Teaching through Educational Apps: The Effect of Using Smartbooks on Enriching the Oral Communicative Ability of the Learners

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Abstract The appropriate use of new technologies and educational applications is undoubtedly very important in facilitating English language learners' communicative competence. One of these technological devices used in education is the smartbook. Accordingly, the present study has tried to investigate the effectiveness of the use of smartbooks in the process of teaching English to learners and, consequently, the improvement of their communicative ability. In order to collect data for the study, 40 high school students learning English, including one experimental group and one control group, participated in this study. A pre-post test and teacher-made tests were designed for the learners. The One-way ANCOVA results indicated that the learners participating in the experimental group were more successful than those participating in the control group. This shows that the use of smartbooks has a significant effect on improving the oral communicative ability of English language learners. Implications for L2 researchers and practitioners were finally discussed.

Keywords: *Communicative competence, Educational application, Smartbook, Technology-mediated language teaching, Virtual education*

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1. Introduction

Despite the fact that the pandemic of COVID-19 disease and its widespread prevalence would primarily be a health and medical crisis, it has also brought far-reaching changes in education. Many countries decided to close their schools and universities and discontinued face-to-face teaching for the sake of remote teaching and online education, which in turn led to serious problems in the process of teaching and learning and unprecedented challenges to English language communication competence acquisition (Basilaia & Kvavadze, 2020; Dhawan, 2020). The closure of universities and institutions, therefore, decreased the chances of learners to use English for communication.

On the other hand, as Eaton (2010) mentions, one of the most important goals of the 21st century in the field of language learning is to enhance the communicative competence of learners; therefore, creating a suitable platform

for more appropriate communicative ability education in this situation is among the most important goals of any education system (Subedi et al., 2020). Nowadays, various phenomena in each society are required to adapt themselves to the changes, and education is no exception either, which is now out of its traditional form, trying to move towards a virtual context (Kessler, 2018; Petrie, 2020).

It is worth mentioning that under such circumstances, many scholars and researchers argue that the need of the hour is to innovate and implement educational strategies in language learning and teaching (e.g., Abbasian & Modarresi, 2022; Akbari & Pishghadam, 2022; Fischer et al., 2022; Pokhrel & Chhetri, 2021; Sintema, 2020). In other words, there is a paradigm shift in education that occurs through numerous online platforms. Also, several studies showed the significant role of the application of newly designed educational devices, including technological apps, in order to enhance the level of the communicative abilities of the learners (e.g., Avgousti, 2018; Vurdien, 2019; Xiuwen & Razali, 2021). It seems reasonable to suppose that, however, such a transition from a traditional face-to-face learning/teaching environment to an online atmosphere may be an entirely different experience both for the learners and the teachers due to the fact that they have to adapt themselves to these new situations which can be a daunting task (Borthwick & Gallagher-Brett, 2014).

 In this regard, a notable number of teachers, researchers, institutes, and language policymakers seem to share this opinion that different learners with different levels of communicative ability require different approaches to online learning (Ebrahimi et al., 2022; Ferri et al., 2020; Kobylarek et al., 2021; Means et al., 2014). In fact, the majority of teaching methods practiced today in various contexts appear to be different in a virtual learning environment, in which teachers present information, engage with learners, and measure learning in very different ways. In other words, the materials used in schools for high school students would be different from other age groups with different needs.

An important point that should be taken into account is that with the recent rapid growth in technology and virtual education, it should be said that educational applications, especially smart books, compared to other tools due to ease of use and availability, play an important role in the implementation of virtual education (O'Shea et al., 2015). Therefore, learners receiving instruction in learning English also learn how to use smartbooks in order to improve their communicative abilities in English so that they can communicate effectively in different contexts. Indeed, since the term "smartbook" has only just begun to receive serious attention, very little has been actually established about this concept, in general.

All in all, considering the fact that paradigm shift would be a necessity in developing learners' capabilities, particularly communicative abilities in EFL contexts, the current study attempts to determine the significant effects of using smartbooks as a teaching strategy in improving students' communicative ability. In other words, the present study sought to address whether English language learners who are taught using smartbooks as a teaching strategy outperform those who are taught using the conventional teaching strategy in their oral communicative ability.

2. Theoretical Framework

2.1. English Language Teaching as a Necessity

After the Second World War (1939-1945), due to the symbolic power which obliged the acquisition and use of English, countries and individuals got to see it as both necessary and assuring their economic success, and in this way, English started playing its dual role; it was beneficial to nations, communities, and individuals who had such a linguistic possession and detrimental to those who lacked it, were deprived of it, or upon which their livelihood depended (Phillipson, 1992; Tollefson, 2007).

In Iran, as reported by historians, encountering or struggling with a foreign language is not a new phenomenon in the life history of Iranians. It is worth mentioning that one of these major linguistic and cultural transformations happened nearly fourteen centuries ago, by the end of the Sassanid

Empire. Encountering Muslim Arabs, Iranians accepted their religion and converted to Islam. Consequently, Arabic was mixed with Persian, and as Riazi (2005) notes, this mixture of Arabic vocabulary with the Persian language enriched Persian and equipped Iranians with the resources and capabilities of the two languages.

Another significant foreign language promotion was initiated in the nineteenth century, during the Qajar era, mainly with the establishment of Dar-al-Fonoon, in which French and English were included in the school curriculum and were taught by employed native teachers.

In his historical review of the existence of English in Iran, Sharifian (2010) states that English has been the most significant foreign language in Iran. Riazi (2005) also states that during the 1970s, while Persian was the main language of academic instruction, some universities offered all programs in English. Furthermore, Pishghadam and Zabihi (2012) investigated the colonial and postmodern views of English language teaching in Iran and argue that language institutes in Iran are responsible for "marginalization and identity loss" via the dominance of "Western culture in an Iranian and Islamic context" (p. 65).

Presently, English and Arabic are the main foreign languages in the national education system of Iran. Within the last few years, ongoing attempts have been made to bring changes to the former methods of teaching English in Iranian high schools and writing new textbooks accompanied with workbooks, student audio CDs, and teacher flashcards based on communicative approaches.

Living in an age in which English, recognized as a Lingua Franca or as an International Language (EIL), has carved a well-established niche as the language of the global economy, science, mass media, communication, business, technology, education, and the like (Block, 2010; Crystal, 2003; Pennycook, 2010; Sharifian, 2010); we, as speakers of other languages, try our best to seek methods, approaches, techniques, tools, and materials in order to improve our English communicative ability in our local context.

2.2. Communicative Competence

We know that conversation is the very heart of pedagogy. Education systems have tried to prepare an environment for the learners to interact and therefore communicate appropriately. As Chamorro-Premuzic and Furnham (2003) point out, it is essential in language learning and teaching context to consider several factors influencing a student's communicative competence. For this reason, the first step is to define the term clearly. Hymes (1971) proposed the communicative competence theory and defined the term as a linguistic concept that includes a language user's knowledge of syntax, semantics, morphology, phonology, and lexical information, as well as social knowledge about how and when to use utterances appropriately. This knowledge enables language users to create communication and interact effectively. In other words, language users who are communicative competent may have the ability to achieve more success in expressing and consequently communicating their ideas (Hajizadeh et al., 2021).

Cao and Meng (2020) point out that in the education system, it is essential for learners to master oral English in an academic context in order to develop their academic achievements. This means that effective oral English communication skills play critical roles in EFL learners' international communicative competence in the modern global community. Language learners' communicative ability would be shown in the form of scores of oral communicative courses measured by standardized and/or teacher-made tests.

Similarly, Abdul Khalek and Lee (2012) argue the importance of communicative competence in the academic achievement of the learners and suggest that focus should be given to improving the communicative ability of the learners since poor English command among English language learners may be due to the fact that using different strategies to develop the communication skills of the learners would be neglected in the EFL context. They observed class participation of the language learners and highlighted improved student engagement as the outcome of employing technologically-based strategies in developing communicative ability.

2.3. Teaching Aid Tools

As Tomlinson (2013) mentions, creating an atmosphere in order to generate the students' interest is one of the necessities in education. For this purpose, employing suitable teaching materials such as textbooks is the first step, as they have the potentials to arouse interest in the learning process (Naji Meidani & Pishghadam, 2013). It also seems crucial that to get better results, teachers should use different aids as a supplement in their classrooms, with the help of which a positive learning environment is gradually created (Aghagolzadeh & Davari, 2012; Beaudoin et al., 2009); a place in which learners can develop healthy relationships with peers and teachers. Increasingly, nowadays, new technologies and educational innovations are utilized in order to increase efficiency in the learning process. And since teaching EFL via merely traditional teaching methods is doomed to failure, there are wide varieties of instructional aids available to teachers (Chen, 2022; Modarresi & Alavi, 2014; Yim & Warschauer, 2017).

It is worth mentioning that among different teaching aid tools are those which are related to technology. Educational software, for instance, can be used in the teaching and learning process; therefore, they would create a set of learning processes in an environment similar to self-learning or tutoring. These softwares are usually developed based on the characteristics of the private teacher, and they can help the student meet his or her educational needs (Levy, 2009). Meanwhile, language teachers can determine the ways through which they may incorporate technology into their teaching practice and "evaluate its suitability and impact" (Chun et al., 2016, p. 64). According to Modarresi (2021), the users of such learning tools are mostly those who have distance learning or people who do not have the possibility to use the classroom in person; hence, these technologies are helpful for them in improving their performance in different language areas or skills.

Among many technological devices such as podcasts, smartphones, and collaborative tools used in language learning and teaching context are smartbooks; in addition to the text, they include sound, images, videos, etc.; also, they are offered in the format of any file that can be executed by a PDF, HTML, and the like. The simplicity of implementation is one of the advantages that encourage teachers and learners to use them; besides, ease of searching in the text and having the ability to upgrade and add multimedia features are other advantages of these valuable books (Davis, 2006).

2.4. Some Related Studies

It must be noted that numerous studies have been conducted to find the probable effects of using various technological tools in enhancing the communicative skills of language learners in the field of teaching and learning English as a foreign language. For example, the use of mobile technology and its applications for language learning and teaching was investigated by Chinnery (2006). Using an empirical approach, Chinnery found that the employment of mobile devices such as smartphones, tablets, and iPods would be effective in language learning. In line with the results of Chinnery's research, Kukulska-Hulme (2009) also found that the utilization of technological devices, including MP3 players, can help teachers create an interesting environment for learning a foreign language. The rapid growth of educational apps over the past few years becomes more evident when we review some studies on technological aid tools. For instance, Ahn and Lee (2016) investigated the effect of an application with speech recognition capacity on speaking proficiency, and the results showed that the participants were positive about using the app to improve their proficiency.

In a pre-experimental study conducted by Newprasit and Seepho (2015), it was found that the overall communicative skills of English language learners improved considerably after the implementation of technologically-based strategies in the English course. In another study, Zhang (2015) tried to improve the speaking and listening skills of Chinese learners by using technology in classes and discovered that the students generally had positive views towards technology after attending the course.

Considering the review of the related literature on the concept of employing teaching aids and different materials as well as using technology in education in general and in TEFL in specific, we can deduce that using education apps is an engaging and challenging concept for various researchers

to do research on; especially with the increase of computer-mediated communications all over the world, employment of technology in language classes is gaining importance. On the other hand, the climates of teacher-talk, didactic lecturing, memorizing, and standardized education raised the voices of many critical educators and scholars for breaking the conventional roles of the students and teachers through more critical pedagogies, and participatory approaches (Norton & Tohey, 2004; Progler, 2011; van Lier, 2004).

3. Methodology

3.1. Participants

The present study was carried out on 40 Iranian high school female students studying in Dargaz, located in the northeast of Iran, whose first language was Persian and who spoke only the first language at home, so their opportunity to communicate orally in English was only in the school and/or institutions. They were between 14 to 16 years old. Students who were older or younger were not included in the study. These students were purposely selected based on their availability to participate in the quasi-experimental study. They were assigned to two groups, 20 students in the experimental group and 20 students in the control group. Specifically, the quasi-experimental study employed a non-equivalent pre-test and post-test with a control group design. A series of smartbook-based lessons were conducted for two hours per week. Also, the Key English Test, known as KET, was administered to guarantee the homogeneity of the participants in terms of their language knowledge, and those learners whose mean scores on KET were one standard deviation above or below the mean participated in this study.

3.2. Instruments

The instruments used in the study were a speaking test, a listening test, KET for Schools Tests, and a 12-week smartbook-based lesson plan for twelve consecutive weeks, consisting of various activities, and each session is 45 minutes. KET for School, which was used in order to determine the learners' language ability, has content of interest to school-age learners and was designed by Cambridge English Language Assessment for School (2001). The test includes listening, speaking, reading, and writing. Since the aim of the present study was to focus on the oral communicative ability of the language learners, only the listening and speaking sections of the tests were used to homogenize the learners. The listening test consists of five sections, including 25 items; therefore, the scoring procedure was calculated out of 25. The speaking test comprises two parts; the first part includes short questions, and in the second one, the examiner gives the learner some information or a card with some ideas for questions. The time allowed is 8 to 10 minutes.

The second instrument utilized in this study was one of the educational applications, namely smartbooks published by Khat-e-Sefid (White Line). The training sessions suggested by Khat-e-Sefid are as follows:

Table 1
Smartbook Training Sessions

Sessions	Purpose	Time
1. Introduction	Familiarizing students with the book and how to use it	45 minutes
2. Review Test	Pre-examination of the previous year's textbook courses	45 minutes
3. Unit One	A review of the important contents of lesson one	45 minutes
4. Quiz One	A short test of the contents of lesson one	45 minutes
5. Unit Two	A review of the important contents of lesson two	45 minutes
6. Quiz Two	A short test of the contents of lesson two	45 minutes
7. Exam	Exam from lesson one and lesson two+ activities	45 minutes
8. Unit Three	A review of the important contents of lesson three	45 minutes
9. Quiz Three	A short test of the contents of lesson three	45 minutes
10. Final Exam A	Final exam from lesson one to lesson three	45 minutes
11. Final Exam B	Final exam from lesson one to lesson three	45 minutes
12. Irregular Verbs	Getting to know irregular verbs	45 minutes

As Table 1 shows, activities were aimed at developing the learners' oral English communicative ability in meeting their needs for communication.

The next instrument used by the researchers was the self-developed and teacher-made speaking and listening tests used both for pre-test and post-test. In designing the tests, the format and content of the IELTS speaking and listening tests were followed. The speaking test included two speaking tasks which were completed individually. The speaking rubric was adapted from Oral Interview Rubric for Communicative Competence by Pillar (2011). This rubric contained criteria such as appropriacy, accuracy, fluency, comprehension, intelligibility, range, kinesics, proxemic and prosodic, as well as task fulfillment. The scoring procedure was out of 20. Furthermore, the listening test consisted of 20 items divided into dialogue and monologue listening comprehension questions, and the scoring procedure was out of 20. The content validity of the speaking and listening tests was checked by a panel of experts, and all the instruments were piloted before they were employed. Reliability coefficients of .89 obtained for the speaking test indicated good values to commence the present study. The listening test also had an acceptable Cronbach's alpha value of .81.

3.3. Procedure

First, the researchers employed KET for Schools Tests to homogenize the learners. Then, the learners were randomly divided into two groups, the experimental group, and the control group. Students' scores on the listening section of the KET Test were used as the pre-test scores. The study was conducted for 14 weeks, including the pre-intervention phase, which was one week, the while-intervention phase, which was 12 weeks, and finally, a post-intervention phase of one week. The researchers employed the speaking and listening tests as pre-tests during the pre-intervention stage. Then, they conducted the intervention, which consisted of a series of smartbook-based lessons for two hours per week. The sessions were 45 minutes in length. During this phase, the learners were taught the oral communicative strategies using the activities in the smartbook. In order to make the participants of experimental group familiar with using the smartbook, i.e., Khat-e-Sefid, the researchers showed the correct deployment of the activities to the students. Using the smartbook, learners could develop self-awareness with immediate and meaningful feedback. During the lessons, group discussions were conducted a lot. Besides, different activities, including a variety of communicative activities that emphasized speaking and listening skills, were used. On the contrary, during the while-intervention phase, the members of the control group were taught traditional techniques by using the conventional teaching strategy in their national course book. Finally, in the post-intervention phase, the speaking and listening tests were again conducted as post-tests to see whether there was any significant difference between the two groups.

4. Results

4.1. Descriptive Statistics

The purpose of the present study was to ascertain whether the use of smartbooks can have a significant effect on enriching EFL learners' communicative ability. To analyse the data, descriptive and inferential statistics were used. In this research, a one-way ANCOVA procedure was performed. One-way ANCOVA was run since there were two groups exposed to the treatment phases. Besides, the goal of the research was to compare the significant difference between the two groups, so the researchers decided to control the pre-test scores as the covariance. In this part, therefore, the research question was investigated, and the descriptive statistics were presented below. Meanwhile, the data were analyzed in detail in the inferential analysis stage. A general understanding of how smartbooks were used in this study may be gained by looking at Table 2 below:

Table 2
General Descriptive Statistics of the Two Group

Group	Mean	Standard Deviation
Control	170	17.46
Experimental	198.46	19.67

From Table 2, we can see that the experimental group scored higher on the mean than the conventional group at the post-test, suggesting that the learners who were taught using smartbooks outperformed those taught using the conventional teaching strategy in speaking and listening in the mean score at the end of the course.

4.2. Inferential Statistics

Prior to the main data analysis, the inter-rater reliability of speaking scores was checked (Mandrekar, 2011). The obtained correlation coefficient values of 0.87 (pre-test) and 0.91 (post-test) indicated that there was high inter-rater reliability between raters in scoring the speaking test.

In order to investigate the effect of the use of smartbooks on improving EFL students' communicative ability, the one-way covariance statistical test was conducted. It should also be mentioned that the normality of data, the homogeneity of regression slope, and the homogeneity of variances were also checked and fulfilled. In addition, the value of elongation and skewness in the pre-test and post-test scores of the control group were -0.237 and -1.242, and for the experimental group, the amount of elongation and skewness were -0.265 and -2.148. These values, therefore, indicate that the distribution of pre-test and post-test scores of the experimental and control groups was normal.

Furthermore, the regression slope homogeneity test was used. The results showed that the significant value obtained was equal to 0.44, which is more than 0.05. Therefore, the assumption of homogeneity of the regression slope has been met. Also, Levine's test was used to check the homogeneity of variances. Based on the results obtained from the data analysis, it can be said that because the significant value obtained is equal to 0.15 and this value is higher than the standard value of Levine's test, therefore the assumption of homogeneity of variances has been met.

Then, a covariance statistical test was conducted. Table 3 shows the summary of the covariance test used in this study.

Table 3
Covariance Analysis of Using Smartbooks

Source	Sum of Squares	df	Mean Square	F	Sig**	Partial Eta Squared
smart books	5524.305	1	5524.305	42.289	0.000	0.610

Based on the information presented in the above table, as the significance value is less than 0.05, we can conclude that using smartbooks was successful in improving the communicative ability of students in the experimental group comparing the control group.

5. Discussion

As the results of the statistical analyses indicated, using the smartbook as an educational aid tool has been effective in enriching the oral communicative ability of EFL learners. Oral communicative ability in the present study refers to the synthesis of English language knowledge and skills of speaking and listening. In other words, a comparison of the mean scores indicated that the English language learners in the experimental group utilizing smartbooks and the conventional group performed differently when different teaching strategies were employed after twelve weeks. The possible reasons for these results can be strongly related to the communication opportunities provided by smartbooks for improving oral communicative competence inside the class or even outside of the class. Particularly, via employing smartbooks, learners have ample opportunity for interaction and communication.

Besides, it should be mentioned that the use of this tool has also made the teaching and transfer of material more objective and concrete for the students. This may be due to the fact that the employment of technology during the learning/teaching process may increase both the learners' and the teachers' motivation and their positive attitude towards learning and teaching, respectively. Besides, the use of these tools makes the students use all their senses during learning because they provide tangible learning aids for thinking and building concepts, and as a result, the level of students'

verbal reactions during the learning process will increase. Also, the utilization of educational tools and aids in EFL classes may help learners improve their learning process in terms of speed, accuracy, and ease of communication (Carneiro, 2007).

Another point worthy of attention is that the results of the current study align well with the findings of the previous studies in the literature review. For instance, the results of a study conducted by Zhao (2013) indicated that technology has different potentials for improving pronunciation in language education with the help of speech recognition technology. Similarly, Sharif (2012) investigated the implementation of new devices in teaching English to learners as well as bringing technology into classrooms and noted the importance of technology as a catalyst in helping both instructors and learners to work in new ways. In another study, Trasierra (2018) emphasized the positive outcomes of using technology in education in general and in EFL classes in particular. Based on the results of this study, the application of technological aid tools in EFL classes can help learners increase their confidence and communication skills, and they can also improve their English. Furthermore, among others, Lam Kieu Van and his colleagues (2021) at Van Lang University worked on the effectiveness of using technology in learning English and found that the use of technology was effective in teaching all four skills, i.e., listening, speaking, reading, and writing.

The results of this research show that the use of smartbooks as an educational aid in the EFL context increases the communication learning rate of students and will save the time of teachers and students. In addition, using smartbooks in classes improves the progress of students and their communication level. Smartbooks offer not only a reading experience but also an "e-reading experience" that includes cognitive, sensory, and physical interactions. This means that in order to understand and learn complex concepts of the English language, smartbooks can help students learn more effectively and efficiently than other teaching methods and improve their performance compared to their peers who did not use this tool during their learning process. What was observed during teaching in two groups is indicative of the fact that the use of educational tools makes the classroom environment dynamic and active and is a factor that students learn the course material with enthusiasm and interest because they can actively participate in the learning process. Therefore, it is based on this interest that it is possible to create a creative spirit in the students in the class and to provide the field of initiative and innovation for society. Educational tools can also increase the quality of education and cause better, faster and more effective learning. Entering the educational field, smartbooks include the entire year's syllabus because they have many interactive features through which the learners can access different contents.

Based on the findings above, the results of this research have obvious importance for teaching foreign/second languages, especially for improving the communicative ability of language learners. As mentioned earlier, Fischer and his colleagues (2022) indicate that using technological devices in education can help learners improve their interaction with others. The findings of this study, therefore, are especially important for English language teachers and learners. Also, it is believed that the results of this study will shed light on the use of technology in the EFL context, as well as shedding further light on the important issue of whether the employment of educational aids, including smartbooks, affects the communicative ability of EFL learners. Given the current necessity for richer and more rounded understandings of language teachers' development as materials developers who can use new devices in their teaching processes, such as e-books, smartbooks, and the like, the current research might inspire other language teachers not to limit themselves to narrow, cliché-type syllabi and materials, and encourage them to seek innovative pedagogical approaches and techniques.

Finally, a note of caution is in place. It must be borne in mind that any attempt in most studies related to human nature will be influenced by the researchers' experiences and beliefs and may not be considered as final and undisputable. Further studies, as well as further perspectives, are essential in order to reach the truth.

Disclosure Statement

The authors claim no conflict of interest.

Funding

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