Incorporating AI Tool Along with Traditional method For Speaking Assessment

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ABSTRACT

This work focused on incorporating AI tool with traditional method for speaking assessment. The descriptive qualitative has been implemented to complete this research. Problem encountered during English pronunciation was failing to distinguish between short vowel and long vowel. By employing traditional and AI tool, students got numerous benefits. They may enjoy learning with the flexibility of time and they also can engage face to face interaction while using traditional method furthermore, it is essential to acknowledge AI tool with the limitation and drawbacks. AI tool do not give the same stage of personal interconnection and on-going response as a human facilitator.

Key words: AI; Pronunciation; Assessment; Traditional Method

INTRODUCTION

Be in accordance to this education 4.0 English is becoming increasingly important as a global communication tool, allowing people to work effectively and access wider resources and information. English is a global lingua franca with 1.45 billion speakers spread throughout the world. Cultural, social and economic aspects require English language. It cannot be disavowed that the fundamental role of language is to convey information from one to another with aim of getting information and bring the ideas that have been conveyed. Additionally, language is composed of series of systemized sound, which can be symbols, arbitrary, universal, and dynamic. (Noermanzah,2022).

Educational technology is a field that focuses on tools and media. Encouraging communication, knowledge, development and exchange. Currently, 4.0 era

demands new capabilities regarding to digital literacy and technological skills, and enables distance education and online learning through online platforms and applications. The Edu-tech themselves generate new teaching learning process, methodology, and varied learning model.

The educational trends have already emerged during 2023 known as artificial intelligence (AI), online classes, and, VR/AR (Virtual Reality and Augmented Reality). The development of educational trend will continue to grow at 15.52% over the next five years in 2027. This is clearly proven by the large number of studies using AI, Zawacki Richter et al. (2019), Chen et al. (2020a), and Chen et al. (2022). They focused on AI language education and investigate AI in education in general (Huang,2023). Another research established by (Chan, 2023), it explored the AI Ecological Education Policy Framework in higher education with three different dimensions, they are pedagogical, governance, and operational to overcome the assorted implication of AI integration universities procedures. Furthermore, AI is also used to raise students' ability in learning and innovating language. They can learn through applications, websites, in finding difficult words, making sentences, improving writing and listening skills (Dwi, 2021). With numerous AI technologies appearing at the educational level, especially in English language skills including speaking, listening, writing and grammar, it turns out that a test is needed to see how optimally AI if it combined with traditional methods.

LITERATURE REVIEW

Previous Related Study

The research conducted by (Noviyanti,2020) focused on the use of artificial intelligence-based examinations with the initial aim of seeing how considerable the impact of mastering pronunciation skills seen from the perspective of students majoring in IAIN Jember, the research had implemented mixed qualitative and quantitative research methods. Data collection begins by providing pretest activities and ends with a post test. The learning results show that the score increased by 30 points from the post test score of 56 to 90 when the post test was carried out. The results of the questionnaire showed how to learn faster and help learn pronunciation independently.

The second research was conducted by (Chen, 2022). It described This research has associated both teachers and students with the main purpose of seeing the impact of AI technology in the English learning process. The stages carried out with giving an oral presentation assignment in English language, then the teacher focuses attention during the presentation process and last, it uses AI to provide responses when students make a presentation. The results conveyed that student felt happy when assists AI as a learning medium. However, there is another aspect that is lacking when using AI during presentations, pronunciation, and acuraione which is different from traditional methods.

Artificial Intelligence in Current Education

AI is an abbreviation of "Artificial Intelligence" which is a field in computer science that focuses on developing computer systems that can perform tasks that normally require human intelligence. The main goal of AI is to develop computers or machines that can learn, think and behave like humans. In general, artificial intelligence was created to help humans solve problems. Various applications have been designed to optimize workload and ultimately reduce the role of a complete human being (Huang, 2023)

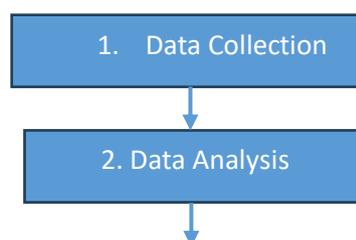**Speech Recognition Through Artificial Intelligence and Pronunciation**

Speech recognition is one of the emerging areas of machine intelligence growing rapidly, this is indicated by almost all technological devices being equipped by voice command. This has been interesting for researchers to make speech recognition as an important discipline to create impact technology on society and is expected to develop further in the field machine interaction with humans. This technology allows a device to recognize and understand spoken words by digitizing the words and matching the digital signal with a certain pattern stored in a device. Spoken words are transformed into digital signals by converting sound waves into a set of numbers which are then adjusted to certain codes to identify the words. The results of identifying spoken words can be displayed in written form or can be read by a technological device as a command to carry out a job, for example pressing a button on a cell phone which is done automatically with a voice command. (Kazu,2023)

Pronunciation

Pronunciation is a set of habits of producing sounds that is acquired by repeating over and over again by being corrected when it is pronounced wrongly. It includes attention to the particular sounds of language, aspect of speech such as intonation, phrasing, stress, timing, rhythm that are closely to the way we speak language. (Fraser, 2001:16)

METHOD

This research implements descriptive qualitative. Combining With AI speech recognition using web devices and traditional method as the instrument of this research. Here is the research design:
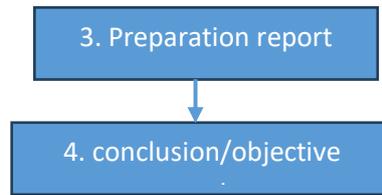
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┌─────────────────────────┐
│  1.   Data Collection   │
└─────────────────────────┘
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│   2. Data Analysis      │
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Figure. 1 Research design

The data analysis is going to describe with explanation together with chart. The sample of this research were student from higher education who joined in roller community around 25 students from different university. Pronunciation assessment will be given both using speech recognition with AI tool and also traditional method.

RESULT AND DISUSSION

Common Problem Encountered in English Pronunciation

From depth interview with 25 students during four months. It found some common English pronunciation problem as follows:
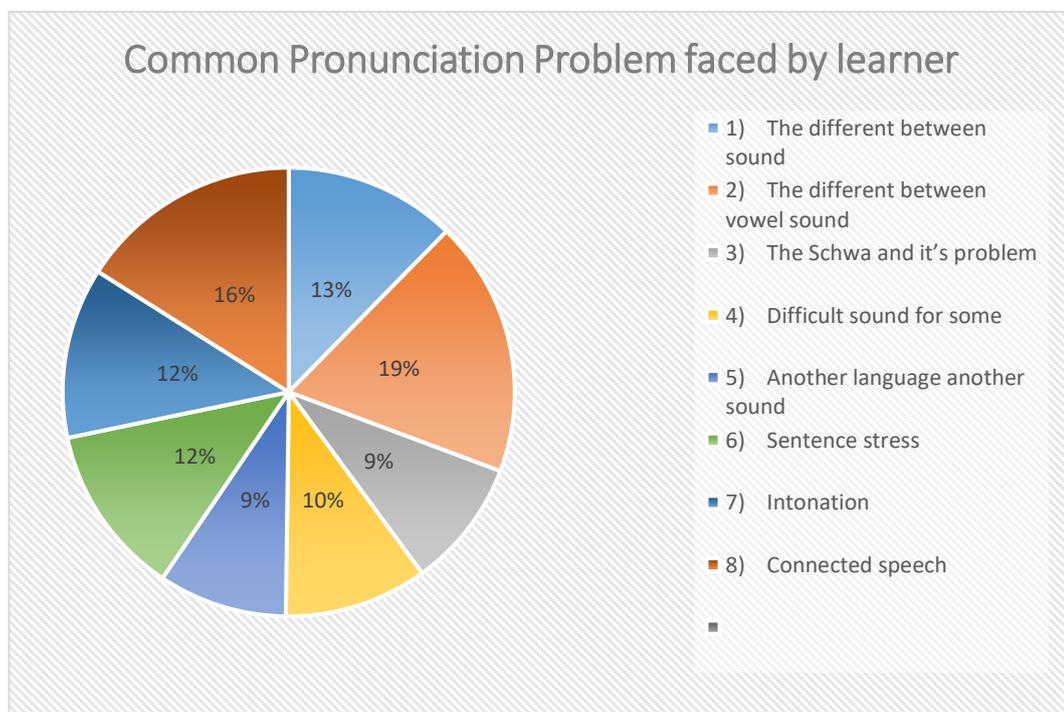

Figure 2 Common Pronunciation Problem

The interview delivered with open ended questions and the result describe on the pie chart above. The common problem that often face by English learner are: 1) the different between sound 2) the different between vowel sound 3) the schwa and its problem 4) difficult sound for some 5) another language another sound 6) sentence stress 7) intonation and 8) connected speech. From the eight problem the different between vowel sound reached the highest 19% as the big problem in pronunciation. By this result the next step for this data analysis will be focused on the different between vowel sound.

English Vowel Sound (short vs. long vowel)
In English language, five letters among twenty-six letters of English alphabet are called vowels. They are (a, i, u, e, o, and u) and sometimes 'y' is also called vowel. These are representing vowel sound

English short vowel : /ɪ/, /e/, /æ/, /ʌ/, /ʊ/ , /ɒ/, /ə/

/ɪ/	fit	/fi:t/
/e/	pet	/pet/
æ/	pat	/pæt/
/ʌ/	cut	/kʌt/
/ʊ/	put	/pʊt/,
/ɒ/	pot	/pɒt/
/ə/	about	/əˈbaʊt/

English long vowel :/i:/, /ɑ:/, /ɔ:/, /ɜ:/, /u:/.

/i:/	week	/wi:k/
/ɑ:/	hard	/ha:/
/ɔ:/	fork	/fɔ:k/
/ɜ:/	heard	/hɜ:d/
/u:/	boot	/bu:t/

Pronunciation Assessment using traditional rubric/traditional method
This assessment implements with four different vowel word, they are:

Table.1 four words long and short vowel for assessment

blend	**blɛnd**/
trap	/Træp/
hard	/ha:d/
mud	/ mʌd/

Table. 2 rubrics

Vowel sound	Poor	Fair	Excellent

Recognizing long vowel sound	the student was not able to recognize long vowel sound	The student recognizes 1 long vowel sound	The student recognizes 2 long vowel sound
Recognizing short vowel sound	the student was not able to recognize short vowel sound	The student recognizes 1 short vowel sound	The student recognizes 2 short vowel sound

Here is the result of assessing pronunciation with rubric/traditional method
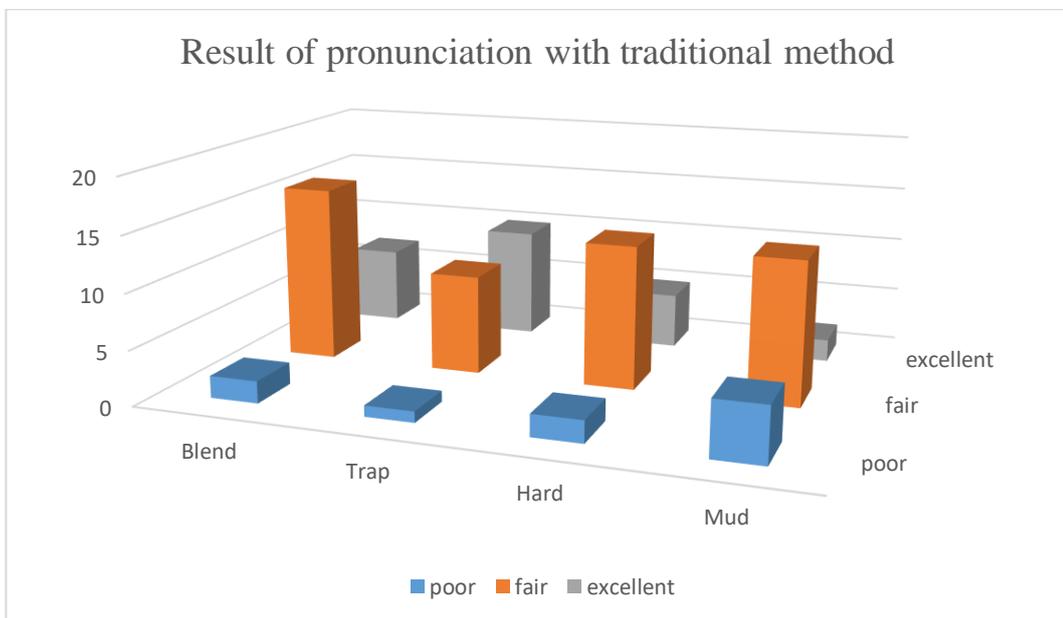
Reading the result from the chart above most of students have middle fluency in pronouncing long and short vowel.

Pronunciation Assessment using AI tool

After all the students practicing the four words (hard, mud, blend, trap) and have already done the assessment with traditional method. They continue to use AI tool, where it was developed by co-researcher from informatic science. Here is the performance of pronunciation AI tool website, link: https://violance.risetkami.com/pronunciation
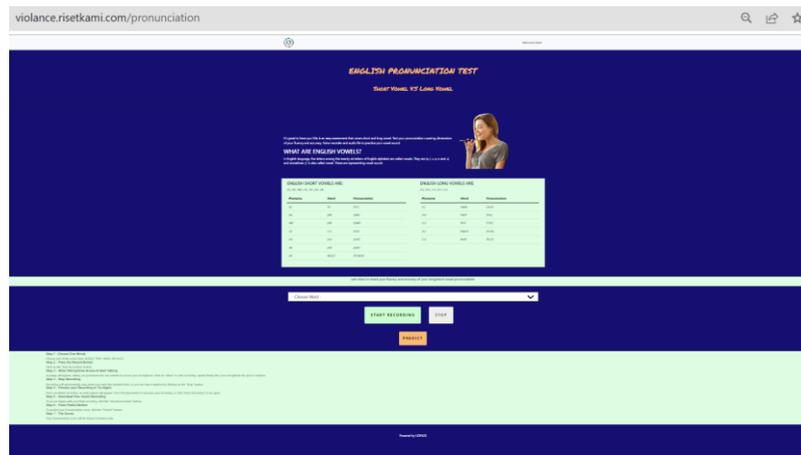
Figure 4. AI tool for assessing pronunciation

Here are the steps for using this AI tool:
Step 1 - Choose One Words
Choose one of the words from (BLEND, TRAP, HARD, OR MUD)
Step 2 - Press the Record Button
Click on the "Start Recording" button.
Step 3 - Allow Microphone Access & Start Talking
A popup will appear, asking you permission for our website to access your microphone. Click on "Allow" to start recording. Speak clearly into your microphone for up to 5 minutes.
Step 3 - Stop Recording
Recording will automatically stop when you reach the duration limit, or you can stop it anytime by clicking on the "Stop" button.
Step 4 - Preview your Recording or Try Again
Once you finish recording, an audio player will appear. Press the play button to preview your recording, or click "Redo Recording" to try again.
Step 5 - Download Your Audio Recording
If you are happy with your final recording, click the "Download Audio" button.
**Step 6 - Press Predict Button**
To predict your Pronunciation score, click the "Predict" button.
Step 7 - The Scores
Your Pronunciation score will be shown in bottom area
Before trying to click the word, it provides explanation about short and long vowel along with the examples. Here is the result from 25 students attempting four words (blend, trap, hard, mud)

Correct and incorrect pronunciation with AI
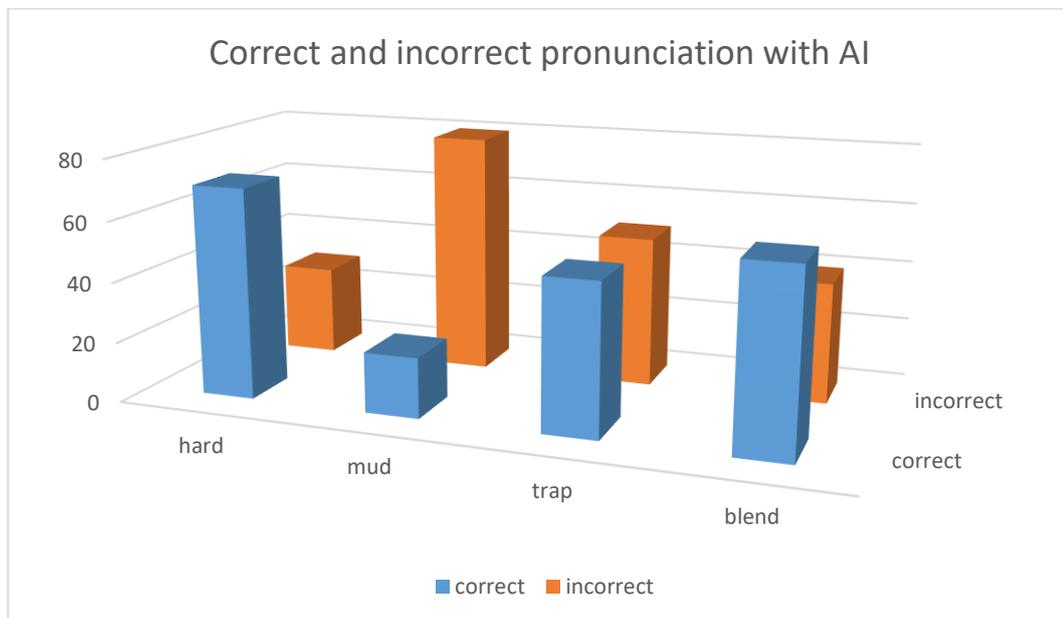
Compare to the traditional assessment, the AI tool showed different result. It is because A lot of advantages in applying AI for language learning but it is essential to acknowledge the limitation and drawbacks. AI tool do not give the same stage of personal interconnection and on-going response as a human facilitator.

CONCLUSION

By incorporating AI tool and traditional method for assessing pronunciation, students got numerous benefits. They may enjoy learning with the flexibility of time and they also can engage face to face interaction while using traditional method.

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