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## **Implementing Speech-Texter Application to Improve EFL Learners' Fricative Pronunciation**

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### **ABSTRACT**

*Most of EFL learners in Indonesia hardly adopt pronunciation due to limited time, problem from the role model, and difficult sound production. To solve the problem, speech texter-application was implemented as learning media. The research aimed to identify whether and to what extent implementation of speech-texter application can improve EFL learners' fricative pronunciation and explain the factors which influence the changes in pronouncing fricative consonants. The research implemented action research method. The research used purposive sampling technique and 16 learners from the first semester of a private public college in Pekanbaru. There were instruments used to collect the data. The quantitative data were pronunciation oral test, while the qualitative data were observation checklist, field note and interview. The qualitative data were analysed by scoring and comparing to the standard ability and qualitative data were analysed by data, data display and conclusion drawing. After analysing the data, it was revealed that speech-texter application was able to improve learners' fricative pronunciation. The improvement of learners' ability was from the level of "fair" into "good" category at the end of cycle 1. The factors which affecting the improvement was the use of speech-texter application which provide opportunity as self-check application. Thus, it can be concluded that the implementation of speech-texter.*

### **KEYWORDS**

Application; Speech-texter; Pronunciation

### **ABSTRAK**

*Sebagian besar pelajar di Indonesia mengalami kesulitan dalam belajar pronunciation yang disebabkan oleh terbatasnya waktu pembelajaran di kelas, terbatasnya skill guru, dan kesulitan dalam melafazkan bunyi tertentu. Untuk solusi masalah tersebut, aplikasi speech-texter diimplementasikan sebagai media pembelajaran. Penelitian ini bertujuan untuk mengetahui apakah aplikasi speech-texter mampu meningkatkan kemampuan siswa dalam melafazkan frikatif dan mengidentifikasi faktor yang mempengaruhi peningkatan tersebut. Penelitian ini menggunakan metode penelitian tindakan kelas. Peneliti ini menggunakan teknik purposive sampling dan 16 orang mahasiswa semester satu dari sebuah perguruan tinggi swasta di pekanbaru.*

### **KATA KUNCI**

Aplikasi; Speech texter; pengucapan

*Penelitian ini menggunakan dua instrument dalam mengumoualkan data, yaitu instrument kuantitatif berupa tes pronunciation dan kualitatif data berupa ceklis observasi, catatan lapangan dan wawancara. Data kuantitatif dianalis dengan menghitung skor dan membandingkannya dengan table kemampuan mahasiswa. Data kualitatif dianalisis dengan melakukan data reduksi, menampilkan data, dan menarik kesimpulan. Setelah menganalisis data ditemukan bahwa aplikasi speech texter mampu meningkatkan kemampuan mahasiswa dalam melafazkan fricative. Pada akhir siklus I, tedapat tingkat kemampuan mahasiswa dari kategori “cukup” meningkat menjadi “baik”. Faktor yang mempengaruhi peningkatan tersebut dipengaruhi oleh penggunaan aplikasi speech-texter yang membantu aplikasi speech-texter mampu memberikan hasil yang positif bagi mahasiswa mahasiswa mengoreksi pronunciation secara mandiri. Dengan demikian, dapat disimpulkan bahwa implementasi aplikasi speech-texter dapat memberikan hasil yang positif bagi pelajar dalam melafazkan frikatif*

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## INTRODUCTION

Learning pronunciation is not easy for EFL learners. Most of EFL learners in Indonesia hardly adopt pronunciation due to limited time in every class session, problem from the role model (Abbas and Fathira 2020), and the learners' perceptions who consider English pronunciation as the most difficult skill to be achieved, as some of the words' sounds are rarely used in Bahasa Indonesia. Since the problems are rooted in sound production, learners need assistance to check the accuracy of their pronunciation. For these reasons, it is necessary to find an application that provides learners opportunity to check their pronunciation by themselves, so they are able to drill the sound or words even if they are not in the class.

Speech-texter application can be an alternative to solve this problem. Speech-texter or speech to text, as one of android applications, was processed by applying the android platform on a smartphone. It is offering benefits as potential software for enhancing personalized, spontaneous, informal, and ubiquitous learning process (Miangah and Nezarat, 2012). It enables to detect, identify and processing spoken language and transform it into data. Furthermore, It also provides self-learning method by self-checking whether the words production is correct or not. By operating it, learners would find out if the application typed wrongly from their expected word when they uttered incorrect sound. From several benefit mentioned, it can be a solution for ELT, especially pronunciation.

Researches focusing on the effectiveness of speech-texter application were relatively scarce. The followings were the finding of several researches which adopt similar software with speech-texter which also convert speech to text. Shadiev et al. (2013) revealed if the speech to text recognition was helpful learning aid for learning. Then, Yaniafari, Olivia, and Suharyadi (2022) found that speech to text gave beneficial in assisting learning pronunciation. They also highlighted if practice alone was effective, but sometimes individual work might frustrate language learners as they cannot fix their own mistake. Moreover, McCollum, Nation, and Gunn (2014) describe if speech to text was able to make students with hearing impairment gained their writing ability, motivation, and confident. From the findings, it can

be inferred that speech to text based software/application as part of ICT were useful for assisting learning

The development of Information and Communication Technology (ICT) has impacted every aspect of human life. For some teachers, this development has directly affected their teaching by integrating ICT into their syllabus and lesson plan. The integration of ICT in language teaching is also unavoidable because today's learners have different way of learning compared to their teachers in the past (Fithriani et al. 2019). Today's learners are more interested in the adoption of some new technologies and internet-based media than participating in a conventional class. As "native" digital, they can access information faster than their teachers (Prensky in Fithriani et al. 2019). To solve this problem, teachers must develop a new skill to integrate technology when teaching native digital learners.

ICT covers computer and internet-based technology, laptops, mobile devices, website, social networking, and software related to ELT (Arif and Handayani 2021). Some teachers, as well as lecturers and other practitioners, have begun combining ICT such as mobile devices and other applications or software as their media. It is not surprising because Indonesia in 2021 has been listed as the fourth country with the highest number of mobile phone users. Furthermore, Indonesia in early 2021 reported to have 202,6 million users which point to a penetration 73,7 percent of the population (Riyanto 2021). It means that mobile devices and mobile applications have a great potential to be integrated for EFL learners.

The integration of ICT in English language teaching (ELT) contributes significant benefit for both learners and teachers. The integration of Android-based smartphone and applications in the classroom can enhance learners' performance. Furthermore, it can motivate learners to be more active and enjoy the teaching-learning process (Fathira and Utami 2019). Moreover, the use of ICT can benefit learners to practice their English in a real context of the language use (Kramsch and Thorne in Al Arif 2019) such as speaking and pronunciation.

Pronunciation is defined as a set of rules not only on spelling consonants and vocals, but also on how words and sentences are accented (Cruttenden 2014). The study of pronunciation related closely with phonology which is concerned with vowels, consonants, and suprasegmental. Consonants were classified into five categories based on the position where they produced in speech organ; stop, fricative, affricative, nasal, liquid, and glide (Forel and Puskas in Al-Zobaidy 2022) Fricatives are characterized by a "hissing" sound which is produced by the air escaping through a small passage in the mouth. Affricative begin as plosives and end as fricatives. These are homorganic sounds, that is, the same articulator produces both of sound, the plosive, and the fricative. According to the position of consonants, it can be divided into voiced consonants: / b, d, dʒ, g, j, l, m, n, r, v, ð, y, z, ʒ, ŋ / and unvoiced consonants: / f, p, t, tʃ, k, θ, s, ʃ /. To know whether voiced or unvoiced consonants can be done by putting a finger on the throat. If there is vibration while speaking, the consonant is voiced. Contrary, if there is no vibration in the throat, just a short explosion of air, it means that the consonant is unvoiced. In this research, the fricatives used as the object of the research were limited in unvoiced fricative of /ð/, /θ/, /f/, and /v/.

Kelly cited in Maulidiana (2020) said that fricatives occurred when two vocal organs close together for the air movement to be heard between them. He also added that there are some characteristics of fricatives /ð/ and /θ/ also /f/ and /v/. The sounds of /ð/ and /θ/ are dental sounds. The tongue tip makes contact slightly with the back of the top of the front teeth or the tongue tip protrudes between upper and lower teeth. The soft palate is raised. The sound /θ/

is unvoiced and fortis, while the sound /ð/ is voiced and lenis. The sound /ð/ is also devoiced at the end of a word. The sounds of /f/ and /v/ are labio-dental sounds. The lower lip contacts slightly with the upper lips. The soft palate is raised. The sound of /f/ is unvoiced and fortis, while the sound of /v/ is voiced and lenis. The sound of /v/ is also devoiced at the end of a word. These characteristics should be learned deeply to enable students to pronounce them well.

Research investigating how android application, especially speech-texter, are used in EFL pronunciation classes in Indonesia have not been explored extensively. Few research has been conducted focusing on this issue (e.g Fathira and Utami, 2019 and Kayyis et al., 2019). Furthermore, these studies focused on the use of the *English Pronunciation Application* which learners imitated the sound produced by the application. While, very few research has been carried out about how learners perceive the improvement of their pronunciation by producing sound and self-checking using speech-texter application. Thus, to fill the missing gap, this research was conducted to investigate the implementation of speech-texter application to improve EFL Learners' fricative pronunciation.

Based on the previous explanation, the aim of the research was to identify whether and to what extent the implementation of speech-texter application can improve EFL learners' fricative pronunciation. And also explain themfactors that influence the changes in pronouncing fricative ability.

## **METHOD**

This research was carried out by implementing the action research method. Wallace cited in Maspufah (2019) proposed a model in which he illustrated the cycle as planning, action, reflection, and evaluation. In planning, the information on learners' ability in pronouncing fricative which consisted of voiced /v/, /ð/, and voiceless /f/, /θ/ from the preliminary research became the consideration in designing syllabus and lesson plan. The lesson plan was designed with the implementation of speech texter application, strategy and classroom activity, observation and interview planning, and also planning for the next action. In the learning action step, all the planning prepared applied in the class. Pronunciation practices were taught by using speech texter application. The followings were technical steps in the classroom activity. Observation and interview conducted at the same time with learning action. A senior student was a collaborator in this research. Reflection was made based on the result of analyzing data in the observation step. In this step, all the data evaluated to see the development of students' ability in reading. Furthermore, evaluation is necessary to find out the factors influences of the students' progress. After evaluating, a conclusion of one cycle was made to decide next activity and give revision of the activity. This research conducted in one cycle and it stopped as there was an improvement in the post-test result.

The research was conducted at a private public college in Pekanbaru. The population of this research was the first semester learners of 2020/ 2021 which consist of 16 learners. The sample was taken by using purposive sampling adopted from Cresswell (2014) which intended to select samples that were very relevant to the issue. In this research, quantitative and qualitative data were collected. Quantitative data were collected by using pronunciation oral tests. Qualitative data were collected by using an observation checklist, field note and interview. This technique involved some forms of observation of professional action in the learning process. Wallace cited in Maspufah (2019) stated that the professional action in

learning process might involve the use of video or audio techniques, and a checklist or observation schedule. In this study, video and audio were chosen as the technique for collecting the data. The data were recording by using zoom cloud meeting. So, the data can be recalled by using electronic media.

In this research, two instruments were used, quantitative and qualitative instruments. The quantitative instruments are made in the form of tests. The indicator for pronunciation was the accuracy of pronouncing fricative. The tasks were given to learners at the end of every meeting, while the test was given to learners at the end of every cycle. The test was in the form of 20 sentences which contain minimal pair of fricative /ð/and /θ/ also /f/ and /v/. The learners got opportunity to read each sentence twice. The qualitative instruments were in the form of observation and interview. Observation was conducted by using a field note and observation guide. The observation guide was designed to observe learners' activities during the process of pronouncing fricatives in speech texter application. The collaborator also used field notes to find out information that might happen in the teaching and learning process. The interview was conducted based on the factors which might influence the teaching and learning process, such as the application, internet connection, teachers' knowledge, and assessment activities.

The implementation of speech-texter application in this research as a tool for checking learners' accuracy in pronouncing fricative. When learners pronounce words, the application transform it into text. If the application types the correct word, it meant that learners had pronounced it correctly. On contrary, if the application types other word, it meant that the learners had pronounced the incorrect sound. In the second meeting, the learners were only asked to pronounce fricative in word. In the third meeting, learners were asked to read fricative in sentences. In the fourth meeting and post-test, learners were asked to read the sentences where in each sentence contained a minimal pair to see how they contrasted the voiced and voiceless fricative. They must record the screen, and then send it to the researcher. For the post-test, the learners' correct numbers were also counted from the application.

The data which had been collected were analyzed. Since the test consisted of 20 sentences that contain minimal pair of fricative /ð/and /θ/ also /f/ and /v/, the raw score was gained by summing the correct answer, and then multiplying it by five. So, the highest score was 100 when they got correct all numbers. To find the mean score, the sum of the total score was divided by the number of learners. Then, it was compared again with the level of ability criterion in STBA Persada Bunda (Maspufah 2018) as the following:

Table 1. Ability Level

Score	Category
80-100	Very Good
60-79	Good
40-59	Fair
0-39	Poor

The qualitative data were analyzed by using Miles, Huberman, and Saldana (2014). The three analysis components called data condensation, data display, and conclusion drawing.

## FINDINGS AND DISCUSSION

To obtain the finding, quantitative and qualitative data were analyzed to answer the two research questions on how good speech-texter application can improve EFL's ability in pronouncing fricative voiced /v/, /ð/, and voiceless /f/, /θ/consonants. The research was conducted in one cycle which consisted of pre-test, treatment, and post-test. The four steps of action research such as planning, action, observation, and reflection were applied. The followings were the description of every meeting in the research

The learners had a pre-test in pronouncing fricative consonants which consist of voiced /v/, /ð/ and voiceless /f/, /θ/, consonants by using speech texter application. The result showed that learners' average score was 55,56 or in the fair category out of the other three categories; very good, good, and poor. It means that the learners' ability in pronouncing the fricative consonants needed to be improved by implementing speech texter application.

Before conducting the first meeting, some information related to the learners' ability in pronouncing fricative voiced /v/, /ð/, and voiceless /f/, /θ/ had been gained and used as consideration in designing the lesson plan. The first meeting was started by explaining about pronouncing fricative sound which consists of voiceless and voiced. Then, some videos from native speakers pronouncing fricative consonants were played for them. Next, the lecturer made an explanation about the video, gave other examples, and modeled how to pronounce it. The learners repeat the pronunciation after the lecturer. At the end of the meeting, the interview was conducted and learners had a task to pronounce some fricative consonants

In the second meeting, the lecturer explain more detail how to pronounce fricative voiced /v/, /ð/ and voiceless /f/, /θ/ which are produced in labio-dental, dental, alveolar, and palate-alveolar. In order to make sure the pronunciation is correct, the lecturer advised the use of an android application namely speech texter. The next process was introducing speech texter: speech to text. Then, learners were guided to download and install the application. The followings is the screen shoot of the application;

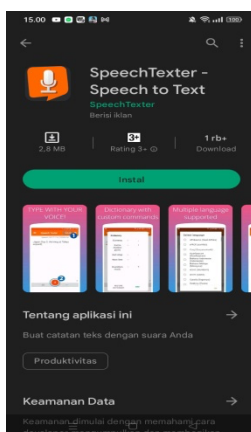


Figure 1. Speech-texter Application

Before operating the application, the learners needed to choose the language which was going to use. Then, they have to input their name into the application. Whenever they wanted to talk they must press the mike logo. The researcher who also lecturer gave example of how

to use it, then the learners tried it, too. The lecturer gave 20 words which contain fricative voiced /v/, /ð/ and voiceless /f/, /θ/ to learners to pronounce in the application. When they had finished, they counted how many numbers which correct. After that, they screen shoot it then sent it to the lecturer. Then, they conduct a discussion about the use of the application. At the end of the meeting, the learners had to pronounce their incorrect words by using the application.

In the third meeting, it was expected that the learners' pronunciation were better than the two previous meetings. For the third meeting, the process of producing voiced and voiceless fricative sound were elaborated. The video played, and then students made note and another example of voiced and voiceless fricative. The lecturer explained the subject in the video. The lecturer tried to contrast voiced and voiceless fricative sound in minimal pairs. It means that the /v/ sound contrasted with /f/ sound, and sound /ð/ versus /θ/. The learners were given 20 sentences which each sentence contained fricative /v/, /ð/, /f/, or /θ/. Learners practices to read the sentences in the application. After finished, they count the amount of correct number, then screen shoot it. The screen shoot was sent to the lecturer then the lecturer and learners discuss the result. Learners must repeat the incorrect sentence until they got correct. The overall teaching learning process ran very well as they were more around with the application. To find out the students' responses and opinions about the teaching-learning process, an interview was conducted for the third meeting. In this case, she gave several questions related to the factors that may influence the teaching and learning process.

In the fourth meeting, the lecturer was focused on the result of the application. Learners were asked to pronounce the selected fricative consonants word to the application. They were given another 20 sentences with minimal pair of sound /v/ and /f/, also sound /ð/ and /θ/. They also needed to download the screen recorder in their mobile phone to record the result of their word production in speech-texter application. After they had finished pronouncing the selected words, they have to share screen their video. They counted the correct number and send the screen shoot to their lecturer. At the end of the class, they had post-test

The post-test was given after the treatment for four meetings. The test consisted of 20 sentences which contained minimal pair of sounds/v/ and /f/, also sound /ð/ and /θ/. The test was conducted in a recorded zoom meeting. They must read the sentence one by one using the application along with the screen recorder. Students were given two minutes to read the sentences before pronouncing them. After they had finished pronouncing the sentences, they must send the video as the result of screen recorder which records the application to the lecturer.

After conducting the post-test, the data were calculated to get the raw score of every learner. Then, the raw score were classified based on the table specification of level ability. The learners' ability in post-test can be seen in the following figure;

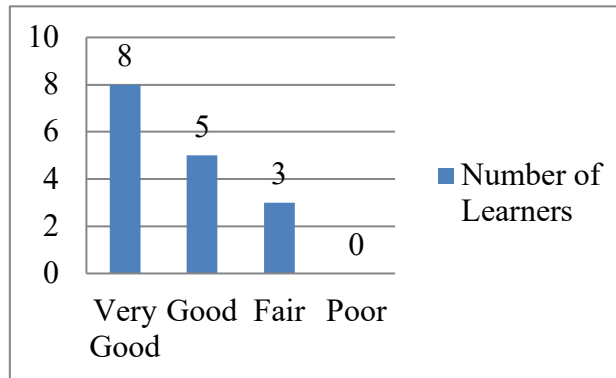


Figure 2. The Learners' ability in Post-test

From the figure 2, it can be seen that there were eight learners or 50% in the very good category, five learners or 31% were in a good category, three learners or 19 % were in the fair category, and there were no learners in poor category. If the result in post-test were compared with the pre-test, it was found out if there was a significant increase in learners' score. In pre-test, none learners in very good category, eight learners or 50% in good category, and three learners or 19% were in fair category. The result of the pre-test can be seen in the following figure;

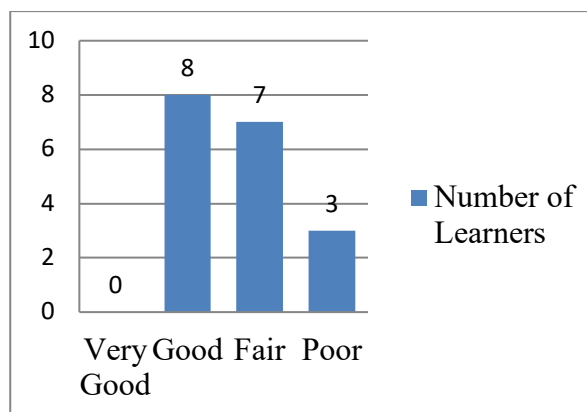


Figure 3. The Learners' Ability in Pre-test

By comparing the result of post-test to the pre-test, it can be seen that the number of learners who were in very good category increased significantly from none into eight learners. Next, learners who were in good category decreased from eight learners into five learners. The decreasing numbers in good category due to the learners' movement whose score were in good into very good category. Then, the learners who was in fair category decreased from seven learners into three learners. And the last, the learners who were in poor category none in post-test, while there were 3 learners in pre-test. The comparison of total participants and the category obtained in pre-test and post-test can be seen in the following figure;





Figure 4. The Comparison of Total Participants and the Category Obtain

Meanwhile, the learners' mean score in every task was increase. In the first meeting they had 57.5, then 63.03 in the second meeting. In the third meeting was 69.72, and in the fourth meeting was 74.17. Meanwhile the result of post-test was 76.67. The learners' mean score in pronouncing fricative can be seen in the following figure;

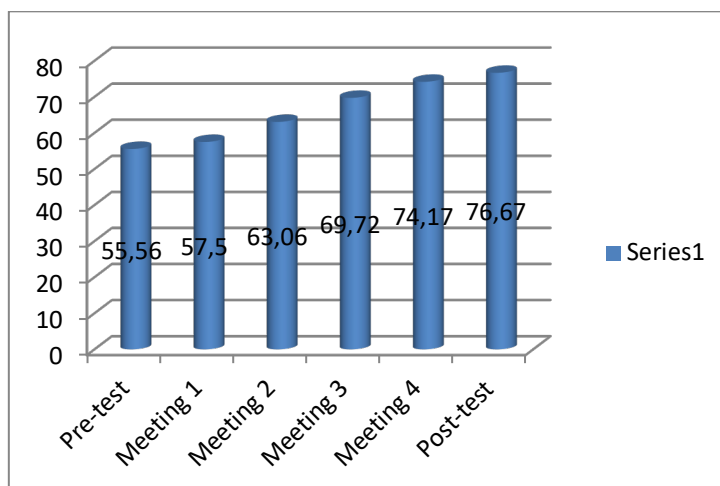


Figure 5. The learners' Mean Score

From the figure 5, it can be seen that the significant improvement mean score from the pre-test which had 55.56 to the post-test 76.67. The improvement index was about 21,11 points. From the result, it can be inferred that implementation of speech-texter application improved learners' ability in pronouncing fricative from fair into good category.

From the interview, it was found out there were some factors affecting the improvement; one of them was the implementation of speech texter application which provides opportunity as self-check application. They were able to learn and practice without lecturer presence to check their pronunciation (Yaniafari et al. 2022). They also said that the application motivated them to learn pronunciation more, as they felt win whenever able to pronounce words correctly(McCollum et al. 2014). Furthermore, learners also enjoyed the teaching-learning

process and increase their motivation in learning. This finding was also supported by the result of the research carried out by Fathira, and Utami (2019). However, some learners said when they tried to practice at home with the application, they got stress whenever they had incorrect pronunciation and pronounce it over and over again but still had incorrect text (Yaniafari et al. 2022). Other learners said if they were more confident in speaking because they felt they pronunciation were improved since assisted by the application. (McCollum et al. 2014)

From the data of observation, checklist, and field note, it revealed that all of the learners were able to operate the application well. Even though sometimes they complained about the internet connection in their region. Actually, speech-texter can be operated offline, but without an internet connection, it did not work properly. The interaction during the teaching-learning was also run smoothly. Learners were more active during the class asking about the application.(Fathira, Vina and Utami 2019)

Based on the findings gained from post-test, interview, data observation, checklist, and field note, it can be concluded that the implementation of speech-texter application was able to improve the first semester learners of a public private college to pronounce fricative voiced /v/, /ð/and voiceless /f/, /θ/ consonants in good category with the score 76.67. Therefore, the research was not to continue to second cycle. This result was in line with the previous research conducted by Kayyis et al (2019), Fathira and Utami (2019) and Mubarok & Asri (2021)

## CONCLUSION

This research was intended to identify whether and to what extent the implementation of speech-texter application can improve EFL learners' fricative pronunciation. And also explain the factors that influence the changes in pronouncing fricative ability. Based on the finding previous section, it can be concluded that the implementation of speech-texter application improved EFL learners' fricative /v/, /ð/, /f/ and /θ/ pronunciation. Their average score level improved from "fair" into "good" category. The factor affecting the improvement was the use of speech-texter application which provides an opportunity as a self-check application.

Since speech-texter application is very useful in improving students' pronunciation skill, it is recommended to lecturers as well as teachers to implement this application in their class. Then, the result of this research hopefully could be useful for other researchers who want to conduct further research.

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