English Education students' perceptions regarding the workshop of using artificial intelligence for developing listening question based on local wisdom

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ABSTRACT

This research aims to explore the students' perceptions in the English Language Education Study Program at UIN Raden Mas Said Surakarta regarding the workshop on the use of artificial intelligence (AI) in developing listening questions based on local wisdom. The method used is descriptive qualitative involving students as research subjects. Data was collected through the use of questionnaires distributed to students and analysis was carried out using a qualitative approach to understand their views, thoughts and perceptions regarding the use of AI in the context of learning English, especially listening skills. The results of this research provide in-depth insight into how English Language Education students assess the relevance, benefits and obstacles in using AI to develop listening questions that integrate local wisdom. The implications of these findings can be used as a basis for developing a more adaptive and innovative curriculum in the context of English language teaching that accommodates aspects of local wisdom.

Keywords*: Students' perception, AI, Listening Question, Local Wisdom*

I. INTRODUCTION

Technological developments are growing very rapidly to make work easier and meet human needs. Especially in the educational aspect, a technological development that is currently developing and widely used is the artificial intelligence (AI) system. This system can improve various aspects of language learning and assessment. One area where AI has potential is in the development of listening comprehension exercises which is an important component in language acquisition. However, although the benefits of AI in language education have been widely recognized, its application in the context of local wisdom-based learning materials is still relatively unexplored.

The integration of local wisdom into language teaching materials is increasingly recognized as a means of fostering cultural awareness, sensitivity and appreciation among language learners. By incorporating elements of local wisdom into AI-driven listening exercises, educators can create more engaging and culturally relevant learning experiences for students. However, the successful implementation of this approach depends on understanding students' perceptions and acceptance of AI technology and its integration with local cultural elements. Wulandari et.al (2020) stated that integration of local wisdom would enrich the knowledge of local cultures as well as help the students understand ELT texts.

An AI-based application with the domain https://ttsfree.com/ can facilitate the development of listening questions based on local wisdom. There are three steps to develop it. First, Customize the speech with pitch and voice speed controls. Make it faster or slower, then take control of voice volume. Second, Select the language and the reader to convert text to mp3, adjust volume, voice

speed based on the need. The third, type the content of the listening material based on local wisdom. Finally download the result which is formatted in mp3. Kaur et.all (2023) stated that nowadays speech synthesis or text to speech (TTS) can produce human voice like natural sounding voice from the written text, is gaining popularity in the field of speech processing

The use of AI-based applications opens up new opportunities in developing learning materials that focus on local wisdom. However, while technology provides a powerful tool for creating more diverse and engaging learning experiences, it is important to understand students' perceptions of the use of AI technology in this context. Therefore, this research aims to investigate the perceptions of students of the English Language Education Study Program at UIN Raden Mas Said Surakarta regarding the use of AI to develop listening questions based on local wisdom.

By understanding students' views and thoughts, it is hoped that this research can provide valuable insight for developing learning strategies that are more effective and relevant to student needs and the local cultural context. This is in line with the spirit of presenting innovative learning approaches based on local wisdom in preparing students as competent and cultured future leaders.

II. METHOD

The method used in this research is a qualitative descriptive method. According to Suharsimi Arikunto (2010:3) this research is a type of research that describes or describes a research object based on its characteristics. Qualitative descriptive research aims to explain phenomena as deeply as possible through data collection. If the data collected is in-depth and can explain the phenomenon being studied.

Participants:

This research involved students from the English education study program at UIN Raden Mas Said Surakarta as participants. The number of participants in this research was 44 students who were then asked to fill out a questionnaire via Google Form.

Instruments:

The instrument used in this research is a questionnaire consisting of eight questions divided into three closed-ended questionnaires and five open-ended questionnaires designed to measure students' perceptions of the use of artificial intelligence (AI) in developing listening questions based on local wisdom.

Data Analysis:

Data analysis was carried out simply by processing the answers collected from the questionnaire. Respondents' answers were tabulated and presented in the form of tables. Next, the data is presented in a description that is appropriate to the research question. Simple statistical analysis is used to interpret the collected data.

III. RESULT AND DISCUSSION

There are three closed-ended questionnaires and five open-ended questionnaires designed to measure students' perceptions of the use of artificial intelligence (AI) in developing listening questions based on local wisdom. Below is a table showing descriptive statistics of student responses.

Table 1. Statistics of the closed-ended questionnaire responses

No	Questionnaire	Choice	Percentage
1	How familiar are you with the concept of artificial intelligence (AI)?	Very familiar	40,8%
		Quite familiar	55,1%
		A little familiar	4,1%
		Not familiar at all	0%
2	How familiar were you with developing listening questions based on local wisdom before this training?	Very familiar	10,2%
		Quite familiar	53,1%
		A little familiar	26,5%
		Not familiar at all	10,2%
3	How useful is this training in understanding the concept of developing listening questions based on local wisdom?	Very helpful	85,7%
		Beneficial	14,3%
		Less useful	0%
		Not useful at all	0%

Analysis of the questionnaire results shows variations in the level of student understanding of the concept of artificial intelligence (AI). Most respondents (54.5%) stated that they were quite familiar with AI, while 40.9% indicated a deeper understanding by stating that they were very familiar with the concept. However, there was also a small portion of respondents (4.5%) who admitted to having a limited understanding of AI. However, no one stated that they were completely unfamiliar with the concept of artificial intelligence. These findings indicate that the majority of students have sufficient or more knowledge about AI. It is in line with statement from Górriz et al., (2020) which wrote that Artificial intelligence has become pervasive in the lives of twenty-first century citizens and is being proclaimed as a tool that can be used to enhance and advance all sectors of our lives The application of AI has attracted great interest tool used across subject disciplines, including language education (Liang et al., 2021)

In the previous context, it is important to note that students have attended training and practiced developing listening questions based on local wisdom. Analysis of the questionnaire results showed that there were variations in the level of student understanding before training regarding the development of listening questions based on local wisdom. Most respondents (50%) said they were quite familiar with the concept, while 9.1% said they were very familiar before this training. However, the majority of respondents (29.5%) only had limited understanding or little familiarity with the development of local wisdom-based listening questions previously, even though they had attended training. Interestingly, a small proportion of respondents (9.1%) also stated that they were not at all familiar with the concept before receiving the training. These findings show that the majority of students had a limited level of knowledge about developing local wisdom-based listening questions before receiving the training, even though they had attended the training, which shows the importance of further training in broadening their understanding of this concept. This analysis provides important insights for designing training programs that are more effective and relevant to students' needs in increasing their understanding of the development of listening questions based on local wisdom.

A very positive response from students to training regarding the development of listening questions based on local wisdom can be seen from the majority of respondents (86.4%) who stated that this training was very useful for them in understanding this concept. Meanwhile, 13.6% of respondents also stated that this training was quite useful. No one responded that the training was less useful or not useful at all. These findings indicate that the training succeeded in providing significant benefits for students in their understanding of the development of listening questions

based on local wisdom. This very positive response can become a strong basis for supporting the sustainability and further development of this kind of training program in the future.

Table 2. Statistics of the open-ended questionnaire responses

No	Aspect	Summary of Student Responses
1.	Advantages of AI Usage	• Flexibility, ease, and time efficiency • AI's ability to produce audio quickly and easily • Enhancing creativity and expanding knowledge about local wisdom • Facilitating the process of question creation and providing convenience in listening-based exercises
2.	Disadvantages of AI Usage	• Premium access limitations and technical constraints • Dependence on AI technology and limitations in expressing emotions in word pronunciation • Technical issues such as web errors or discrepancies between expectations and results produced by AI
3.	Satisfaction Level of Training	• Students feel confident in using AI after the training, but some feel the need to increase their confidence level
4.	Relevance and Benefits of AI Usage	• AI usage is deemed highly relevant and beneficial in developing locally-based listening exercises • Enables the development of interesting, diverse, and culturally relevant exercises • Makes creating listening exercises easier, more efficient, and interactive • Emphasizes the importance of preserving local culture and wisdom through AI usage
5.	Suggestions for Future AI Development	• Improve the quality of AI sound and develop more advanced AI features • Increase the number of training sessions and workshops • Enhance AI sensitivity to local cultural and linguistic contexts • Use platforms or tools other than PowerPoint or Google Form for creating listening exercises

The use of artificial intelligence (AI) in developing listening questions based on local wisdom is considered very useful by students. Various advantages of using AI were expressed, including flexibility, convenience, time efficiency, and the ability to produce audio that matches the text quickly and easily. The use of AI is also considered to be able to increase creativity, expand knowledge about local wisdom, and simplify the process of creating questions. Students stated that AI helps in listening-based exercises, enriches vocabulary, and makes it easier to create variations of teaching materials. These findings indicate that students see the use of AI as a tool that has the potential to improve the quality of listening learning, stimulate creativity, and present learning material that is more relevant and interesting for students. This analysis highlights the importance of integrating AI technology in the development of learning materials to support effective and engaging language learning for students.

Some of the shortcomings identified by students regarding the use of artificial intelligence (AI) in developing listening questions based on local wisdom were known to be that some students highlighted technical aspects, such as limited premium access required for wider features or obstacles in creating audio simultaneously. Apart from that, there are also concerns regarding dependence on AI technology and limitations in expressing emotions in pronouncing words. In addition, some students also noted technical problems such as web errors or discrepancies between expectations and the results produced by AI. These findings underscore the importance of

considering the challenges and limitations of integrating AI technologies in learning, and emphasize the importance of developing AI that is more sophisticated and responsive to local nuances and human emotional expressions. This analysis also highlights the broadening of understanding of the ethical and practical implications of the use of AI technologies in language education contexts.

Most respondents felt confident in using artificial intelligence (AI) to develop listening questions based on local wisdom after this training. They felt that the training provided the understanding and skills needed to utilize AI technology effectively in creating listening questions. Several respondents stated that the use of AI was very helpful in creating questions easily, choosing the desired accent, and providing references in developing questions. However, there were also some respondents who felt they needed to increase their level of confidence in using AI, especially in ensuring the results produced were in line with expectations. These findings indicate that training on the use of AI in developing listening questions based on local wisdom is considered effective in increasing students' competence and self-confidence in applying AI technology in the context of English education.

The use of artificial intelligence (AI) in the context of developing listening questions based on local wisdom is very relevant and useful. Students stated that the use of AI made it possible to develop questions that were interesting, varied and appropriate to the local cultural context. By using AI, creating listening questions can be made easier, more efficient and interactive, so that students can be more involved in learning. Several respondents also emphasized the importance of preserving local culture and local wisdom through the use of AI in creating listening questions. However, there are also several notes related to the clarity of pronunciation of place or food names that are identical to Javanese, as well as further expansion in AI development to support a wider variety of sounds and local contexts. Overall, these results show that the use of AI in developing local wisdom-based listening questions has great potential to improve students' learning experiences and enrich learning content.

Various suggestions were sent by students, indicating that there were various inputs for improving training or using artificial intelligence (AI) in developing local wisdom-based listening questions in the future. Some suggestions include improving the quality of AI voices, increasing training and workshops, wiser use of AI, developing more sophisticated AI features, involving more local question developers, and increasing AI sensitivity to local cultural and language contexts. Apart from that, there are also aspirations to use other platforms or tools besides PowerPoint or Google Form in creating listening questions, in order to increase student interest and involvement in the learning process. Overall, these suggestions and input can be a basis for further development in the use of AI in the context of local wisdom-based listening learning.

IV. CONCLUSIONS AND SUGGESTIONS

This study reveals that the majority of students have sufficient or greater understanding of the concept of artificial intelligence (AI), as well as the development of listening questions based on local wisdom. The results of the training showed a significant increase in students' understanding of the concept, with very positive responses to the benefits of the training. The use of AI in developing listening questions was considered very beneficial by students, although several shortcomings were identified, such as technical limitations and the expansion of AI development to support variations in sound and local context.

The various suggestions submitted by students can become an important basis for further development in the use of AI in the context of local wisdom-based listening learning, including

improving the quality of AI voices, increasing training, and developing more sophisticated features. In conclusion, the results of this study provide valuable insight for an educational approach that is more focused and tailored to students' level of understanding of AI concepts, as well as providing direction for the development of training programs that are more effective and relevant to students' needs in increasing their understanding of the development of listening questions based on local wisdom.

REFERENCES

Arikunto, Suharsimi. (2010). *Prosedur penelitian suatu pendekatan praktik*. Jakarta: Rineka Cipta.

Crompton, H., Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *Int J Educ Technol High Educ 20*, 22. https://doi.org/10.1186/s41239-023-00392-8

Górriz, J. M., Ramírez, J., Ortíz, A., Martínez-Murcia, F. J., Segovia, F., Suckling, J., Leming, M., Zhang, Y. D., Álvarez-Sánchez, J.R., Bologna, G., Bonomini, P., Casado, F. E., Charte, D., Charte, F., Contreras, R., Cuesta-Infante, A., Duro, R. J., FernándezCaballero, A., Fernández-Jover, E., … Ferrández, J. M. (2020). Artifcial intelligence within the interplay between natural and artifcial computation: Advances in data science, trends and applications. *Neurocomputing,* 410, 237–270. https://doi.org/10.1016/j.neucom.2020.05.078

Kaur, N., Singh, P. (2023). Conventional and contemporary approaches used in text to speech synthesis: a review. *Artif Intell Rev 56*, 5837–5880 https://doi.org/10.1007/s10462-022-10315-0

Liang, J. C., Hwang, G. J., Chen, M. R. A., & Darmawansah, D. (2021). Roles and research foci of artifcial intelligence in language education: An integrated bibliographic analysis and systematic review approach. *Interactive Learning Environments*. https://doi.org/10.1080/10494820.2021.1958348

Wulandari, D., Sundari, W., & Ellysafni, C. A. (2020). Integrating local wisdom into ELT materials for secondary schools in Semarang based on need analysis. *Parole: Journal of Linguistics and Education,* 10(1), 14-21. Retrieved from http://ejournal.undip.ac.id/index.php/parole