lacked “the anytime, anywhere” advantage provided by modern mobile phones and their apps (McQuiggan, 2015). Multiple applications now exist for both students and teachers on various platforms. One such platform is the Google Play Store, also known as Play Store, which offers a variety of free mobile apps for Android smartphones. These apps can facilitate the development of language skills in English as a Foreign Language (EFL) classroom for teenagers and adults at the intermediate to advanced levels (Godwin-Jones, 2017).

As technology has evolved, so has its role in the classroom. In the last ten years, smartphone apps have been developed to help teachers and students in the teaching and learning of languages. Yet, although this is the 21st century, some teachers still use technology from the mid-20th century. These technology tools are outdated and not relevant to students’ interests and needs. Such outdated tools include using worksheets, copying notes from the board, and listening to lectures (Pletka, 2007). Current technology offers numerous apps that claim to support the acquisition of English language skills. Yet, because of insufficient studies about the effectiveness of these apps, educators are unable to ascertain which apps might be best for their EFL students. To help educators recommend apps for their students, we reviewed apps available in Play Store designed to develop English language skills. Our three-fold purpose for this study is as follows:

- 1) Identify free Android apps for the teaching and learning of EFL according to the skill identified for a given app,
- 2) Describe selected EFL apps at the intermediate to advanced levels, and
- 3) Describe and review the twelve free Android apps that were the most widely downloaded and highly rated by users at the time of this study.

Our main goal is to help EFL educators select free Android apps according to targeted language development skills and, by doing so, support their students in acquiring English.

To achieve this goal, our study was guided by two research questions:

- 1) Which free Android apps offer the potential of enhancing the teaching and learning of English?
- 2) To what extent can twelve of these apps be useful to learners for developing skills in speaking, listening, reading, writing, vocabulary and grammar?

In addition to providing a review of existing apps, this study also provides teachers with the Language Skills App Review Rubric (LSARR). Though yet untested for reliability and validity, this author-developed rubric can be used by teachers for conducting their own review of other apps, both those currently available as well as those yet to be designed. A potential weakness of this study is how it reviews only a limited number of apps and how all reviewed apps are Android and available only through Play Store.

METHODS

To address our research questions, we employed a descriptive approach “aimed at casting light on current issues or problems through a process of data collection that enables [it] to describe the situation” (Fox & Bayat, 2007, p. 8). This descriptive approach entailed selecting 12 apps with high reviews by users, evaluating these twelve apps with our author-

developed rubric, and then describing each of these apps for qualities that would enhance the teaching and learning of EFL.

For this study, we examined ninety free apps available in Play Store for teaching and learning a given language skill. We used purposeful sampling to select apps based on four criteria: age group (teenagers and adults), most commonly downloaded, screenshots provided by the apps, and average rating by users. Although some apps had 5 stars, which was the maximum score, they were only reviewed by a small number of users because of being new on the market. We considered screenshots because they provided useful information regarding appeal and exclusive use of target language.

Each of the apps focused on one of six skills: speaking, listening, reading, writing, vocabulary and grammar. From among ninety apps at the intermediate+ level, we purposefully selected two representative apps from each of these six skills and then reviewed and described each of these twelve apps (see Table 1).

Table 1. Criteria Used for Selection of Apps

App Name and Skill it Develops	Developer	Number of Reviewers	User rating	Number of Downloads
Speaking Apps				
English Conversation Practice	Talk English	31,686	4.6	1,000,000
How to Speak Real English	DS&T_Modern English Studio	33,684	4	1,000,000
Listening Apps				
English Listening	X-App	25	4.7	5,000
Daily English Listening	THT Group	1,613	4.5	100,000
Reading Apps				
Reading Comprehension	Paprika Studio	201	4.4	50,000
English Reading Test	quizworld	1,420	4.2	100,000
Writing Apps				
Essay Writing Lite	Webmolite	60	4	10,000
IELTS Writing	FR-solutions	922	4.7	50,000
Vocabulary Apps				
Wordalot - Picture Crossword	MAG Interactive	90,658	4.5	1,000,000
Learn English Vocabulary	Visual Education	1,287	4.8	50,000
Grammar Apps				
English Grammar Ultimate	maxlogix	44,291	4.4	1,000,000
English Grammar Test	SevenLynx	73,119	4.6	5,000,000

After we reviewed and selected twelve apps, we developed a spreadsheet on Google Sheets to facilitate collaboration among the authors when evaluating the apps. We created this Google rubric by combining three rubrics available online: (1) Harry Walker's Original Evaluation Rubric for Mobile Apps, (2) Tony Vincent's Educational App Evaluation Rubric, and (3) Susan Mutt's Student App Review Rubric. These three rubrics shared similar dimensions but each one overlooked one or more important dimensions that were used in one

of the other rubrics. To produce a more inclusive rubric, we blended dimensions from these three rubrics and created a new rubric called Language Skills App Review Rubric (LSARR). Though not yet tested for validity and reliability, LSARR offered insights for our review based on its eight dimensions and five ratings. The dimensions are curriculum connection, authenticity, feedback, differentiation, performance, sharing, user-friendliness and appeal. The ratings range from 1 (low) to 4 (high) as well as “not applicable” for dimensions that could not be reviewed. This rubric is provided in Table 2.

Table 2 - Language Skills App Review Rubric (LSARR)

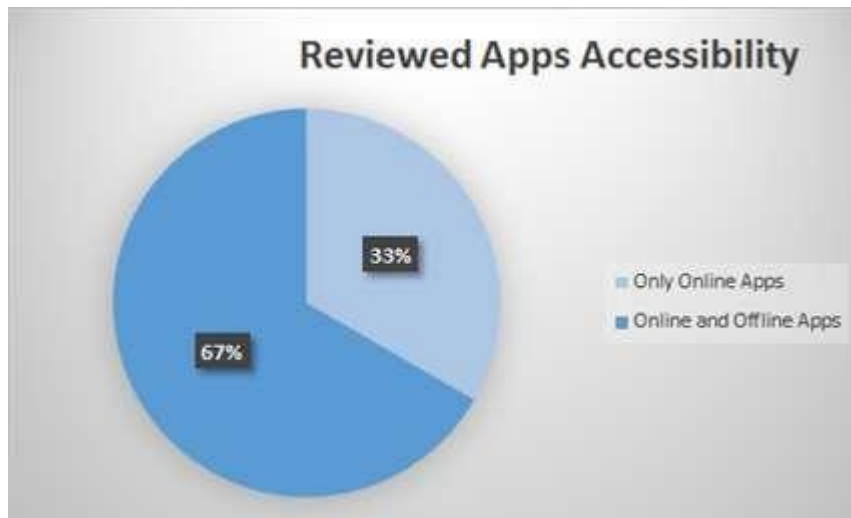
Domain	0	1	2	3	4
Curriculum Connection	N/A	Skill reinforced in the app is not clearly connected to the targeted skill or concept	Skill reinforced is prerequisite or foundation skills for the targeted skill or concept	Skill reinforced is related to the targeted skill or concept	Skill reinforced is strongly connected to the targeted skill or concept
Authenticity	N/A	Skill is practiced in a rote or isolated fashion (e.g., flashcards)	Skills is practiced in a contrived game/simulation format	Some aspects of the app are presented an authentic learning environment	Targeted skill is practiced in an authentic format/problem-based learning environment
Feedback	N/A	Feedback is limited to correctness of student responses	Feedback is limited to correctness of student responses and may allow for student to try again	Feedback is specific and results in improved student performance (may include tutorial aids)	Feedback is specific and results in improved student performance; Data is available electronically to student and teacher
Differentiation	N/A	App offers no flexibility (settings cannot be altered)	App offers limited flexibility (e.g., few levels such as easy, medium, hard)	App offers more than one degree of flexibility to adjust settings to meet student needs	App offers complete flexibility to alter settings to meet student needs
Performance/ Ease of Use	N/A	Crashes fairly often and takes multiple times to open.	Loads and performs slowly. Sometimes crashes.	Performs and loads quickly. Some minor technical issues.	Performs and loads quickly. No issues and very reliable.
Sharing	N/A	No performance summary or student product is saved	Limited performance data or student product is not accessible	Performance data or student product is available in app but exporting is limited and may require a screenshot	Specific performance summary or student product is saved in app and can be exported to the teacher or for an audience
User-Friendly Directions & Instructions	N/A	Very complex to learn. No directions available.	Kind of difficult to learn. Directions are limited.	Easy to learn and direction can be followed.	Very easy to learn and directions are clear and simple to follow
Appeal: Looks & Sounds	N/A	Low quality graphics and sounds.	Average sound and graphics. Limited appeal, but a little distracting.	Good graphics and sounds. Enhances learning	Excellent graphics and sound. Very appealing.

Source: Adapted from Walker (2014), Vincent (2013) and Mutt (2012).

RESULTS

Application accessibility was evaluated based on technology that enabled learning “anytime and anywhere” (West & Vosloo, 2013, p. 6). Of the twelve apps reviewed, four

(33%) can be accessed only online, and eight (67%) can be accessed either online or offline once installed on the phone (see Graph 1).



Graph 1 - Online and offline accessibility of reviewed apps

We evaluated how each of these apps performed according to each of the eight dimensions on the LSARR. These results are portrayed in Table 3 and then explained in the following section.

Table 3 – Data analysis per dimension

Dimension	Curricular Connection	Authenticity	Feedback	Differentiation	Performance/Ease of Use	Sharing	User-Friendly Directions & Instructions	Appeal: Looks & Sounds	Final Scores by App	Mean Scores by App
Apps										
Speaking Apps										
English Conversation Practice	4	2	0	1	4	3	4	4	22	2.75
How to Speak Real English	2	1	1	1	4	1	4	3	17	2.13
Listening Apps										
English Listening	4	2	1	4	4	1	4	3	23	2.88
Daily English Listening	4	2	1	2	4	1	4	3	21	2.63
Reading Apps										
Reading Comprehension	4	4	2	1	4	1	4	2	22	2.75
English Reading Test	4	3	1	3	4	1	4	4	24	3.00
Writing Apps										
Essay Writing Lite	4	2	0	1	4	4	4	1	20	2.50
IELTS Writing	4	2	3	1	4	4	4	1	23	2.88
Vocabulary Apps										
Wordalot - Picture Crossword	4	2	2	1	4	3	4	4	24	3.00

Learn English Vocabulary	4	2	1	1	4	3	4	4	23	2.88
Grammar Apps										
English Grammar Ultimate	4	2	1	1	4	3	4	3	22	2.75
English Grammar Test	4	3	3	2	4	3	4	3	26	3.25
Mean Scores by Dimension	3.83	2.25	1.33	1.58	4.00	2.33	4.00	2.92		

Curriculum Connection - The mean score for Curriculum Connection is 3.83 out of 4. Eleven of the twelve apps scored 4 because of having a strong connection to the targeted curriculum. These eleven apps provide ample practice in developing skills related to the curriculum.

Authenticity - The mean score for Authenticity is 2.25 out of 4. Just one of the twelve apps received a score of 4. This high score was based on how the targeted skill was practiced in an authentic format. Two apps received a score of 3 as the skill was practiced in an artificial format. Eight apps received a score of 2 because only some their aspects are presented an authentic learning environment. And, one app received a score of 1 because the task is presented in an isolated format.

Feedback - The mean score for Feedback is 1.33 out of 4.0. Two apps received a score of 0 because they did not provide any kind of feedback. Six apps received a score of 1 as the feedback provided in the app was only limited to correctness of students' responses. Two apps received a score of 3 because they provided specific feedback and included a tutorial. And, two apps received a score of four for providing feedback that was specific and also because the feedback was available electronically to both the teacher and the student.

Differentiation - The mean score for Differentiation is 1.58 out of 4. Eight apps received a score of 1 because they do not offer flexibility in their settings. One app received a score of 2 because it only offered limited flexibility in terms of level of proficiency. One app received a score of 3 because it offers more than one degree of flexibility; allowing students to adjust settings to meet their needs. And, one app received a score of 4 because it offered complete flexibility to alter settings.

Performance - The mean score for Performance was 4.0 out of 4. All twelve apps received the score of 4 for performing well. This meant that they loaded quickly and that no issues were found in terms of technological features. Apart from minor delays due to in-app ads, no glitches or errors were discovered. All twelve apps performed quickly and reliably.

Sharing - The mean score for Sharing was 2.33 out of 4. Five apps received a score of 1 because users' product and progress cannot be saved. Five apps received a score of 3 because the users' performance can be made available to the teacher yet only via screenshots. Two apps received a score of 4 because the users' performance can be saved in the app and sent to the teacher.

User-Friendliness - The mean score for User-Friendliness was 4.0 out of 4. All twelve apps received a score of 4. Each app presented a comprehensible tutorial on how to use the apps or simple instructions expressed in straightforward English. In many cases, these instructions were accompanied by a YouTube video.

Appeal - The mean score for Appeal was 2.92 out of 4. Four apps received a score of 4 because their design included appealing graphics and sound. Five apps received a score of 3 because they possessed good graphics and sounds. Only one app received a score of 2 because either the sounds or graphics had limited appeal. And, two apps received a score of 1 because neither their sounds nor graphics were of quality.

The total number of possible points on LSARR was 32, which represents 4 points multiplied by 8 dimensions. The highest scoring app was *English Grammar Test*, which scored 26,

having received 3 or 4 in all dimensions except differentiation. The next highest were *Wordalot* and *English Reading Test*, each with 24. Immediately following at 23 were *Learn English Vocabulary*, *IELTS Writing*, and *English Listening*. Scoring 22 were *English Grammar Ultimate*, *Reading Comprehension*, and *English Conversation Practice*. Only one app, *Daily English Listening*, scored 21 points. And, the lowest score was obtained by *How to Speak Real English*, which only scored 17 points.

Review of Each App

This section presents a more detailed description of these twelve apps. For each language skill targeted in a given app, we compare and contrast that skill with the app's LSARR scores. We also provide screenshots of the apps.

Speaking Apps

English Conversation Practice received high scores in curriculum connection, performance, user-friendliness, and appeal. Similarly, *How to Speak Real English* received high scores in performance and authenticity. Both apps received a low score in differentiation. According to the scores, *English Conversation Practice* can better help speaking skills. More detailed descriptions of these apps follow below.

English Conversation Practice. Developed by Talk English, this app obtained a score of 4 in curriculum connection. Although it introduced its content via listening, it allows the learner to get the necessary input to improve not only pronunciation but also situational content, which can help in the development of speaking. Topics presented include situations such as meeting someone, buying something, and planning a hangout. This app focuses on imitative speaking activities, where students repeat the conversation introduced by the app and then they are quizzed on the content through a multiple choice exercise. Regarding authenticity, the app received a score of two as content was presented in an artificial format. The app offers students the freedom to choose a role to record themselves and the recording can be saved. Even though sharing is not possible, students' product is available within the apps. Conversations and graphics in the app are of excellent quality. Unfortunately, in-app ads purchases tend to be distracting or hinder the ease of use (see Fig. 1). The mean score for the app is thus 2.75 out of 4.

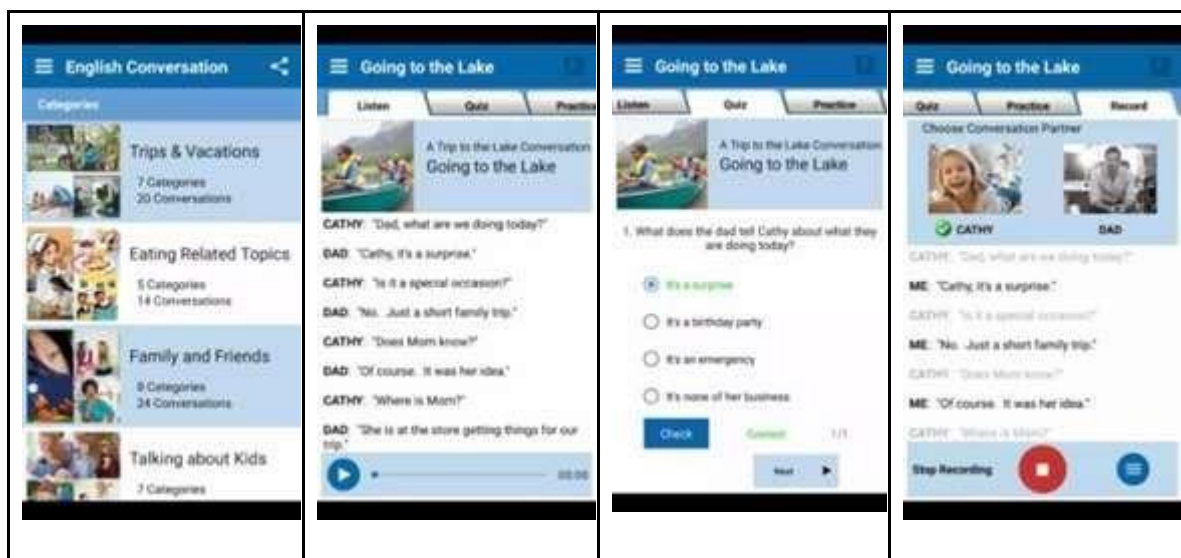


Fig. 1. English Conversation Practice by Talk English screenshots

How to Speak Real English. Developed by DS&T Modern English Studio, this app provides vocabulary, lessons, and test sections, as well as a “How to Study” section, which is

the app tutorial. All these elements contributed to a score of four in the category of user-friendliness, directions & instructions. However, in the category of authenticity it scored very low (2) as the content was presented through flashcards and audio in a rote learning fashion. Additionally, it scored two in curriculum connection as it fails to reinforce the targeted skill since it mainly presents phrases in isolation for the learner to repeat. Another problem is the level of proficiency necessary to understand the presenter as most of the time, content is not introduced in simple, straightforward English. This app also requires the teacher to listen to students' recordings of the dialog presented for later assessment. Another key point is that *How to Speak Real English* provided fictitious affective feedback as it had no voice recognition capability, but considered utterances correct in all instances (see Fig. 2). Thus, the mean score for all dimensions was 2.13 out of 4.

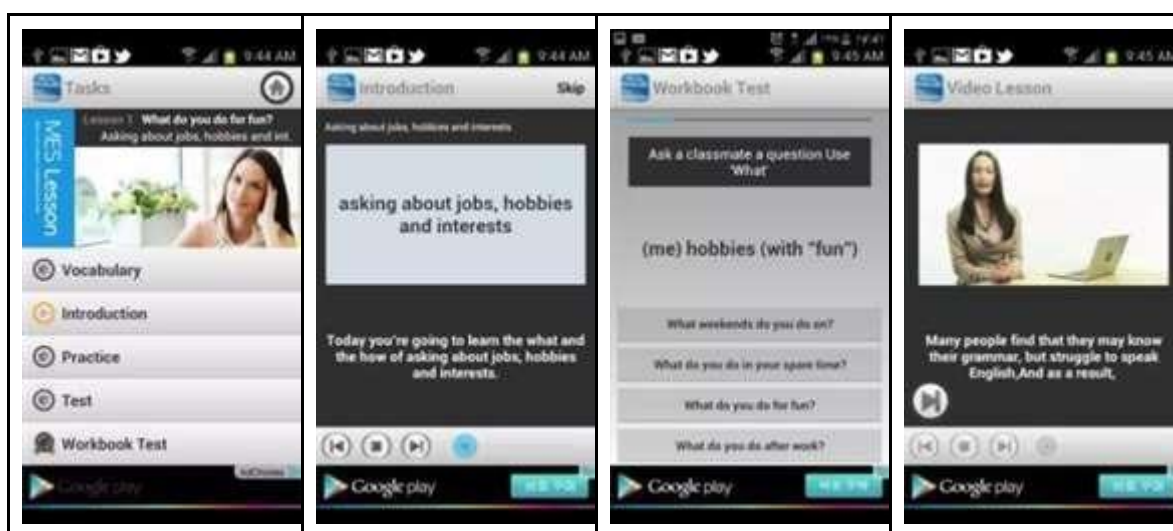


Fig.2. How to Speak Real English by DS&TModern English Studio screenshots *Listening Apps*

English Listening and *Daily English Listening* received similar scores in curriculum connection, performance, user-friendliness, authenticity, sharing, and appeal. However, *Daily English Listening* performed much better in differentiation. A more comprehensible review of each listening app comes in the following section.

English Listening. Developed by X-App, this app scored four in four categories: curriculum connection, differentiation, performance and user-friendliness. In fact, it is one of the apps that offer the most flexibility. It allows the learner to adjust settings in terms of level, speech speed, and topic. Some of the topics include: family, food, lifestyle, and business. As of speech speed, students can select among medium, fast, slow and very slow. Levels are categorized using the Common European Framework of Reference for Languages: A2, B1, B2, C1 and C2 -beginner to advanced level. Even though audios seemed to be either authentic or authenticated material, the app scored only three in authenticity as the app is not practiced in an authentic environment. Audio quality is excellent and as a result the app scored four in appeal. However, the app was poor in terms of graphics (see Fig. 3). Sharing is not possible nor is student product available for saving in the app. The mean score for this app was 2.88 out of 4.

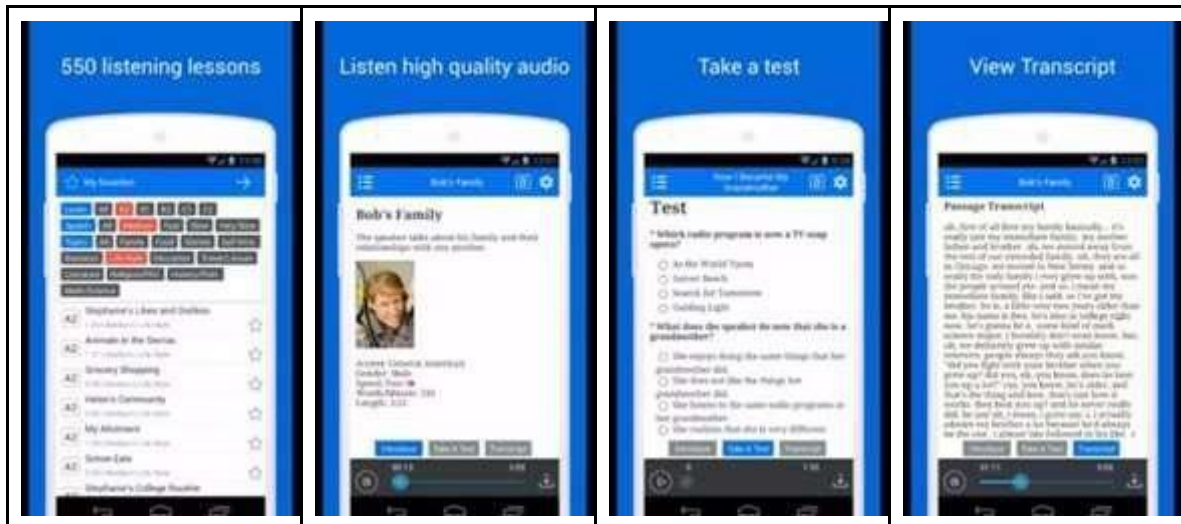
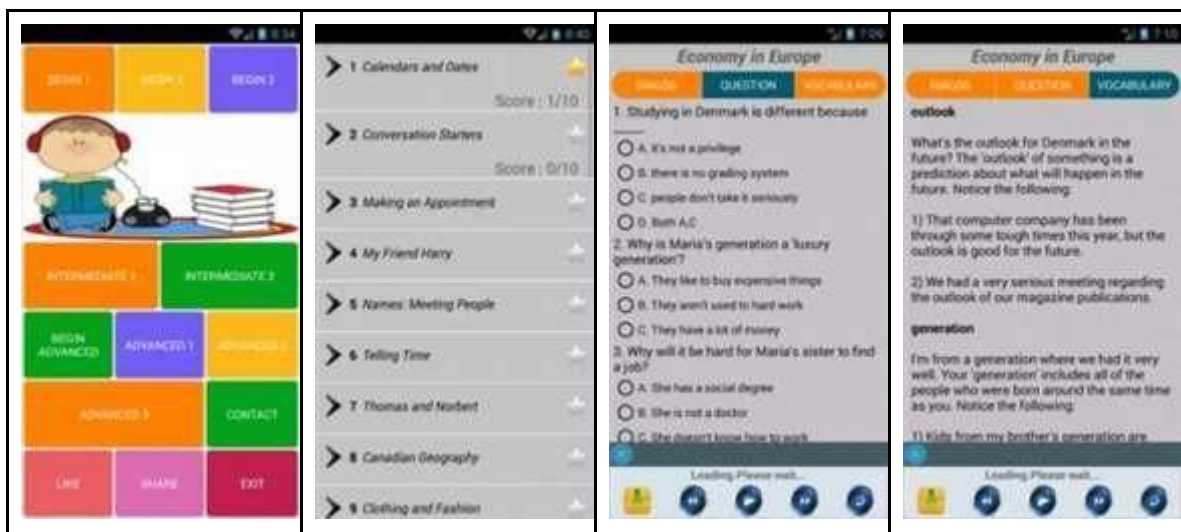


Fig. 3. English Listening by X-App screenshots

Daily English Listening. Developed by THT Group, this app offers flexibility in terms of level settings; therefore, it received four in differentiation. Levels vary from beginner to advanced. It also scored four in curriculum connection, user-friendliness, and performance as it offers dialogues followed by questions presented in multiple choice format. Exercise results could not be saved nor shared; consequently it received a score of one in sharing. Feedback was limited to correctness of learner responses. In addition, it has a vocabulary section which gives the learner definitions of words and phrases from the audio (see Fig. 4). Therefore, the mean score was 2.63 out of 4.



Reading Apps

Reading Comprehension and *English Reading Test* scored similarly in curriculum connection, performance, user-friendliness, and feedback. However, the analysis showed that *English Reading Test* outscored *Reading Comprehension* in differentiation and appeal (see Table 3). Following is a more thorough summary of the features each app provides and the scores the apps obtained.

Reading Comprehension. Developed by Paprika Studio, this app offers the meaning of vocabulary words, reading and vocabulary practices, and test sessions. These elements made this app score four in curriculum connection, authenticity, performance, and user-

friendliness. Conversely, the app scored low in differentiation and sharing because the settings cannot be altered and learners' progress is not saved. Finally, the app received a score of two in feedback and appeal: looks & sounds (see Fig. 5) since feedback is limited to correct or incorrect scoring. Thus, its mean score resulted in 2.75 out of 4.

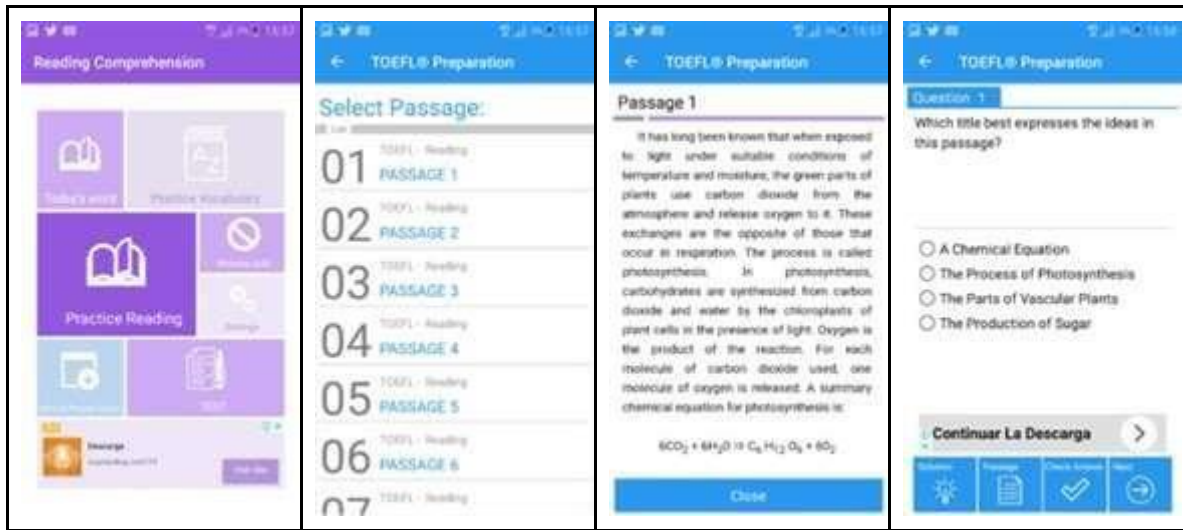


Fig. 5. Reading Comprehension by Paprika Studio screenshots

English Reading Test. Developed by quiz world, this app offers quizzes, flashcards, grammar lessons, chat rooms among other features. This app received the maximum score in curriculum connection, performance, user friendliness, and appeal: looks & sounds. It is strongly connected to the reading skill, fast and reliable, very easy to use, and it has outstanding sound and graphics. In the dimensions of authenticity and differentiation it was scored three since even though the learner can experience authentic learning in some aspects of the app, there is more than one amount of flexibility to meet students need. Its mean score resulted in 3 out of 4.



Fig. 6. English Reading Test by quiz world screenshots.

Writing Apps

The data collected regarding how well writing skills performed demonstrated that both *Essay Writing Lite* and *Learn English Writing* equally obtained the highest score in

curriculum connection, user-friendliness, performance, and sharing. On the other hand, Essay Writing Lite received the lowest score in feedback since it does not meet the minimum requirement in this dimension. Therefore, it was determined that Learn English Writing surpassed Essay Writing Lite because it obtained a higher score in feedback (see Table 3).

Essay Writing Lite. Developed by Webmolite, this app offers three free sections on how to write essays: (1) How to write an essay, (2) Descriptive essays and (3) Practice descriptive essays. In order to access the rest of the content you have to buy the full version of the app. How to write an essay is divided into: Steps to write essays, which shows tips on how to write them. It also provides information on how to write an essay, most common mistakes and tips and tricks for writing an essay. The practice section offers a variety of topics for the learner to choose. Once the writing is done, student product can be saved within the app and shared via email as well. (see Fig. 6).

As a result, this app obtained four in curriculum connection, performance, sharing and user-friendliness. Authenticity is among the most difficult categories to achieve and the app received a score of two. Because it is an app that enhances essay writing, it has no flexibility in terms of level or other settings, which produced a low score in differentiation. As for appeal, it also received a score of two, since the app was quite dull in terms of design and did not provide any kind of audio or video for presenting its contents. The mean score for the app was 2.5 out of 4.

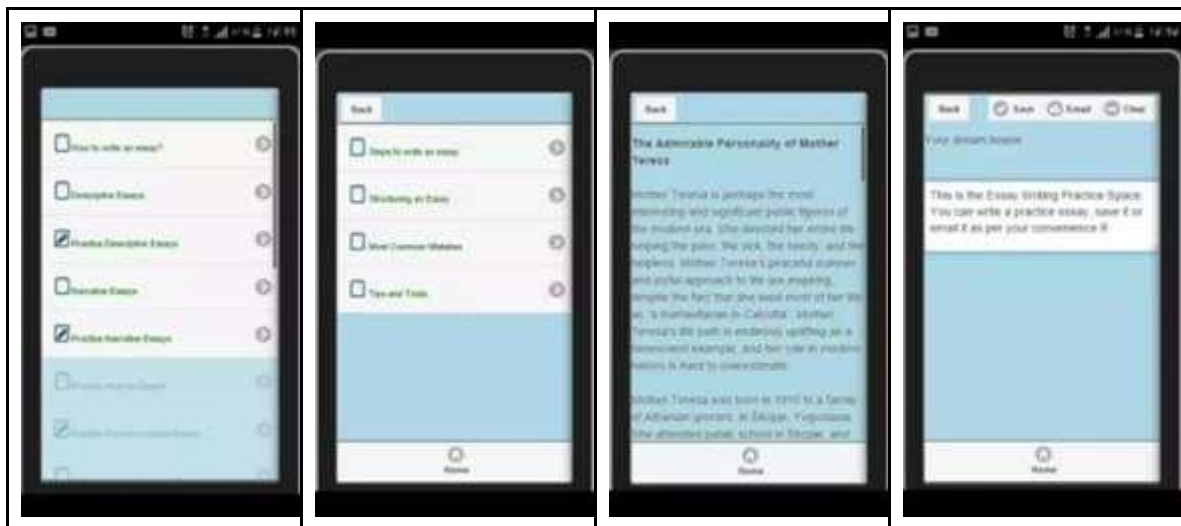


Fig. 6. Essay Writing Lite screenshots.

IELTS Writing. Developed by FR-solutions, this is an app which presents extensive content and tips on how to write essays, letters, graph descriptions, writing lessons, practice tests and useful links where students can read more about the process of writing. Additionally, the app introduces expository, argumentative, and cause-effect essay samples. The section on “how to write an essay” features an essay question, a sample answer and also a comment on the features and important sections of the sample answer. The lesson section further presents information on the process to write an essay, tips of vocabulary and some tips on paragraph writing, types of essays, introductions and conclusions. All of the topics presented in the app were strongly related to the skill being taught and practice and as a result, IELTS score 4 in the dimension of curriculum connection (see Fig. 7).

In addition, it has a practice test section, which is divided in IELTS Academic and IELTS General. Both section offer tasks, answer samples and the possibility of sharing student product via a wide range of social media, as well as WhatsApp and email. All of the above resulted on a score of four in, performance, sharing and user-friendliness as well. Even

though, samples and sample analysis were very helpful, there was no feedback provided for students to improve their writing skills. This is a common shortcoming for apps that help in the development of productive skills, such as writing. Because of the kind of skill being practiced through this app, the app scored one in differentiation and appeal as good graphics were not presented and neither audio nor videos were available. Consequently, the mean score for the app was 2.88 (see Fig. 7).

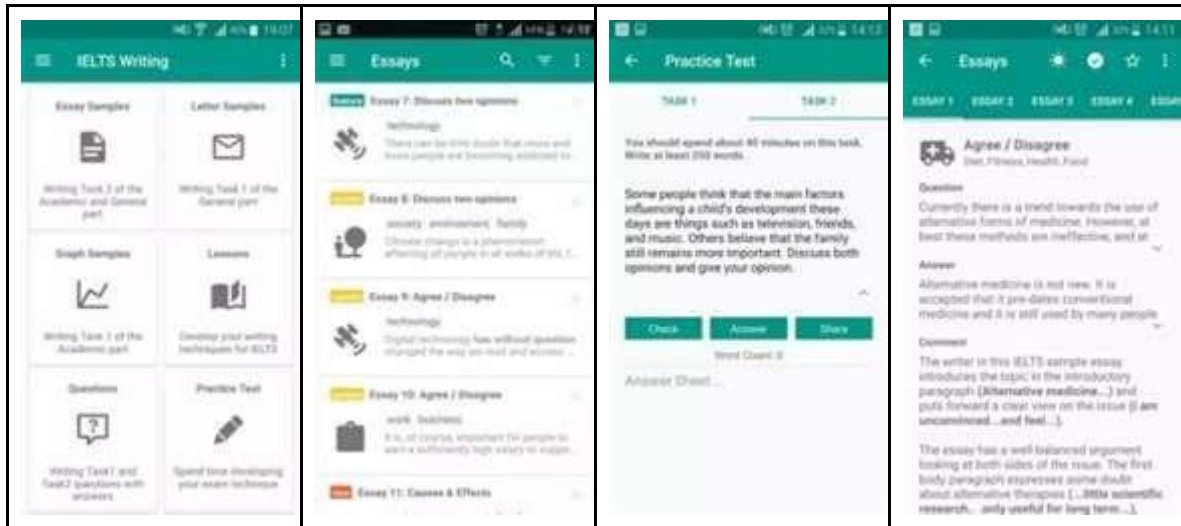


Fig. 7. Screenshots showing the features of the app IELTS Writing by FR-solutions.

Vocabulary Apps

The information presented about the apps reviewed for this skill shows that *Learn English Vocabulary* and *Wordlot* performed successfully and received identical scores in the dimensions of curriculum connection, user-friendliness, performance, and appeal (4 out of 4). Feedback was the criterion that made the difference with a score of 1 and 2 respectively.

Learn English Vocabulary. Developed by Visual Education, this app offers a wide variety of topics, such as environment, shopping and health. Each topic has two sets of vocabulary flashcards: one where vocabulary is presented and the other where the learner practices by flipping the flashcards to check (see Fig. 8).



Fig. 8. Learn English Vocabulary by Visual Education screenshots

In addition, it has two listening sections: one where the learner is presented with a picture, and the word is pronounced for the student to decide if the picture matches the word pronounced. The other one displays a group of six pictures for the student to choose according to the audio cue. It also has a writing section where the learner listens to the word and he or she has to write it down. There is also a pronunciation section where the students have to produce orally the word for the picture cue. The voice recognition feature displays the word the user utters and then marks it right or wrong. Finally, it has two multiple choice tests sections in which the students have to select the correct word based on the picture cue and vice versa. The app had a mean score of 2.88 out of 4.

Wordalot – Picture Crossword. Developed by MAG Interactive, this is a very straightforward app. Learners are presented with a picture which includes images of words in a small crossword. Learners can choose where to start the puzzle and letters to choose from are provided for the selected word. In terms of appeal, this app scored four for its beautiful design and the necessary amount of audio for a vocabulary game-like app.

As the learner completes the crossword, he or she receives coins which can be used to “buy hints” when necessary. In case more help is needed, *Wordalot* allows users to ask friends for help or automatic creation of screenshot to be shared via several social networks and WhatsApp. As a result, *Worldalot* scored four in authenticity, for being strongly connected with the targeted skill. (see Fig. 9) Cognitive feedback is not provided because the correct completion of words in the puzzle is a requisite for the user to move forward in the game. Instead, this app provided “affective” feedback as it was presented in a game format and encouragement and complimentary phrases ensued a completed crossword. Consequently, the mean score for the app was 3 out of 4.



Fig. 9. *Wordalot* App by MAG Interactive screenshots

Grammar Apps

The top two grammar apps, *English Grammar Ultimate* and *English Grammar Test*, were reviewed, classified, scored, and compared according to the developed criteria in the rubric we developed. Both apps received the highest score in curriculum connection, performance and user-friendliness. They also received the same score (3) in sharing and appeal. However, *English Grammar Test* outperformed *English Grammar Ultimate* in authenticity, feedback and differentiation. (see Table 3). A more detailed review of these apps follows.

English Grammar Ultimate. Developed by maxlogix, this app offers grammar topics presentation as well as exercises (see Fig. 10). In terms of curriculum connection, it received a 4 for providing a considerable variety of grammar topics. In terms of authenticity, it was given a 2 since multiple choice exercises contributed to a contrived format. It performed and loaded rather quickly. In addition, it offered an easy-to-use platform so it received a score of 4 in performance and user-friendliness. It also received a 4 in sharing as the grammar exercises can be shared via several social networks, email and WhatsApp. It received a 2 in the category of appeal since there are no graphics or sound bites in the app. The average score for this app was hence 2.75.



Fig. 10. Features of the app English Grammar Ultimate by maxlogix

English Grammar Test. Developed by Seven Lynx, this app provides some flexibility in its settings as it allows the learner to choose between intermediate and upper-intermediate levels (see Fig. 11). As a result, it scored 3 in the dimension of differentiation. It also offers a long list of grammar topics which can be practiced with exercises provided in the app. The app clearly reinforces the skill of grammar and as a result received the highest score in curriculum connection. Unfortunately, it scored low in appeal since it is poor in terms of looks and sound as no audio or video is provided to introduce the grammar inductively or deductively. In terms of user-friendliness, we found that the app is really simple and its instructions are very easy to follow. Thus, the mean score for the app was 3.25.

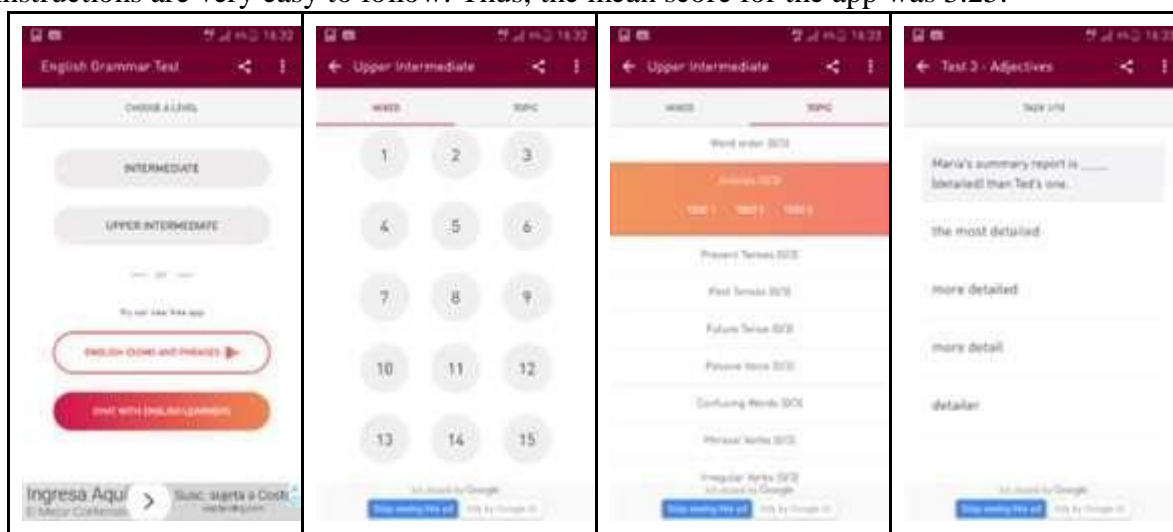


Fig. 11. English Grammar Test by SevenLynx screenshots

DISCUSSION

New generations' dependence on their social groups, their tendency to help each other and their need to achieve their goals and be successful (Borges et al., 2010) are aspects which app developers tapped into. Additionally, because of the importance of teacher-generated feedback, the capability of sharing students' product is essential. Nevertheless, we found that only fifty percent of the reviewed apps place a lot of importance in the feature of sharing by letting users share their progress through social media. Some apps also take into account the current focus on goal achievement by offering stars or coins as a form of reward.

Walker (2011, 2014) notes that feedback has to be effective in order to improve performance and result in better outcomes (32). Unfortunately, we found that in terms of feedback, most apps do not provide specific feedback or that the feedback provided is still very limited (see Table 3). This is especially evident with the apps reviewed that dealt with productive skills. On the other hand, receptive skills apps and grammar as well as vocabulary apps, were more efficient in providing feedback. We found that on average apps only provided what Brown (2015) refers to as cognitive feedback.

As teachers are no longer the only source of information, this study aimed at finding efficient language skill apps for English teaching and learning (Babu and Dhanaraju, 2016). We found that most reading, listening, speaking, vocabulary and grammar apps reviewed offered the necessary input, interactive activities and feedback that allowed the learner to apply the concepts previously learned (Beetham and Sharpe, 2007). Only writing apps in this study fulfilled the characteristics of a tertiary app -supporting dialogue between learner and technology- since new content (students' product) could be shared with peers or the teacher.

According to app developers, app design and appeal are vital to capture the user's attention and level of engagement (Lee &Cherner, 2015). In spite of in-app ads, most of the reviewed apps were able to comply with the need of an app to be appealing. Reading and Writing apps did not provide high quality design since high definition graphics or audio were not necessary. On the other hand, listening and speaking apps provided excellent audio quality. Vocabulary apps are the ones which excelled in terms of appeal since they provided high resolution images and sound as well as some kind of animation.

Lee and Cherner (2015) as well as Walker (2011, 2014) acknowledged the importance of curriculum connection as a way to reinforce learning and improve students' problem solving skills. We found that all apps reviewed, except for *How to Speak Real English*, were strongly connected to the targeted skill. Some apps which had primary technology aspect, fulfilled the presentation, practice and production stages of the teaching process and for this reason can be, as Eaton (2010) claimed "used instead of books" (13). However, writing skills cannot yet be developed by using an app alone.

According to Lee and Cherner (2015), one must focus on how diverse students are in terms of background knowledge and aptitudes, as well as different proficiency levels, when considering if a teaching material is appropriate for classroom instruction and in order to anticipate students' needs. In terms of differentiation, only one app offered complete flexibility in terms of proficiency level, as well as topics. The rest of the apps provided flexibility in terms of either topic or proficiency level.

Perhaps among the most important factors listed by Rhodes (2015) and that affect an app approval are: performance and user-friendliness. All the apps reviewed performed very well as it is clear that constant feedback provided by users allowed developers to work on solving minor issues. Because the apps we reviewed were rated highly, it can be said that these apps were ranked positively because of the lack of performance issues. Another factor that may cause user frustration is app ease of use or user-friendliness. Lee and Cherner (2015)

explain that an app ease of use is crucial because “learners who find an app easy to use are more likely to ... spend time with it” (p. 31). All apps reviewed succeeded in being user-friendly as they were all very easy to learn to use and directions were clear and simple to follow (Walker, 2011).

As Walker (2014) emphasized the importance of task authenticity, we focused on whether the tasks in the apps were presented and practiced in an authentic learning environment. It is important to mention that almost all of the apps reviewed lacked authenticity not only in terms of the kind of material presented but in activities they presented as well. None of the receptive skill apps introduced or dealt with extensive activities such as listening or reading for pleasure. Listening skills apps did not present authenticated tasks that required student interaction such as listening and reacting in debates, conversations and discussions (Brown, 2015). Being receptive skills apps, both listening and reading apps shared similarities in terms of the type of activities for instructional purposes. All receptive skills apps presented intensive activities.

Being a productive skill, speaking was described by Mercado (2012) as the “one [skill] that would seem to be least compatible with technology” (p. 63). The reviewed speaking apps are still far from providing the necessary interaction for students to develop their speaking skills (Brown, 2015). In terms of the teaching process, the writing apps reviewed did not offer any real writing activity. Tasks presented were merely either imitative or of academic nature.

Although Scarcella and Oxford (1992) among others recommend “learners are to be asked to discover grammatical rules by themselves” (p. 178), we found that on average both subsidiary skills apps, grammar and vocabulary, lacked authenticity. Writing apps either presented grammar deductively or did not provide any kind of grammar presentation.

Finally, since mobile learning was defined as the use of mobile technology to enable learning “anytime and anywhere”, apps were analyzed based on accessibility (West & Vosloo, 2013). We found that only a third of the apps reviewed needed internet access to be used and progress to be shared. In fact, two third of the apps, once their content is downloaded and installed, could be accessed and their exercises can be practiced anytime and anywhere.

CONCLUSION

At the outset of our study, the main question that guided our research was: What are the most widely downloaded and highly rated free Android apps that can help enhance the teaching and learning of English based on the skills they developed? In addition, our sub-research questions were: (1) Which free Android apps can help enhance the teaching and learning of English? (2) Which free Android apps can help develop the main language skills and vocabulary and grammar?

With regard to the main question of what the most widely downloaded and highly rated free Android apps that can help enhance the teaching and learning of English based on the skill they develop were, our study found the following. First, the most widely downloaded apps were: *English Grammar Test*, with 5,000,000 downloads, *English Conversation Practice*, *How to Speak Real English*, *English Grammar Ultimate* and *Worldalot*, which had 1,000,000 downloads each. Second, users rated the most highly the following apps: *Learn English Vocabulary*, which received a 4.8, *English Listening*, and *IELTS Writing*, with a 4.7, respectively.

Considering the first research question, we found that there are many apps offered by Play Store to help teachers improve class instruction and students in their quest to learn English. While not all apps may be equally adequate to address this issue, according to our review, on average the apps reviewed performed relatively well according to the criteria included in the adapted rubric used in this study. However, because only a small minority of

the reviewed apps were designed to encourage autonomous learning, teachers cannot heavily depend on the use of a particular app to develop the main and subsidiary language skills. Instead, he or she may need to use a variety of apps in order to get enough variation and reinforcement of the target skills. However, what this research suggests is that apps can be remarkable tools to make the language learning process much more student-centered.

Our results suggest that most of the free Android apps reviewed can help to develop the four main language skills and subskills. With only one exception, the apps reviewed featured secondary technology type of tasks, hence offering students interactive activities and feedback that allowed them put into practice previously learned concepts. In addition, only the writing skill apps promoted the creation and sharing of new content. Perhaps the factor that most contributes to the development of the language skills is the fact that the majority of the apps reviewed can be indeed accessed to “anytime and anywhere” as they provide online as well as offline accessibility.

Considering how the reviewed language skill apps performed based on the adapted rubric, we found that apps presented both asset and shortcomings. First, the reviewed apps performed extremely well in terms of curriculum connection, performance, appeal, and user friendliness. This could be connected to the fact that apps were selected based on the screenshots provided in Play Store and users’ ratings of the app. Second, all apps provided extensive practice material in order to avoid repetition of activities or scarcity of content. Third, almost all apps succeeded in providing content and activities that reinforced the target skill so this might have affected Play Store users’ ratings. Fourth, even though sharing is available for app users, apps are still failing in terms of providing vital specific feedback, which can make learning personalized and clearly enhance the learning of the target skill. Apps still need development in terms of authenticity as all apps introduced tasks which were far from being considered real-life like. Similarly, apps fall short in personalizing material, as most of the reviewed apps lack the necessary flexibility to differentiate content in terms of students’ interests and learning styles. As the ideal scenario is for the students to work autonomously, differentiation is of extreme importance. As we aimed in this study to identify and review free Android apps that can enhance the teaching and learning of English, our findings suggest that the language skills apps reviewed have the potential to complement the teacher and aid the students in the process of learning English.

Our findings have important implications for the teacher. A significant implication is that teachers should not underestimate the importance of the dimension of sharing as this feature provides not only evidence of students’ work but also critical information for future remedial classes and feedback. Teachers cannot deny the importance of social media in the educational field as a place for learners to collaborate and share their ideas and student created content (Krau, 2013). Even though feedback is still limited in apps, the access to students’ product is of paramount importance. Another implication is that teachers should recognize that they can share the role of facilitator with the appropriate use of technology. When selecting apps for use in and out of the classroom, teachers should also take into account the benefits of game-like activities as rewards are an important element for increasing students’ motivation. Similarly, they should make the students engage with apps whose activities promote collaboration as it is one of the 21st century skills. An additional implication of this study is that LSARR is concise as well as helpful and has important implications for helping teachers in the search for the optimum apps for enhancing the teaching and learning processes. Finally, the main implication of this study was the identification of the characteristics that an efficient language skill app should possess. Accordingly, the major practical contribution of the present research is that it provides teachers with the tool to select the most convenient apps. In brief, teachers should choose

apps that not only reinforce the target skill, and be as authentic as possible but also be flexible, fast, easy to use and appealing.

More research into language learning apps is necessary in order to obtain an answer to how apps can enhance the teaching and learning process. As a recommendation for future research, we suggest a more thorough research into each of the main language skills or focusing on one skill alone. We also recommend that teachers create an adaptation of the rubric for students to also evaluate apps on their own or as part of the classroom time. This rubric may have simplified vocabulary and smileys instead of a numbered scale to assess student's satisfaction in terms of the reviewed app. Furthermore, for the students to review the apps, motivation should be included in the app. For app developers we recommend more variation in the tasks presented as well as more authenticity of the tasks. Even though apps presented enough practice, most apps used the same kind of tasks again and again. Similarly, as much as it is extremely important to allow more collaboration within the apps, a feature that may increase engagement would be a two-user interaction activity. In addition, some kind of game-like practice as applicable can help enrich the features of the app.

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