PRONUNCIBOT: TELEGRAM PRONUNCIATION DICTIONARY FOR EFL LEARNERS

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ABSTRACT Learning English pronunciation is sometimes confusing because of its irregular forms. What we see in the written form is not the same as how it is pronounced. This study is aimed to develop the online pronunciation dictionary for EFL learners that can be accessed easily using Telegram feature named Telegram bot. The pronunciation dictionary developed here named Pronuncibot. It is a research and development (R&D) method with some custom procedure from Gall, Borg & Gall those are pre-research, research planning, media developing, expert validation, revising, try out, test and final design. The subject of the study was the English Education Study Program students. The results showed that in the process of the development of Pronuncibot, there were some revisions need to accomplish this bot, one of them was completing the two major accents. For the field testing, it was shown that there were some improvements from students' pronunciation before and after using Pronuncibot. It can be shown in pronouncing some available words and menus like past verbs, animals and homophones. Furthermore, from questionnaire results, it was shown that students were agree that the use of Pronuncibot can assist their pronunciation practice. In conclusion, the development of this bot can provide students' learning flexibility as the hope of digital learning goal and provides not only to give the students the knowledge of pronunciation but also the remedial process of pronunciation practice.
Keywords: Pronuncibot; Pronunciation Dictionary; Telegram

A. INTRODUCTION

Pronunciation becomes a crucial part of learning a language. It is related to how communication is understood and realized. Speakers can deliver the message in their communication adequately by having intelligible pronunciation ability (Aksakallı & Yağız, 2020). Listeners can receive what the speakers mean by listening to the spoken language with good pronunciation ability. The problems of pronunciation in English learning have become a fossilized aspect. It happens from time to time for the same mistakes and errors (Ramasari, 2017). The pronunciation errors often happen to students who study English, or we can say English as a Foreign Language (EFL) Learners (Lusiyanti et al., 2019)

English words are different as they are seen; they are different between letters and sounds (Simarmata & Pardede, 2018). This is due to the most factor why students always have errors in pronouncing the English words. One example is word eight, students commonly pronounce it with /ɛg/, whereas the correct pronunciation is /ɛɪt/. Other example of petrified pronunciation is the word high. Students are usually tricky with the g letter, a silent letter, so the g letter is not pronounced. It must be pronounced /haɪ/ not /haɪg/.

Moreover, students are not familiar with consonant and vowel sounds in pronunciation, and they get difficulties producing the words they pronounce (Yusuf, 2019). Fatally it can be changed into other words, such as pronouncing men and man. To pronounce those two

words, students must know the difference between /æ/ and /ɛ/(Maiza, 2020). Furthermore, sometimes teachers are apathetic to have repetition activity in pronunciation practice. The pronunciation practice occurred during the class period. After class, students have no practical diary or practical control to remedy their pronunciation (Rafael, 2019). Fossilization still comes over and over the generation among the EFL learners (Elliyuspita, 2021).

The problems mentioned above also happened to the English learners in English Education Study Program in the Faculty of Pedagogy and Psychology Universitas PGRI Wiranegara. The study of pronunciation is given for the first-year students in Practice Pronunciation Dictation subject, and it has four credits or 200 minutes time allocation. In those 200 minutes practicing and studying pronunciation, students are often getting bored and lazy to participate in class. The teacher has used audio and audiovisual media to attract students' interest in learning pronunciation. However, all they have done in the class will disappear soon after they finish the class. This is due to their infrequent pronunciation practice (Simarmata & Pardede, 2018). They can pronounce the words well during the class meeting, but they forget after finishing the meeting. However, the most reason for this lack of pronunciation ability is their less time to practice (Atar, 2018).

Moreover, during the COVID 19 pandemic, the pronunciation class was held online. It became one more problem that students face. They have to practice their pronunciation in an online class (Aisyah et al., 2021). Sometimes, the teacher was challenging to know their mouth changing in pronouncing the words, and the teacher could only get their voice recording. Of course, it may depend on the teacher's feedback. So, accessible media is needed to cover these problems. The media can be brought and opened to treat their pronunciation practice everywhere they want.

The development of smartphone applications has introduced Telegram as the innovative teaching media in language learning (Citrawati, 2021). Telegram has some features to support online learning. They are group, channel, bot and telegraph (Nur Aisyah et al., 2021). Besides, Telegram features provide some benefits for online learning like polling, quiz, auditing facility and some other bots to ease the users get the information and knowledge (Hidayat et al., 2021). This research used the Telegram bot as the media chosen to produce an online pronunciation dictionary. The bot is a robot in Telegram that can be modified as the user's needs (Ali, 2020). The bot developed in this research is named Pronuncibot. It is hoped to be an accessible media (Subiyantoro, 2020) for students who learn pronunciation, so it can help students to practice and remedy their pronunciation wherever and whenever they want. They do not have to wait for the next class period to practise their pronunciation unless they can

practice it every day in their hand by using the online pronunciation dictionary in Telegram based named Pronuncibot.

B.   REVIEW OF LITERATURE

Media And Technology in Language Teaching

During centuries experts were developing some ideas and researches to elaborate the teaching of English, one of them was the development of the teaching media. The most media we have for the teaching of English in the early teaching language evolution was using television and radio (Retnomurti & Octavita, 2017). As the fast growth of technology and internet, the use of television and radio as the media of English language teaching started to be left. Television and radio slowly changed by YouTube videos and Podcasts (Jalok et al., 2019).

Nowadays the media should have to be integrated with technology (Richards, 2015). For some reasons, technology is important to be applied in our classroom because there is no limitation for the spread of technology means it can be provided to any levels of students starting from the lowest level to the highest. Furthermore Mahbub (2020) stated technology truly related with our students' learning styles nowadays it cannot be separated from their daily activities, it provides students borderless knowledge and education experience to gain their ability to face the world competition.

Thus, Richards (2015) simplified two types of media in English language teaching that are integrated with technology, they are digital language learning and multimedia presentation. Digital language learning guides the teachers to bring technologies in their classroom. It is in line with this pandemic era, where teachers should be more creative in gaining a language classroom in an online platform. The technologies that can be used as the tools as well as the media for digital learning are interactive whiteboards, online quizzes, LMS (learning management system), computer assisted tools and electronic dictionary. This explanation above is in a row with Levy (2012) that technology can support the language teaching for five identifications, they are : (a) Its physical appearances, technologies can be applied in classrooms with its physical form such as cell phones, laptops, tablets and digital cameras. (b) its control strength, for example the use of learning management systems (LMS). In the LMS teachers are able to conduct the material, assessing process and even the attendance of students. (c) its applications feature, for example software of word processing, emailing and chatting, social-networking and social media sites and blogs. (c) its resource, technologies can be the source of language learning, it becomes an easy way to retrieve some information and

knowledge from videos, online news and websites. (d) its elements, technologies can be implemented in language classrooms for its components and elements, students can check their spelling and grammar from Grammarly spelling checker or check their diction and words from online or digital dictionaries and other supporting tool of technology.

In addition, Richards (2015) explained about multimedia presentation for the second types of technology brought in the class of English. This kind of technology can be engaged in language classes by a share screen way. Many teachers used Power Point slides to have a presentation, from the beginner level or advanced classes. Nowadays, the presentation slides are developed into many types even animation. It could ease teacher to present the good and clear presentation to the students. Some names of presentation application that can be used nowadays are Visme, Prezi, Slidedog, Emaze and Powtoon (Kadek et al., 2015). Teachers and students can be facilitated by the templates and then elaborate the materials on it.

Beside the two types of technological media by Richards (2015), additionally Ahmad (2012) stated that internet also can be a tool to the activity of learning, internet makes the learning more students centered. Students can have the activity of learning from technology, take the authentic information and greater opportunities to gain linguistics input. So, in conclusion the broad of technology development can help students to acquire particulars and communicate with other language learners through the technological varieties, both using internet or not, bot digital learning or multimedia presentation.

Pronunciation

Pronunciation is the component in learning language. For EFL learners learning pronunciation could be one of the most stunning or even the most annoying (El-Sulukiyyah, 2018). Hancock (2005) said pronouncing the English words mean that students have to know how the sounds produce and how the words pronounced. English words are not accurately pronounced the same as the letters, it could be one most difficult thing to cover. Moreover Yoshida (2018)stated one mistake of pronouncing a word could affect the word's meaning. In the other hand, when speaker pronounce the word wrong, the meaning of the word would be change into other understanding.

However there are some pronunciation difficulties stated in Alisia & El-Sulukiyyah (2020) it is stated that English written words are not slightly the same as the spoken one. It is because English words are not regular (Johnson et al., 2018). That's why, English foreign language (EFL) learners often get mispronunciation. Literally there are 26 alphabets which are 21 consonant letters and 5 vocal letters. But phonetically there are 25 consonant sounds and 19 vowels (Hancock, 2005). The written English word *hour* is not accurately pronounce /hour/

but it must be pronounced /aʊə(r)/ so does the word *twice*, it is pronounced /twaɪs/ not /twice/.

Those are the most reason why the foreign learners got difficulty and confusedness during the pronunciation class. It could also effected to their speaking performance, they perform a speaking anxiety because they are afraid to make mistake in pronouncing the words (El-Sulukiyyah, 2018).

Phonetic Transcription

English words are different with English sounds. To learn pronunciation, students have to know the differences between the letters and the sounds (Hancock, 2005). The English sounds are suggested to be introduced in the early time of learning English, so students can have precise memory on how the word written and how the words pronounced. Furthermore to recognize the English sounds, International Phonetic Alphabet is introduced. The international phonetic alphabet consists of symbols that represents the sounds. Here is the International Phonetic Alphabet chart:

Figure 1: International Phonetic Alphabet

Afterwards, the phonetic transcription based on the International Phonetic Alphabet is used to facilitate students in the pronunciation learning. It is believed, by knowing the phonetic alphabet or the symbol of the sounds, students can realize the precise way how the English words should be produced (El-Sulukkiyah & Munawaroh, 2020). The phonetic transcription can help students to improve their pronunciation ability, it is because they know the real way how the sounds constructed. It is proved in a research done by El-Sulukiyyah (2018), where students pronounced the English words before knowing the phonetic transcription and after knowing it is effectively increased. It means that, students can improve

their pronunciation after knowing the phonetic transcription, that is why, students need the assistance of phonetic transcription in their pronunciation learning.

Telegram

Telegram is the messenger application used by people to send messages, documents, videos or voices (Alahmad, 2020). It is firstly introduced for iOS operating system in August 2013, then spread to Android operating system in October 2013. On the other hand, Telegram can be accessed in the smartphone and also laptop as it is built in a Telegram web. From katadata.co.id in El-Sulukiyyah (2020) there are 200 millions people have used Telegram as their messenger application. Telegram is not only messenger application because it has some other features that enrich its using (Hidayat et al., 2021). Those features are group, channel, bot and the blank blog called tele-graph.

The first feature is *group*, it is similar to other messenger application group feature, where the users can gather together in a group, but telegram group can accommodate 200.000 users and the new users can access the previous messages (Subiyantoro, 2020), it is of course become a plus side of Telegram, where many students can be put up in a group. The next feature is *channel,* at glance it seems similar to group but it is not. It is a one-way communication feature, means that only the admin can send the messages to the channel, while the users have the *access only* authority. Teachers can use *channel* to share the lessons need by students like e-books, videos or YouTube channel links. A one-way communication type in *channel* can save the students from the noise chats, so students can focus and retrieve their material.

The features can be maximized in the language learning. Both teachers and students can use Telegram for gaining knowledge and share information. Moreover in this era of COVID 19 pandemic where the learning process change from real or face to face learning become virtual learning. Iksan & Saufian (2017) have proved that the use of Telegram can be one of education innovation. From the features of Telegram, teachers can check students' attendance, start to share the materials, share the supported links for the learning process and give quizzes. Furthemore, teachers can maximized Telegram use for teaching and learning process, because it is not only a messenger application, but teachers and students can also use the points this application has, moreover the bot and a blank blog called tele-graph (Sari, 2017).

There is the third feature telegram has for learning process, it is *bot. a* third-party application and it is run in the core of Telegram. According to Ismawati & Prasetyo (2020)bot is a functional machine built to help users get the information they want. Bot is enriched with

BOT API, which is the main server of *bot*. Subiyantoro (2020) has proved that Telegram *bot* feature can be developed into civilization lesson, so it is not only for language learning, but also other lessons. Furthermore Ismawati & Prasetyo (2020) proved that *bot* can develop the ability of telling short story, it is also done by Mulyanto (2020) that developed the Telegram *bot* for the sake of gaining a research data.

There are two kinds of *bot*, first is official bot, it is made from core.telegram.org and it is officially built by Telegram. the examples of official bot are @quizbot, @texttospeechbot, and @pollrbot. Users can give commands and simply connect to the *bot*. The second is set bot, it means that the users build up their own *bot* as they willingness to assist their need. To set a *bot*, users can use @manybot and @botfather (Subiyantoro, 2020). After that, users can add command and set up the menus. When the bot is ready, it can simply answer the commands and tasks. In addition, all bots have an *add to group* or *share* button. So, the users can send the link to other users or people in other platforms.

C. METHOD

Research Design

This study used the research and development procedures known as Gall, Borg and Gall procedure (Smaldino et al., 2008). The procedure steps have some adaptation based on its need in education, especially in this research. The adaptation simplifies the steps. They are pre-research, research planning, media development, expert validation, revising, trying out, testing, and final design. The pre-research step delivered the information and problems faced by the students in their pronunciation class, and then the need analysis was conducted. The second step was planning. In this step, the media and the materials were prepared. The following stage is developing, here the researcher developed and designed the online dictionary with some words of the need analysis results and reviews uploaded in the bot. The forward step is trying out. The next step was field-tested, which means knowing the improvement of students' pronunciation after using the online dictionary Pronuncibot.

Research Site and Participants

This research was conducted in Universitas PGRI Wiranegara, Pasuruan, East Java. Here the researcher focused on the students of the English Education Study Program as the research participants. Two generations were joining this research activity. Those are 2019 and 2020 generations at about 75 students. There are 45 for the 2020 generation with seven male students and 38 female students, and 30 students from the 2019 generation. They are five male students and 25 female students.

Data Collection and Analysis

As it is a Research and Development research, it had some steps: pre-research, research planning, media developing, expert validating, revising, trying out, testing, and final designing. The instruments used for the need analysis or pre-research was test and interview. The tests were conducted to know the pronunciation errors made by students; they were conducted eight times from February to May 2021, whether the interview was held on June 1st 2021.

In the research planning step and media development, the researcher used documentation, and the researcher used to test for the tryout step, and in the final design step, the researcher used test and questionnaire as the instrument. By the use of those instruments, the data were collected. In pre-research, the researcher tried to get the information and data by testing students' pronunciation to know the common errors made by the students. In testing the students, the researcher used 8 reading texts in different topics. The reading text topics are body parts, family, daily activities, houses, experiences, parade, sports, animals. The researcher was helped by the assistants to observe and document students' pronunciation errors. After that the words written on the documentation field, to be uploaded in Telegram as the word choices in the bot menu.

Table 1. The Outline of Documentation Field of Students' Pronunciation Errors

Words	RP	GA	Students' Error
Absorb	əbˈzɔːb	əbˈzɔːrb	absorb
Absent	æbsənt	æbsənt	absent
Academic	ækəˈdemɪk	ækəˈdemɪk	akademik
Accelerate	əkˈseləreɪt	əkˈseləreɪt	akelereit
Accent	æksent	æksent	eksyen

Further, in the try out steps, students were tested using the bot draft consisting of provided words from students' errors above. From the tests, it could be concluded that the common pronunciation errors made by the students were about pronouncing animal names, vegetable names, body parts, homophones, past regular verbs, silent letters, consonants /f/ and /v/, and some vowels.

Based on Tompo (2018) and El-Sulukiyyah (2020) Telegram is believed to be an innovative media in the teaching and learning process with its rich features. After an extensive review of students' pronunciation errors, the media used is Telegram application with its bot feature. First of all, the researcher designed the bot by using bot maker helper which named @Manybot. The bot made then named *@pronouncing_with_phoneticbot* or known as

Pronuncibot. The students' pronunciation errors need analysis and planning steps then provided into the online dictionary. There were eight significant topics designed in the bot: animal names, vegetable names, body parts, homophones, past regular verbs, silent letters, consonants /f/ and /v/, and some vowels.

The design of the online dictionary in Telegram bot-based feature was developed and validated by two experts. The experts evaluated and validated the media and materials elaborated in the bot. The revision occurred after the expert validation step. The link to the online dictionary was shared with the students of the English Education Study Program. Ten students were involved in the first try out, or mini try out. The try out would have the result to examine the use and the students' opinion of using the Telegram based online dictionary named *Pronuncibot*.

After getting the result of the first tryout, a minor revision occurred. The students' improvement was seen from the students' minimal errors made in the content analysis test. The last step of this research was the final revision and massive link shared of the online dictionary. The data analysis technique used in this study was the descriptive technique. It means that the data were analyzed and interpreted descriptively. Thus, after collecting the data, the researcher describes the results in detail from the need analysis to the last step of this research and development steps, the final revision.

D. FINDINGS AND DISCUSSION

Findings

Need Analysis

The first step of this research needs analysis. The need analysis results showed that students need an accessible pronunciation practice to remedy their pronunciation errors so that they can practice their pronunciation in and out of class. It was found out from the questionnaires given by the researcher to know the students' need of learning pronunciation. Besides giving questionnaires, the researcher also did some tests to the students who were studying in Practice Pronunciation Dictation and English Phonology classes. It is done to know their pronunciation errors; the test was a content analysis test where the researcher used Oxford Pronunciation dictionary focusing to RP or Received Pronunciation accent. The researcher also used standardized tool to measure students' pronunciation which is International Phonetic Alphabet. The researcher gave the reading texts, and students had to read them. The voices were then recorded and transcribed into phonetic transcription. The frequency of the word errors made by students were then analyzed and identified to be the

most common errors in the online dictionary. In short, the developed online dictionary performed the frequent errors made by the students. Here are the results of the need analysis, both the result of the interview and the test.

Table 2. Need Analysis results.

No	Students' perception and want of pronunciation learning	Yes (%)	No (%)
1	Pronunciation practice is difficult	57	43
2	Do you need a dictionary to know the pronunciation of the words?	49	51
3	Do you prefer a digital dictionary?	89	11
4	How is the most needed media for your pronunciation practice? a. Audio examples b. Phonetic transcription c. Applicable d. Internet-friendly e. Web-based f. Application-based	 98 74 94 92 67 96	 2 26 6 8 33 4

The table showed that students needed a dictionary, and they preferred a digital dictionary that could give them examples of how to produce the sounds and phonetic transcription, which was shown in 98% and 74 % of answers. This is due to help them know the precise sounds. Besides that, they need an application based digital or online dictionary in 96% of respondents.

Table 3. Results of pre-pronunciation test

No	Most common errors	Example of words	How they pronounced
1	Animal names	monkey, giraffe	/mʌnkiː/, /ʤaɪrəf/
2	Numbers	eight, fifteen	/ɛg/, /faɪftiːn/
3	Body parts	tongue, stomach	/tonʤ/, /stomǽk/
4	Past regular verbs	called, rested	/kollet/, /rest/
5	Silent letters	answer, wrap	/ɛnswer/, /wrɛp/
6	Vowel aʊ	sound, down	/son/, /don/
7	Vowels iː and ɪ	eat, it	/it/, /it/
8	Vowel uː and ʊ	foot, food	/fuːt/, /fuːt/
9	Vegetable names	onion, spinach	/onjɛn/, /spɪnʌk/
10	The -s ending	dances, moves	/dans/, /mʊvs/
11	Homophones	flour=flower, blue=blew	/flor/ /blɛw/

Those were the identification of the common errors made by the students. The analysis and identification activities were done in almost five months. The finding in table 3 is in line with the result in table 2. Students urgently need a digital dictionary that is applicable, accessible and internet friendly, which can give them the audio example and phonetic transcription to guide their pronunciation practice.

Planning

After getting the words identification and the result of the need analysis, the researcher then planned and designed the digital dictionary the students' wanted. The chosen application is Telegram messenger; in this case, it is a bot. The bot was developed and named *Pronuncibot*.

As stated before bot is a machine or feature in the Telegram application to assist and answer the commands and tasks given (Aisyah et al., 2021). In this research, the researcher develops a Telegram bot named @pronouncing_with_phoneticbot or *Pronuncibot*. It is an online dictionary produced from the bot or Telegram application feature. Because it is a bot and a set bot that the researcher built herself, it is augmented by @manybot and @botfather. Here is the image of *Pronuncibot*:

Figure 1. The preview of *Pronuncibot*

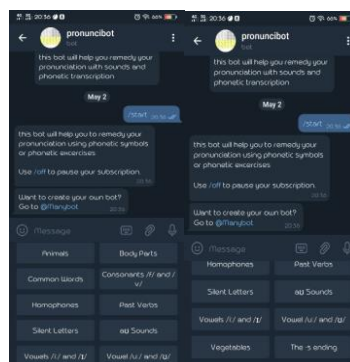As you click on the start button, it will show the menus, as follows:

Figure 2. Menus in *Pronuncibot*

It can be seen from the figures that this bot has 13 menus they are animals, body parts, common words, consonant /f/ and /v/, homophones, past verbs, silent letters, aʊ sounds, vowels /iː/ and /ɪ/, vowels /uː/ and /ʊ/, vegetables, -s ending and pronunciation practice. The menus then developed into sub-menus as the following:

Figure 3. The preview of *Past Verbs* menu

The words provided in the bot menus result from the need analysis in table 1 and table 3, or it can be said to result from pronunciation errors that students commonly make. Developing this bot is hoped to help and assist the remedy of pronunciation activity.

Developing

The words provided in the bot are the results of the need analysis and the results of the pre-pronunciation test. There are twelve menus developed in the bot. They are animals, body parts, common words, consonant /f/ and /v/, homophones, past verbs, silent letters, aʊ sounds, vowels /i:/ and /ɪ/, vowels /u:/ and /ʊ/, vegetables, -s ending and pronunciation practice. The words were put into the bot one by one by the setting menu in it. Here are the steps for the words and sounds input for *Pronuncibot*:

First, right after the bot is ready to be set, go to Main Menu, then click Custom Commands. In the second step, we click Create Command and write down the word we want. The word is written must be added by a slash (/), for example,/veil. There will be the reply from the bot that we must put something related to the command we put, so in this bot, we need to put the audio and the phonetic transcription then press Save. Afterwards, we go to Config. Main Menu, to change the command to the sub-menu, we can follow the bot reply until we find the command (/veil) we put becomes the sub-menu (veil). The more explicit steps performed in these figures:
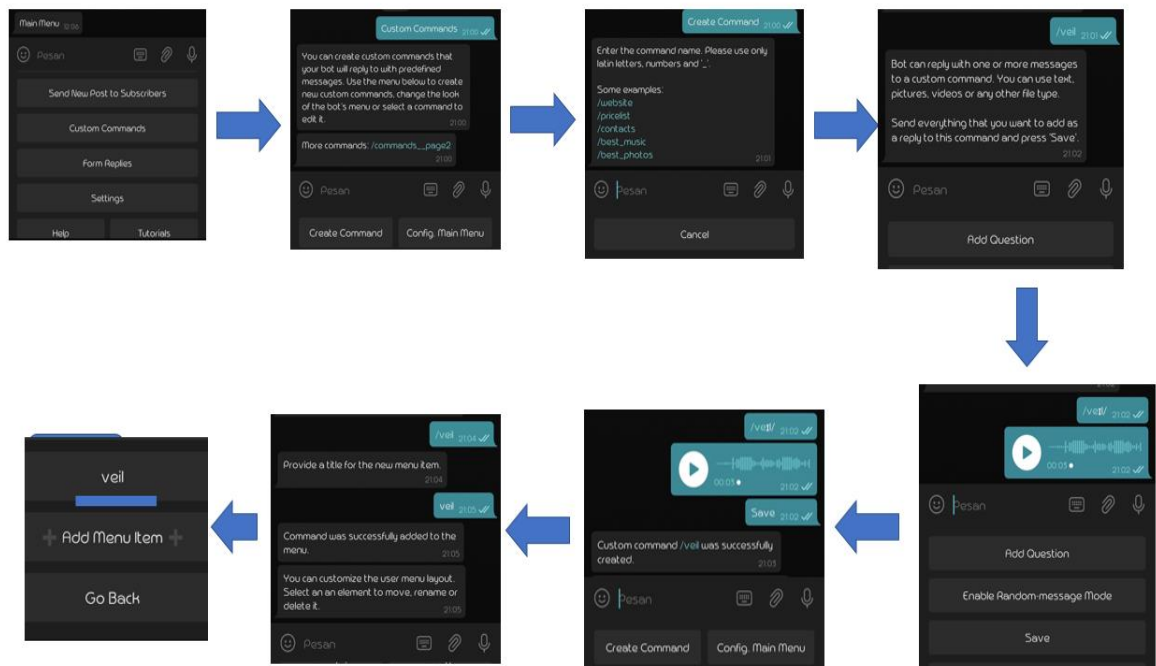
Figure 4. Steps of inputting words and sounds in the bot

After the menus and the words were completed, the bot was shared with the two validators, experts in material or content and media. The first validator or the expert of media gave some suggestions to the design of the bot. The suggestions are: (a) the words and the menus put in the bot should be alphabetical order so the users can easily find the menus and the words from A to Z. (b) there were 12 menus shown in the layout, it was too long if it set by two columns, it can be set into three columns so there will be four lines only, and (c) give numbering order for the words.

The second expert, the content expert, identified that there was confusing content in this bot, it was because the phonetic transcription used in it was using British English Pronunciation, but the audio performed was in American English Pronunciation. So, the suggestion was, it would be better for the researcher to set up the two types of English Pronunciation, both British English Pronunciation and American English Pronunciation. The plus side of this bot is that it provides two ways entry: audio pronunciation and phonetic transcription, every word set in this bot has those features; by clicking the menu or the command, users can directly be shown the audio and the transcription. To make it complete, the audio and the transcription should be accomplished with the two primary pronunciation accents, British English Pronunciation and American English Pronunciation. Furthermore, the expert of content also recommends some addition of the menus put in the bot. A

pronunciation practice or quiz should add it, so the users can measure their ability right after practising the pronunciation of their words.

Revision

According to the two experts' recommendations, there were some revisions for the media layout and content. Here is the menu layout that has already been alphabetical order.
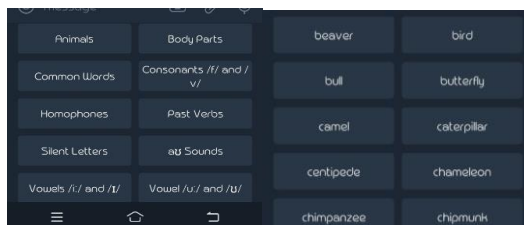

Figure 5. Alphabetical menus and words order

It was also revised on the content for adding British English Pronunciation and American English Pronunciation; besides, a menu was also added for pronunciation practice and quizzes.
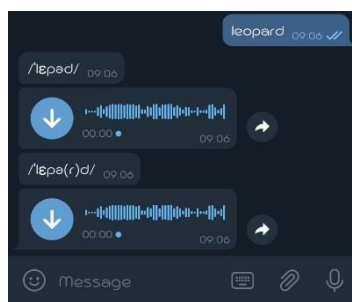

Figure 6. Content revision

Try Out

After doing some revisions as suggested by experts, the Telegram based digital dictionary was tried out to the small scope of students. The link to the digital dictionary was shared, and the students started to try it out. They tried to click on the menu and the submenu to get the pronunciation audios and examples. The results of the try out are shown below:

Table 3. Summary of a small scope try out

Try out highlight	Suggestion
The submenus are not alphabetical order; only the menus are alphabetical	Ordering the words inside the menus to be alphabetical
The words set and put in the bot are already related to the common mistakes used by students	It becomes the plus side of this bot
Needs more users instruction and descriptions in each menu	Adding description and instruction in each menu

Based on the mini tryout, the researcher then has a minor revision for the bot's layout. Afterwards, it could be presented to the large-scale students to have the field testing.

Field Testing

The digital dictionary was shared with a broader scale of students, and they were in Practice Pronunciation dictation class with 45 students and in English Phonology class with 30 students. The students have to start practising their pronunciation using the digital dictionary in Telegram based application. They asked to focus on six menus, which were Animals, Body Parts, Homophones, aʊ sounds, Past Verbs and Common Words. They have their time to practice their pronunciation in two weeks then being tested in the third week. Before having a test, they were given a pre-test.

The tests were held in reading aloud tests to measure their pronunciation improvement from the words focusing on the six menus explained above. Besides that, the pronunciation improvement was assessed using the two significant accents: British English Pronunciation and American English Pronunciation set in the bot. In short, students' pronunciation was scored by using the bot as the reference both from audio type or transcription type. To make it more valid, the researcher also used Macmillan Online Pronunciation Dictionary (retrieved from https://www.macmillandictionary.com/british-and-american-pronunciation.html) as the main source of bot content. Most students gave positive improvement from the practice of pronunciation using this bot. Figure 7 shows the results of students' pre-test and post-test of the content analysis to improve pronunciation practice.
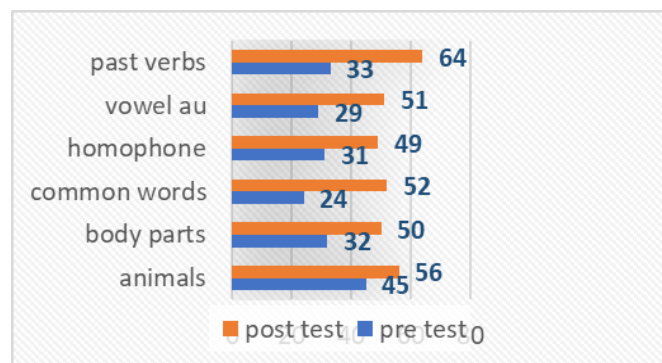

Figure 7. The results of pre-test and post-test in pronunciation improvement

Figure 7 showed the improvement of students' pronunciation ability using *Pronuncibot*. For the Animals menu, in the pre-test, only 45 students can pronounce the words based on the audio and transcription given, but after intensive practice for two weeks, it could be seen an improvement, from 45 students to 56 students. For the Body parts menu, 32 students showed good pronunciation, but there were 50 students in the post-test. In the Common

Words menu, students improved from 24 students to 53 students. It was also performed in the Homophone menu from 31 students it was improved to 49 students who can pronounce the homophone words correctly. For vowels and past verbs menu, from 29 and 33 students, it was increased to be 51 and 64 students from 76 respondents.

After having the test, the questionnaire was given to the students t know their perception of using the Telegram based digital dictionary. The students' response was excellent and satisfying. Here are the results of the tryout questionnaire.

Table 4. Questionnaire results

Statements	(SD) %	(D) %	(F) %	(A) %	(SA) %
Easy to be installed	0	0	5	83	12
Users friendly	0	0	2	84	14
Easy to be operated	0	0	0	93	7
Clear instruction and description	0	0	7	73	20
Relevant to students' need	0	0	10	74	16
Can help students improve the ability	0	0	0	88	12
Give or add students' knowledge	0	0	12	78	10
Attractive and interesting	0	0	0	72	28
Accessible (can be used everywhere)	0	0	0	90	10

From the table, it can be seen that most students from 76 respondents or 100% chose to Agree choice to represent their perception of using Telegram based Digital dictionary called pronuncibot. It showed that the media developed can be received and used by students as the hope of its development.

Final Revision

Based on the post-test and questionnaire results, some items need minor revision, like the volume of the audio and the spelling typo. As the expert suggestions to make the media accessible and applicable, the bot has some revision for the instruction and description in each menu, the alphabetical order, the columns order, the two primary English Pronunciation examples and the last revision in typo spelling. After the minor revision from the results of the questionnaire and validators suggestion, the bot is ready to be given and shared massively to the students in the English Education Study Program, Faculty of Pedagogy and Psychology Universitas PGRI Wiranegara.

Discussion

It is essential to bring media as the tool to carry the practical process of teaching and learning. By having an exciting and innovative teaching media, the teacher can provide and facilitate a good learning atmosphere(Walker, 2004). Telegram can be one of the innovations used by the teacher to support language teaching. It can be maximized by using its features,

like group, channel, bot and telegraph(Alahmad, 2020). Furthermore, users can use the bot for their choice of teaching media. The bot can facilitate some users wants and needs by having commands and menus (Azizah et al., 2021).

The finding of the research showed that Telegram based pronunciation dictionary could help students practice their ability of pronunciation. It is successfully used and accessed by the students as the innovation of pronunciation practice that can be called pronunciation is in his hand because it is easy to use whenever they want to practice. It is in line with (Richards 2015) that explained technology should be brought in the language classroom for its functions, one of them is its component function in which technology can be developed into an electronic language dictionary applicable for students. In this case, the technology is the Telegram bot which is developed into an online pronunciation dictionary called *Pronuncibot*. Otherwise, Levy (2012) strengthen that technology can support language teaching for its potential benefits such as enabling flexible learning, supporting different ways in learning from visual or auditory tools, and increasing authentic exposure to English. It is agreed that the media developed in this research could assist students' flexible learning. They can practice more about pronunciation exercises not only in class activity but also out of class activity. Beside that it is also supporting students' different ways of learning for its way of practising. They could practice the pronunciation without waiting for the next class meeting or waiting for the audio provided by the teacher because they have their pronunciation dictionary in their hand. It can be used wherever and whenever they want.

The use of audio and transcription for the example of pronunciation practice has an excellent benefit for improving students' pronunciation ability as stated by (El-Sulukiyyah, 2018a) that students need a specific example to get the knowledge of pronouncing the English words. Students need to know the phonetic transcription to get a better authentic experience on how the sound must be produced. So, it can develop students' prior knowledge and erase the fossilized pronunciation among students. It is in line with Hancock (2005) that to study the pronunciation of English, students must be provided with auditory or even visual examples. In this case, auditory means the sounds examples and the visual characters are the phonetic transcriptions taken from International Phonetic Alphabet (IPA). It has been proved in this research where the media developed in this research called *Pronuncibot* enables students to study both auditory and visual experiences. Auditory comes from the audio given in the bot, and authentic visual experience comes from the phonetic transcription.

Moreover, the bot also encourages students by the knowledge of the two primary accents they are British English Pronunciation and American English pronunciation. So, students

know the difference between the two-illustration given in *Pronuncibot*. It is also proved Levy (2012) sentences that technology can bring new knowledge and increases English exposure. Yoshida (2018) strengthen that meeting technological tool for the teaching of pronunciation is the other way to avoid boredom in repeating and imitating English words, it can raise students' interest to practice.

Students' perception gives positive responses for the use of *Pronuncibot* as the Telegram based online pronunciation dictionary. From the questionnaire given to 75 respondents from 45 in Practice Pronunciation Dictation and 30 students in English Phonology class, the results indicate that most students accept and confess to *Pronuncibot* as the media in pronunciation experience. Most students say the online pronunciation dictionary is exciting and attractive, accessible, easy to install, and has explicit instructions and descriptions. (Aisyah et al., 2021) have improved that Telegram bot utilization can help and support the blended learning process, it is helpful for the learners to conduct and get materials in their limited learning time. Besides the built Telegram bot, users can also use the official Telegram bot, one of the is Quizbot (Nur Aisyah et al., 2021). The use of Quizbot has improved learning quality as the media of learning in the pandemic era because of its features like multiple choice questions, polling features, text and pictures in quizzes and audio (Hidayat et al., 2021).

E. CONCLUSION

Pronunciation practice is important to gain an understandable and intelligible communication. Unfortunately, as the EFL learners, students often get confuse to produce the sounds because of their lack knowledge of pronunciation materials. Furthermore, the practice of pronunciation only held during the class period. Students do not practice and have no practical diary to remedy their pronunciation. To cover the problems Pronuncibot is developed. It is a set Telegram bot to provide practical and interesting tool for the practice of pronunciation.

The bot was built by @manybot then developed by the researcher. The bot link name is *@pronouncing_with_phoneticbot* or known as Pronuncibot. It provides animal names, vegetable names, body parts, homophones, past regular verbs, silent letters, consonants /f/ and /v/, and some vowels practice. Further, it is completed by ten reading text for further pronunciation practice. The bot was validated by two experts. The first was content expert that reviewed about the content of the bot. The second was the media expert. After having some reviews there were some revisions to accomplish the bot. One of the revisions was to add two major accents for the audio practice of the bot.

The bot then shared to some students for mini tryout There was improvement shown from the students' ability of pronouncing some topics provided in the bot. To get more valid data about students' opinion of using this bot, questionnaires were given. The result was students were interesting and enthusiastic to use this Telegram based pronunciation dictionary to help them practice and remedy their pronunciation. It was positive responses for technological tool built named Pronuncibot.

Finally, this Telegram feature development can be a recommendation for teachers and lecturers to research the Telegram application. Further, the product in this research called *Pronuncibot* can be used and shared with the public to help other students, not only students in the English Education Study Program of Universitas PGRI Wiranegara, to help them recognize the differences between letters and sounds and assist them to produce the understandable English words.

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