Using Google Play Applications to Improve Language Preparatory School Students` Pronunciation Skills (A Study on Tishk International University Students in Erbil, Iraq)

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Abstract: Mobile phone applications have gained more momentum since Google Play (formerly known as Android Market) was launched in 2008. Apart from Google Play, Apple App Store and Amazon App Store have offered billions of applications for users in different fields as well as education. Having this fact in mind, this study was conducted to measure the effects of two Google Play applications on students` pronunciation improvement. To this aim, 40 students who were studying at Tishk International University Language Preparatory School in 2021-2022 Academic Year were chosen by systematic sampling method. Over a 10-week timespan, control group students followed the curriculum traditionally, while experimental group students` curriculum was enriched by Google Play applications including Learn English by Short Stories and Cambridge English Dictionary. The data were collected by two exams and the interview as in line with a mixed methods design research. The former ones were analyzed by SPSS 27 through independent sample t test, while the latter one was transcribed and analyzed by MAXQDA software program. The findings of the study revealed that chosen audiobooks and e-dictionary applications improved students` pronunciation scores significantly. In addition, students` attitudes towards e-books and e-dictionaries by Google Play applications have changed positively. The findings of this study may have some implications for stakeholders of education who consider integrating mobile assisted language learning (MALL) into the curriculum systematically.

Keywords: Google Play Applications in Education, E-Book, E-Dictionary, Pronunciation, MALL

1. Introduction

Advancements in technology, increasing mobility and global demand from all circles have transformed language learning and teaching process into an indispensable stage in many people`s lives. In this regard, learning English is more common than any other languages because it has been considered as Lingua Franca which means that two foreigners can communicate with English at ease worldwide and teachers of foreign languages rely heavily on technology to enhance student learning (Yildiz, 2021). Accordingly, English language ranks first among the most spoken languages with more than 1,4 billion speakers in 2022

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(Statista, 2022). Likewise, English is an official language in 73 countries which shows that around 40 % of the countries adopt English as one of the official languages (House, 2022).

The emergence of online education as a substitute for traditional classroom instruction was driven in large part by the desire to reduce educational inequality. Since the speed of the internet's data flow has increased to meet the demands, this training model has grown more popular and extensively employed (Yildiz, 2022a). Additionally, more than 1 billion people have been learning English with traditional or online learning materials worldwide. The average age to start learning English is 7 years old on a global scale (Tekin, 2022). These figures illustrate that English has been considered as a passport to pursue unmatched opportunities in many countries.

In today's globalized society, a person with an exceptional command of any language might be considered for several lucrative employment opportunities in a variety of industries (Zhang et al., 2022). In many countries, it is a requirement for students to learn English in school, allowing them to take advantage of various job prospects in their home country or overseas upon graduation. English proficiency is one of the characteristics that contribute to an individual's competitiveness, including job competition. This skill will be developed if a solid educational system is implemented (Yildiz, 2022b). In addition, many job advertisements require the job seekers to communicate in English competently. In this respect, universally accepted English proficiency exams such as TOEFL, IELTS and PTE can also increase the job seekers` chance to be employed (Marconi, 2022). Once people can communicate in English easily, they are granted some other privileges in their workplaces. For example, a chef can be a prestigious chef in a foreign country if he is qualified to cook and speak English well. Moreover, an engineer who works for a construction company can be assigned to work in another country with a higher salary if he is capable of speaking English fluently. Furthermore, a doctor who commands English precisely can work in a different English-speaking country after completing some accreditation related procedures. Subsequently, a subject teacher who is good at in written and spoken English can increase the income by online job opportunities. After that, a businessman can expand the network substantially if s/he is able to speak and write simultaneously in a persuasive way It can be stated that the people who are able to speak English fluently can notice its positive effects throughout their lives in many aspects.

A number of mobile phone applications are available in the market to satisfy users` various needs in different fields. Google Play, Apple App Store and Amazon Appstore are at the forefront in this competition. Although there were early initiatives to launch global mobile phone applications, Apple App Store has been considered as the pioneer in 2008, then followed by Google Play, Windows Phone Apps and Amazon Appstore in the 2010s. According to Statista (2022) figures, Google Play offers 3,553,050 applications for users, while it is 1,642,759 on Apple App Store. On the other hand, applications on Amazon Appstore are amounted to 483,328 in 2022. A steady growth has been recorded in mobile application industry with a 218 billion download rate globally. Tiktok, Instagram and Facebook were downloaded more than any other applications in the world.

It cannot be envisioned that mobile phone applications will not have an effect on education. Google Classroom, Zoom, Microsoft Teams, go to Meeting, Cisco Webex are the most popular online or blended

learning platforms. Additionally, Kahoot, Quizizz, Plicker, Padlet, Google Form, Survey Monkey are actively used to create quizzes or receive students` submissions on any skills in English. Subsequently, Dualingo, Memrise, Rosetta Stone applications are available to master English gradually. Furthermore, online dictionaries are used commonly to look up the dictionary and expand the vocabulary knowledge accordingly. Apart from complete sets covering all skills, many applications are available to practice and improve each macro-skill or micro-skill separately (Sad et al., 2022). It shows that mobile phone applications have changed the way of teaching and learning English substantially.

The direct shift from Grammar Translation Method (GTM hereafter) to Communicative Language Teaching Method (CLT hereafter) has affected the curriculums and perspectives tremendously. In this regard, the popularity of speaking skill has arisen. Communicative competence is prioritized in CLT in contrast to grammatical competence in GTM. Douer (2022) states that four types of competence which are linguistic, strategic, socio-linguistic and discourse should be achieved in CLT. Linguistic competence includes the knowledge of grammar, vocabulary and pronunciation, while socio-linguistic competence requires the speakers to integrate social rules of language, cultural references and non-verbal behaviors into conversations. On the other hand, strategic competence refers to handling language gaps successfully and achieving conversational fluency, whereas Discourse competence is about joining the sentences cohesively in English. Derving and Munro (2022) state that pronunciation plays an integral role in putting four types of competence into practice. Considering its importance in conversations, thousands of mobile phone applications are available in the market to master pronunciation. Pronunciation learning strategies can work better if mobile phone applications are integrated into traditional pronunciation instruction (Pawlak, 2018). Audiobooks, dictionaries, pronunciation exercises and text to speech applications are readily available to enhance pronunciation performance via mobile phone applications.

2. Literature Review

Traditional learning and teaching methods have transformed considerably once e-learning materials have been introduced and developed. Blended or online learning initiatives have been implemented globally with the advent of PCs, tablets, smart boards, laptops and mobile phones. In a blended learning environment, face-to-face instruction is combined with digital resources. Students spend some time learning in a conventional classroom setting and the rest of their time learning online (Daskan & Yildiz, 2020). Mobile phones rank the first in terms of electronic device sales in 2021 with 1,43 billion, so there has been an increasing trend to integrate mobile assisted learning into education.

Some scholars (Chau, 2014; Dua & Meacham, 2016; Masood & Thigambaram, 2015; Vahdat et al., 2021) attest those mobile based applications are beneficial in many aspects, whereas others (Suarez et al., 2018; Alonso de Castro, 2014; Sad et al., 2022) postulate that mobile phone applications can affect the users` lives negatively. To name a few, Bennet et al. (2018) propose that the students who are currently studying at educational institutions are digital natives. Digital natives were born with the ubiquitous influence of internet and other electronic devices, so they can adapt to learning by mobile phones easily. Moreover, Rajendran and Yunus (2021) postulate that mobile assisted language learning offers a lot of advantages for educators and students. They elaborate that teacher can create language learning games, assign projects,

offer feedback, cover online lessons, receive students` written or spoken works through mobile applications. They also attest that students` motivation and enthusiasm increase considerably when they feel that learning is fun and engaging with mobile based applications. Additionally, portability, accessibility and personalization increase the value of mobile phone, so using mobile phone applications can increase the standards in education (Sam & Shalini, 2021). Negative impacts of mobile phone applications can be eliminated gradually if the activities are planned and monitored carefully (Arvanitis & Krystalli, 2021). Mobile phone applications are essential to fill the gap between students because these applications encourage the students to practice anywhere and anytime (Nuraeni, 2021). Users have a myriad of options on the system, so the applications are in a competition to receive users` comments, update and increase the number of users (Meyer et al., 2021). They argue that competition between rival applications can increase the quality considerably. Subsequently, Al-Jarf (2022) argue that mobile phone applications can expand students` knowledge gradually, so students` engagement increases as they notice that they develop on a daily basis. However, some negative points have arisen regarding mobile phone applications. For instance, Chiong and Shuler (2010) state that mobile applications are mostly used to keep children busy while parents are doing some other activities at home, a restaurant or supermarket. Additionally, Kabali et al. (2015) postulate that mobile phone applications have some adverse effects to distract students from studying. Subsequently, Wang et al. (2018) postulate that some unavoidable advertisements on mobile applications can affect students` psychology badly.

The number of studies related to the effects of mobile applications on education has increased tremendously. To name a few, Mobinizad (2018) examined some educational applications on Apple App Store and Google Play in the UAE which revealed that offering student and teacher editions, improving interaction, accessibility and enabling customized learning were the most distinguishing qualities of chosen educational applications. Subsequently, Celik and Yavuz conducted a meta-analysis on vocabulary expansion via mobile applications which revealed that mobile phone applications expanded students` word power considerably. Similarly, Elaish et al. (2019) attest that mobile phone applications improved students` vocabulary knowledge and increased motivation simultaneously at a secondary school in Malaysia. Furthermore, George (2018) carried out a study on the effects of mobile assisted learning application in India on ESL learners which uncovered those mobile applications such as YouTube, Facebook, Ted Talks, English Stories, Home Libraries increased students` reading and listening scores significantly. Additionally, Li and Hegelheimer (2013) carried out a study in the USA on an ESL writing class which revealed that students increased their scores in writing and reduced their grammar mistakes substantially. After that, Kushmaryani et al. (2019) stated that students` speaking and critical thinking skills were enhanced tremendously after joining a study including mobile phone applications to foster speaking skill.

A number of studies have been conducted to measure the effects of mobile applications on pronunciation in different countries. To name a few, Calvo Benzies (2017) conducted a study in Spain on university students which displayed that students` pronunciation mistakes reduced dramatically after practicing with mobile applications. Similarly, Pratiwi et al. (2021) stated that Indonesian students` pronunciation improved considerably after watching videos and completing pronunciation drills. Subsequently, Luu et

al. (2021) conducted a study on Vietnamese university students about the effects of mobile applications which revealed that chosen applications Dua Lingo and YouTube improved participants` pronunciation significantly. After that, Abdul et al. (2021) conducted a study in Iraq on 50 EFL teachers which revealed that mobile applications were essential to practice, learn and improve overall fluency, so students` pronunciation mistakes could be reduced dramatically. Subsequently, Muhamad and Jasim (2022) conducted a study in Iraq on secondary school students and teachers which revealed that unable to practice in English as much as expected and focusing on receptive skills rather than productive skills were some barriers to improve students` pronunciation in English. They recommended that adopting a CLT method instruction enriched by technology-based tools could foster students` levels in pronunciation.

Some concerns have been raised about the weaknesses of mobile based applications as well. For instance, Kuzmina (2019) investigated the efficiency of grammar applications designed for university students which revealed that the applications were compatible with the need of the students at a tertiary level. She also reiterated that collaboration and feedback features should be improved to satisfy the needs of the users. Likewise, Sad et al. (2022) examined students` perceptions on mobile applications at a tertiary level which revealed that students had some difficulties to distinguish beneficial applications from time-consuming and low-quality ones. They also stated that clear guidance of the educators is needed to find the best applications for students.

2.1 Purpose of the Study and Research Questions

This study investigated the effects of two Google Play applications on students` pronunciation performance which were Learn English by Short Stories and Cambridge English Dictionary. Based on this framework, the following research questions were formulated as follows:

- Do chosen applications increase students` pronunciation marks?
- Do students` opinions change towards Google Play applications used widely in education?

3. Methodology

A mixed method research design was employed in this study which required the participants to take two exams on pronunciation and express their ideas in the interview. A mixed methods design has been widely used in Social Sciences to combine qualitative data with the quantitative ones. Fetters et al. (2013) contend that a mixed methods design study offers many advantages for the researchers such as receiving statistical analysis, genuine opinions and general trends in the study. They also postulate that the validity of the study can be increased when the quantitative data were cross-checked with the qualitative data.

3.1 Setting, Participants and Sampling Procedure

This study was conducted at Tishk International University (TIU hereafter) in Erbil, Iraq where 5000 students in 29 departments have been studying as of 2022. This private university offers education in English, so diverse communities from different ethnic backgrounds receive education. The population of this study was 100 students who completed an intensive English training program at TIU Language

Preparatory School. 40 students were chosen by employing systematic sampling method. Each student was given a number and chosen based on the pre-defined intervals as stated by Elsayir (2014). Each student had equal opportunities to be chosen, so they could represent the population in an unbiased and a more precise way.

Table 1: Participants` ages and genders

Variable	Option	F	Percentage
Gender	Female	26	65
	Male	14	35
Age	18-21	36	90
	22+	4	10
Total		100	100

As shown in Table 1, 26 (65 %) female students took part in the study, while the number of male students was 14 (35 %). Subsequently, the majority of the students were between 18 and 21 years old with the exception of 4 (10 %) students who were 22 and beyond.

3.2 Data Collection Procedure

The data were collected within 10 weeks in this study. Control and experimental group students were placed in different classes because each group had a different form of instruction respectively. Subsequently, each material was chosen on purpose because the levels of the materials were A1 or A2 to increase students` motivation. The conduct of each group`s instruction could be seen below.

3.2.2 The Conduct of Instruction in Experimental Group

Experimental group students followed the schedule in a hybrid way which included integrating online materials into the traditional language learning and teaching format. They completed 5 units in Scope 1 and followed other books to improve their primary and sub-skills as in the control group. However, they read the books and looked up the dictionary by online materials on Google Play. 8 weeks were allocated for reading the books and listening to the audio tracks simultaneously through Learn English by Short Stories application on Google Play. This application included 62 beginner level stories ranging from The Adventures of Tom Sawyer to The Railway Children. All stories were enriched by audio versions, so students could read and listen to the tracks at the same time. Additionally, students were encouraged to download Cambridge English Dictionary. It has been run by Cambridge University Press which offers around 140 thousand words with related phrases, meanings and examples. The students used it when they encountered unknown words in the audio books. The students also used the dictionary to expand their vocabulary in context by reading examples in the dictionary. The instructor taught pronunciation rules according to the lesson plan, so students could have opportunities to learn, revise and reflect. The instructor had an agenda to keep the records of students` chronic mistakes, so s/he could focus on these mistakes in the following days. It was noticed that students` mistakes were reduced considerably once common mistakes were mentioned to raise their awareness in the following weeks.

3.3 Instruments

Once the activities were completed based on the pre-defined plan, the students took two exams as pre-test and post-test. Students were required to read a common reading passage in Scope 1 randomly. Additionally, they were required to pronounce essential words given at the end of the book for each unit respectively in Scope 1. Subsequently, the interview was held to receive students` genuine opinions on the effectiveness of the study. In the final step, qualitative data were compared with quantitative data whether they were consistent with each other.

3.3.1 Content of the Exam

Table 2: The rubric created by the committee

Category	Point
Intelligible	25
Intonation	25
Individual Sounds	25
Word Stress	25
Total	100

Intelligible refers to being understood easily. In other words, the words should be pronounced correctly and clearly to be classified as intelligible. Intonation is the ability of the speaker to rise and fall the voice according to the rules. Word stress means knowing the difference between stressed syllables and unstressed syllables and pronouncing accordingly. Individual sound means commanding the sounds in the phonemic chart precisely.

4. Findings

The findings of this study were categorized under 3 headings which included the analysis of the exams, the interview and common pronunciation mistakes.

4.1 The Analysis of Quantitative Data

Independent samples t test analysis was illustrated in Table 3.

Table 3: Independent Samples T Test analysis

Variables	Groups	N	Mean	SD	t	df	Sig
Pre-test	Control	20	62	10.183			
Pre-test	Experimental	20	61	10.773	.151	38	.881
Post-test	Control	20	71	12.418			
Post-test	Experimental	20	84	13.206	-3.269	38	.002

Note. P<0.05

According to illustrated details about the results of the pronunciation exams in Table 3, it was measured that there was no significant difference in pre-test. P-value was .881 which was greater than 0.05. Additionally, the mean score was 62 and 61.5 in control and experimental group respectively. However, a significant difference was observed in post-test results. Control group students increased their average 9 points, while the increase was 23 points in experimental group. Additionally, P-value was .002 which was less than 0.05. These figures show that experimental group students progressed more significantly than control group students.

4.2 The Analysis of Qualitative Data

Students have expressed some terms frequently during the interview which was illustrated in the Table 4 below:

Classifications	Frequency	%
Free of Charge	36	90
User Friendly	30	75
Providing a Fun and Engaging Learning Atmosphere	38	95
Allowing Interaction	22	55
Facilitating Learning inside and out of the class	28	70
Appealing to different learning styles	40	100
Being aware of other educational apps	40	100

According to the categories in Table 4, it was noticed that chosen Google Play applications were appreciated by students in terms of appealing to varied learning styles, raising awareness about other educational applications, providing a welcoming learning atmosphere and being cost-free, while some weaknesses were uncovered in terms of being user-friendly, allowing interaction and facilitating learning regardless of being in class or outside. These data show that some weaknesses should be eliminated to increase the satisfaction rate of the chosen programs.

Apart from classification of the common themes in the interview, some students` ideas about the whole study could be seen below:

I used to download applications to play games. However, I have learned that there are many educational applications to read books and listen to the audio tracks. In addition, Cambridge e-dictionary supported me in many ways. It will be my habit to download some applications and benefit from them in the future. (Student 8)

This study changed my attitude towards reading considerably. I learned how to read the books and highlight some points in the class. I also spoke about the books with my friends in our free time. Apart from the audiobooks, the online dictionary helped me to expand my vocabulary. These are the pluses of this study in my life. (Student 12)

I hesitated about joining this study at first. However, my perspective has totally changed about using Google Play applications in education. I learned many new words in the context. I also figured out some tips about pronunciation. Once I read and listened to the audio versions, I had a chance to apply pronunciation rules to my real-life conversations. (Student 18)

This study was so beneficial for me. I listened to the books three times before reading and recording my voice. Recording my voice helped me to regain my self-confidence. Additionally, the online dictionary was so convenient to use anytime anywhere. (Student 21)

Reading to get pleasure was the most important gain of this study for me. I read the books and improved my pronunciation with audio versions. In addition, it was so fun while we were moving out lips and tongues to create the correct sound in the phonemic chart. It will be a memorable period in my life. (Student 32)

This study had a considerable effect on my family members` reading skills. I took advantage of the reading application. I recommended it to my parents and siblings. This chain reaction spread. We started reading the books and talking about them. It was really fun to spend amazing time with my family members. (Student 38)

The study was nearly perfect except some weaknesses. First of all, my schedule was too busy to read online books. Additionally, articulating some sounds were really difficult for me. I could not fix some of my chronic pronunciation mistakes. Apart from these points, the study enhanced my skills gradually. (Student 40)

This study has affected my perspective about hybrid education. I learned some points in the lesson. I also enriched my learning with mobile-based applications. Once I improved my vocabulary knowledge on a regular basis, I could understand the lectures well. From now on, I will look for educational applications to learn and have fun in my free time. (Student 25)

The most appealing point in this study was to read the books with my classmates. We read and learned from each other. We also recorded our voices to improve our pronunciation. Once we revised the books with pronunciation rules, this effort was reflected in the exam. My marks were far better compared to the first exam we took prior to the study. (Student 28)

4.3 Common Pronunciation Mistakes

Based on the preliminary test, some common mistakes were recognized, and the instructor took the action to eliminate them during the study. The list of the common mistakes could be explored below in Table 5:

Category	Examples
Pronunciation of 'S' at the end of the words	watches, buses, books, sings, wears
Pronunciation of 'ED' after regular verbs	persuaded, helped, looked, damaged, cleaned
Silent 'K'	knee, know, knife, knock, knight
Silent 'H'	honest, hour, school, mechanic, whether
Silent 'W'	answer, two, whole, wrap, writing
Silent 'C'	scissors, science, muscle, scent, discipline

As shown in Table 5, it was clear that students had experienced the difficulty in ''s, ed and some silent letters.'' Although there were some other mistakes, their numbers were not high enough to include in this table.

5. Discussion

This study examined the effects of Google Play applications on students` pronunciation performance. Based on the findings in the interview and pronunciation exams, some points were emphasized.

The students emphasized that the applications were user friendly which could be downloaded and used without having any difficulties. Tiwari (2022) states that mobile applications can be used in education widely for their advantages such as being user-friendly and mostly cost free. Subsequently, the students reiterated that the books were written and ordered based on their levels. Dias and Victor (2022) postulate that digital books through mobile applications can be beneficial if ordered by considering readers` levels. Additionally, some students proposed that audiobooks and online dictionary were functioned like an online tutor for them. They expressed that they filled the gap with applications if they missed some points in a traditional classroom atmosphere. Yusuf (2021) conveyed that mobile applications can increase the value of online tutoring considerably. Moreover, the students argued that reading the book and listening the words simultaneously increased their enthusiasm towards learning a language. Sad et al. (2022) established that mobile applications can stimulate students` learning channels in multiple ways, so they can be used widely to break the monotony in classes. After that, the students stated that online dictionary helped them to be familiar with phonetic transcription, different meanings, parts of speech, example sentences, phrases, so their chance to know the meaning or guess the meaning from the context in the audiobooks increased considerably. Ferrett and Dollinger (2021) conveyed that digital dictionaries are convenient to use because they offer many services within a few clicks. Afterwards, some students commented that their speaking performance increased in their classes because they had a chance to read and listen to the books. Reading and listening to the books increased their accuracy and fluency. Sing and Alexander (2022) contend that audiobooks support readers in both ways which are related to accuracy and fluency. Furthermore, some students stated that they developed habits towards reading e-books from different genres once they joined

this study. Ulker et al. (2021) postulate that e-books are readily available to satisfy readers` needs with many genres. It can be stated chosen applications enhanced students` performance in terms of pronunciation, motivation and reading habit.

6. Conclusion and Recommendations

Throughout the study, the researcher investigated the effects of two Google Play applications on students` pronunciation performance. Based on the findings of the exams and the interview, some points were highlighted. Reading books and listening to the audio version of the books increased students` enthusiasm towards reading and speaking. Additionally, students` word power and phonemic awareness increased with the help of e-dictionary. Moreover, improved pronunciation skills helped the students to overcome their barriers against speaking in public places such as a classroom or a stage. On the other hand, some points which were related to having interaction, being user-friendly and learning in and out of the class were emphasized to increase the satisfaction rate of the students. Considering the new trends in education to integrate technology into education, it can be argued that e-books and e-dictionaries on Google Play can provide ample opportunity for students and educators if applied systematically in cooperation.

Some recommendations can be made for stakeholders of education who are in charge of raising the standards in education. This study examined the effects of two Google Play applications on students` pronunciation skills. Further studies could be conducted to measure the effects of two audiobooks or e-dictionaries in different groups. Additionally, the sample from the population can be increased in further studies to have a clearer image about larger groups. Finally, only Google Play was included in this study which could be expanded by Apple App Store and Amazon App Store in further studies.

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