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Student's perception on the use of Hello English Application in Improving Speaking Skills

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ABSTRACT

Background. In the current era of globalization, the rapid development of technology greatly affects various aspects of life, including education. The Hello English application has been introduced as a learning medium to improve English speaking skills for students. Speaking is an important skill in language learning that involves an interactive process of meaning construction.

Purpose. This study aims to explore students' perception of the use of the Hello English application in improving their speaking skills, as well as to find out how effective this application is in helping the teaching and learning process.

Method. This study uses a quantitative approach with data collection through questionnaires distributed to students majoring in English Education at Batang Hari Jambi University. The data obtained was analyzed to determine students' perception of the use of the Hello English application.

Results. The results of the study show that most students agree that the Hello English app is effective in improving their speaking skills. This application is considered practical, interesting, and able to increase students' interest in learning. The features in the application, such as speaking practice with native speakers and structured learning materials, are very helpful for students in mastering English speaking skills.

Conclusion. The Hello English app has great potential in improving students' English speaking skills. The use of this application facilitates the teaching and learning process and provides an interactive and fun learning experience. However, this study has limitations in the scope of the subject which only includes English Language Education students at one university. Further research is suggested to expand the scope of the subject and deepen the understanding of the use of technology-based learning applications in various fields of education.

KEYWORDS

Hello English, Learning Media, Speaking

INTRODUCTION

Learning English speaking skills is a preference for many English as a Foreign/Second Language (EFL/ESL) for learners). Speaking is an interactive process of constructing meaning that involves producing and receiving

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and processing information (Brown, 1994; Burns & Joyce, 1997). Nowadays, many students tend to be afraid to dare to speak in front of the crowd because they are afraid of various things. Students will sometimes feel that they are not biased to stand in front of a crowd and speak freely. However, there are also learners who evaluate their success in language learning based on how good their speaking skills are and will gradually improve in their spoken language skills. Teachers and textbooks use either a direct approach that concentrates on specific aspects of verbal interaction such as turn-taking and topic management or a situational indirect approach to verbal interaction with group work, assignment work, and other strategies (Richards 1990).

Speaking is a fundamental aspect of human communication. These are skills that allow us to express our thoughts, ideas, and emotions, as well as connect with others on a deeper level. Whether in casual conversations with friends, professional presentations, or public speaking, effective speaking plays an important role in our personal and professional lives. Speaking effectively ensures that the message we convey can be understood by others, thus reducing the likelihood of miscommunication and misunderstandings. Building Relationships: Speaking is a powerful tool for building and nurturing relationships. Through conversations, we build connections, create bonds, and foster trust with others. This allows us to convey empathy, actively listen to others, and engage in meaningful dialogue, strengthening our personal and professional relationships. Professional Success: In the professional world, strong speaking skills are highly valued. Effective public speaking can improve your career prospects, as it demonstrates confidence, leadership, and the ability to influence and persuade others. Whether it's presenting an idea to a colleague, delivering a sales presentation, or speaking at a conference, being a proficient speaker can open the door to new opportunities. Personal Development: Developing strong speaking skills contributes to personal growth and confidence.

The ability to express oneself in an articulate manner can increase self-esteem, allowing individuals to share thoughts and contribute in a variety of social and professional settings. It also improves critical thinking and problem-solving skills, as effective speakers can articulate their ideas in a logical and persuasive way. Benefits of Effective Speaking: Increasing Influence: Effective speakers have the power to influence and inspire others. They can motivate and persuade individuals to take action, share perspectives, and form opinions. The ability to convey ideas clearly and convincingly makes a speaker influential and impactful Improves Leadership Skills: Strong speaking skills are an important component of effective leadership. Leaders who can communicate their vision, inspire their team, and rally support through speeches or presentations are more likely to succeed. The leader's ability to articulate goals and provide clear instructions helps in driving performance and achieving organizational goals. Better Problem Solving: Effective speakers can present their ideas and solutions with confidence, thus making them

According to Harmer (2007) and Pourhosein Gilakjani (2016), human communication is a complex process. People use language to communicate with each other and convey information about appaun using speaking skills. People will communicate when they are going to tell someone about something. Speaking is very important in learning a second language. Although important, speaking has been neglected within schools and universities for various reasons such as the emphasis on grammar and teacher-student disadvantages proportion. Speaking has been absent from the test because of problems in assessing objectively and the time required to carry out the speaking test (Clifford, 1987). Speaking is a skill that deserves attention both at the beginning and end of a second language. Learning speaking skills is the most important aspect of learning a second or foreign language and success is measured by the ability to converse in a

language (Nunan, 1995).

Entering the 20th century, which is known as the main foundation in various aspects of life, is called the century of knowledge (Burgarella et al., 2019). The century of science has a great influence on the world of education (Dziuban et al., 2018). Educators must not only master academic knowledge, but also master knowledge of modern science and technology. Nowadays, there are many sophisticated applications that can help students in learning. In modern times, teachers are required to be able to use and apply learning support applications that can be accessed through mobile phones, which will later help during the learning process. With this learning support application, students can learn independently to continue to improve their abilities. Speaking is an interactive process of constructing meaning that involves producing and receiving and processing information (Brown, 1994; Burns & Joyce, 1997). Communicative competency theory (Hymes, 1972) and the practice of Communicative Language Teaching, the teaching of speaking skills has become central in foreign language classrooms. Many students are afraid to speak in front of an audience because they have difficulty expressing opinions even in front of their friends or teachers, especially when speaking in English.

The positive impact of the use of technology today is that it can make it easier to access all information, be it in the form of learning or knowledge. Meanwhile, the positive impact of technology in the future is to facilitate the dissemination of information, increase the ease of communicating properly and facilitate the exchange of scientific data. With the development of technology, human life has become easier, because the number of fast information exchanges and the number of modern equipment make it easier for humans to get all their needs. Therefore, use this opportunity to improve the quality of student learning. A technology is said to be sophisticated if educators use technology correctly and will get accurate results. Everything that we cannot avoid in life because the progress of science and technology runs in accordance with the progress of science today is the progress of science and technology. In today's era, technology is developing rapidly and touching all aspects of human life.

Broadly speaking, it can be concluded that technological sophistication is very useful, both in the present and in the future. With technology, it can make it easier for teachers to vary learning media so that they can increase students' interest in learning. Technology is useful for making a job easier today so that it produces a better product (Donahue et al., 2019). Technology plays a role as a way to form collaborative relationships and build a meaning that is easier to understand. Education is an effort made by a person consciously and planned to help students in the teaching and learning process with a conducive atmosphere (Wirtz et al., 2018). The development of science today has greatly affected human life (Bers et al., 2019). The function of education is to build and develop students' interests and talents for personal and public interests. . The positive impact of technology is to facilitate communication and facilitate work. Meanwhile, the negative impact of technology is to foster anti-social attitudes, slander and individualism. The role of technology for human life is to make human work easier, for example during the pandemic students learn remotely or online, with the existence of sophisticated and advanced technological tools in the field of communication, students can do distance learning, but without advanced technology, it will be difficult to do distance learning.

Usable media is provided by computers and the internet. According to (Arifah, 2014) the use of the internet in the learning process can increase students' motivation to learn. Students can learn meaningfully through computers and the internet which can attract the attention of students learning English. Because it works directly with teachers, the Hello English application has many features, such as interactive lessons and games. Therefore the researcher chose Hello English, in

addition to the fact that it is used by many people around the world, it can be downloaded for free from the Google Play store, millions of new dialogues that encourage users, especially students, to be creative and interactive. Hello English applications can offer various features, such as vocabulary, language skills, conversation, pronunciation, and so on (Yunita, 2019).

The Hello English application is a software media that supports process learning. This application is an English learning application that allows users to learn English through interactive modules. Hello English was launched in October 2014 by Culture Alley. People may need English to advance their careers, maybe they want to travel abroad or study abroad and know that English is the key to international business and international travel.¹ Hello English app applies Some features are compatible with all devices even for laptops, there are many learning apps available in the market of installable devices, But this app offers many interactive programs and games to build or facilitate learners for skill enhancement.

Hello English Application is a Comprehensive Language Learning Solution The Hello English application has revolutionized the way people learn and master English. With its easy-to-use interface, extensive features, and personalized learning approach, the app has become the go-to platform for language learners around the world. In this article, we will explore the key aspects of the Hello English app and how it has changed the language learning experience.¹. User-Friendly Interface: The Hello English app offers a seamless and intuitive interface, making it easy for users of all ages and proficiency levels to navigate its features. The app's design puts simplicity first, ensuring that learners can focus on their language learning journey without unnecessary distractions.². Comprehensive curriculum: The app provides a comprehensive curriculum that covers all aspects of language learning, including vocabulary, grammar, speaking, listening, reading, and writing. Structured lessons are designed to build language skills gradually, allowing users to progress at their own pace.³. Engaging Content: Hello English offers a wide variety of engaging content, including interactive exercises, quizzes, and multimedia resources. These dynamic learning materials enhance the learning experience and keep users motivated throughout their language journey.

⁴. Personalized learning: One of the main strengths of the Hello English app is its ability to personalize the learning experience. The app uses advanced algorithms to assess the user's proficiency level and adjust the content accordingly. This ensures that learners receive targeted instruction and practice activities tailored to their specific needs.⁵. Language Skills Development: Hello English focuses on developing all language skills, with a special emphasis on improving speaking and listening skills. The app provides an opportunity for users to practice conversations with AI-powered chatbots and engage in real-life dialogues to improve their communication skills.⁶. Vocabulary Expansion: Vocabulary acquisition is an important aspect of language learning, and Hello English offers a variety of tools and techniques to expand users' word knowledge. The app has a comprehensive collection of word lists, flashcards, and vocabulary-building games to help learners enrich their lexicon.⁷. Progress Tracking and Assessment: The Hello English app has a robust progress tracking system that allows users to monitor their learning achievements. Learners can review their performance in quizzes and assessments, identify areas for improvement, and set goals for further development. ⁸. Community and Support: Hello English provides a supportive community where learners can connect with fellow language enthusiasts, ask questions, and seek guidance from experienced users. The app fosters a collaborative environment that promotes.

RESEARCH METHODOLOGY

The quantitative research approach is one part of the systematic investigation of a phenomenon by collecting data and then calculating or measuring it with computational and mathematical statistical techniques (Chan et al., 2019). Quantitative research is a systematic scientific study of parts, phenomena and the causality of their relationships (Hartmann et al., 2019). The numbers included in this study are not only mathematics, but this research examines a problem that can be measured by numbers. The types of quantitative approach methods are comparative, descriptive, comparative and experimental causal (Drgoňa et al., 2020). Quantitative research design or model is to develop theories, obtain security, social complexity and describe reality, while qualitative research design or model is to test theories, generalize social phenomena and explain the relationships between variables. The time and place of the research was conducted at Batang Hari Jambi University, the object of this study is the perception of students in using hello english application to improve their speaking skills. The method carried out in this study is a quantitative method.

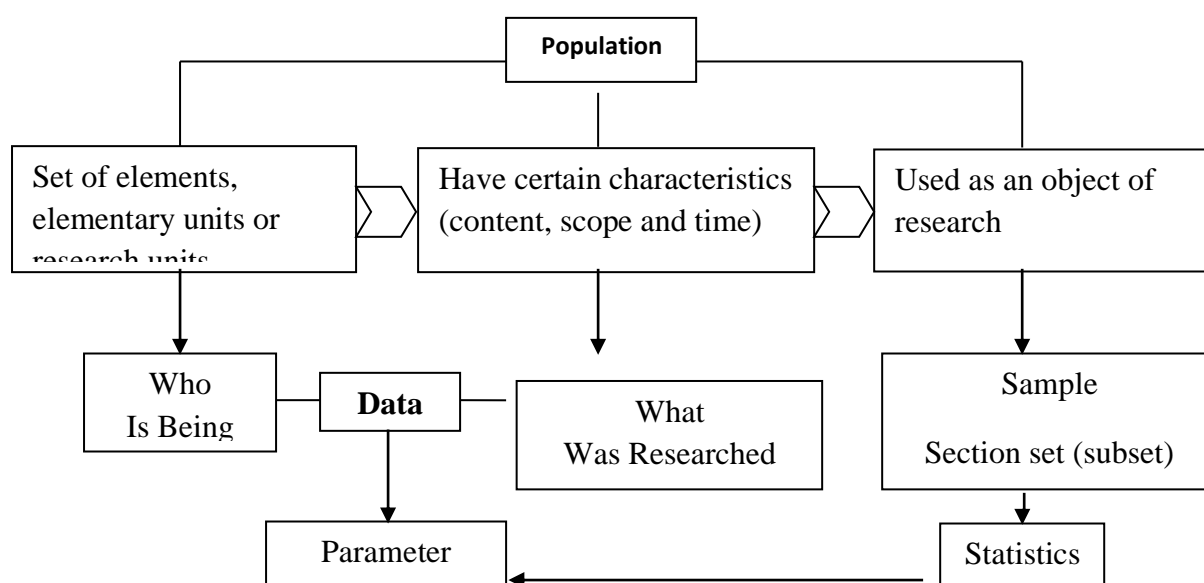


Table. 1 Quantitative research population and sample

The place of research is usually carried out in a school or college institution. The data collection used in this study is questionnaire interviews (carried out by distributing questionnaires to students with the aim of finding out what percentage of the media is feasible for students) and observation (carried out by knowing the knowledge first, determining the object to be observed, knowing the purpose of the problem to be made, prepare observations, determine the necessary secondary data and record the results of observations (Campbell et al., 2019). The technique used by researchers in collecting data is to collect all the information that can be measured, compared and calculated on a numerical scale (Xu & Duan, 2019). The data processing process that has been collected from observation field respondents feels the data analysis technique in quantitative research (Zhang et al., 2019). For example, a data processing process based on the type of respondent, calculating hypothesis tests and making tabulations (Barron et al., 2020). In quantitative research, there are usually statistical tests, namely inferential statistics (very suitable for use when random data collection techniques and when the population sample data is clear) and descriptive (used to analyze data by describing and describing the collected data without changing the source of the data), in inferential statistics there are two parts, namely parametric statistics

(have strong strength if all assumptions can be met) and non- parametric (data commonly used in statistics are nominal and ordinal data).

RESULT AND DISCUSSION

The result of this study is the use of hello English as a medium to improve students' speaking skills in English learning. The use of hello English application makes it very easy for students to improve their speaking skills. The hello English application is very suitable for students to use as a learning aid medium. The use of hello English application media attracts students' attention and increases students' desire to learn, especially for students who tend to be lazy to use or work on schoolwork books. The learning media hello English application as an online media uses quantitative research methods. The quantitative method is a series of investigations by collecting data and then measuring it with computational statistical or mathematical techniques. The quantitative data collection process is known as questionnaire data collection techniques, interviews and observations. Research in the form of numbers and numbers that can be calculated is also called quantitative research. Quantitative research methods are obtained through questionnaires as research tools or can use questionnaires. Quantitative research, according to Sugiono, is a method that uses positive philosophy that is used to examine a specific sample or population. Quantitative research methods are divided into two, namely the inferential method and the descriptive method. One example of quantitative research is the use of the hello English application to improve speaking skills in English learning

Respondents were taken using the random sampling method. This random sampling method is easy to understand and has projectable results (Firmansyah & Dede, 2022). The purpose of choosing the random sampling method is because sampling from all members of the population is carried out randomly without paying attention to strata in the population (Halawa et al., 2021). The respondents in this study are students of English Language Training, Batang Hari Jambi University who have used and are using the Natural Reader application. The respondents in this study are data sources used by researchers to obtain information related to the use of the Natural Reader application. The time and place of the research will be carried out at Batang Hari Jambi University in March and April 2023. The object of this study is the feasibility of the Natural Reader application as a tool in testing the accuracy of English pronunciation and pronunciation.

No	Quatients				
		Very agree	Agree	No Agree	Strongly disagree
1	Hello English Application makes it easier for me to improve my speaking skills	29%	74,2%	6,5%	0%
2	Having used Hello English Application motivates me to improve my speaking skills.	16,1%	80,6%	3,2%	0%
3	Hello English Application provides an interesting experience because it	22,6%	74,2%	3,2%	0%

	has a variety of fun tours				
4	Hello English Application is easy to use because the instructions are easy to understand.	16,1%	80,6%	3,2%	0%
5.	Hello English Application makes it easier for me because it features 100% audio-visual courses that are offline and interactive	22,6%	74,2%	6,5%	0%
6	Hello English Application has many premium features that make it difficult for users to improve their speaking skills.	3,2%	71%	29%	0%
7	Using Hello English Application consumes a lot of internet quota	6,5%	41,9%	54,8%	0%
8	Using Hello English Application must use a stable network	6,5%	83,9%	16,1%	0%
9	Hello English Application does not improve speaking skills	6,7%	10%	80%	6,7%
10	Using Hello English Application is less fun because it is difficult to use its features	0%	19,4%	74,2%	9,7%
11	Hello English Application does not make it easier for students to improve speaking skills	6,5%	3,2%	93,5%	0%
12	After using Hello English Application does not increase student motivation in improving speaking	0%	9,7%	83,9%	9,7%
13	Hello English Application is difficult to use because there are instructions that are difficult to understand	0%	12,0%	83,9%	3,2%
14	Hello English Application does not have many premium features so it is easy to use	3,2%	19,4%	71%	6,5%
15.	Does not require a lot of internet quota to use this application	0%	38,7%	51,6% %	9,7%
16	Hello English Application can be accessed offline making it easier for users	6,5%	48,4%	32,3%	12,9%
17	Hello English Application does not	6,5%	61,3% %	25,8% %	6,5%

	make users bored because there are various interesting features available				
18	The features in Hello English Application are not interesting	0%	12,9% %	77,4%	9,7%
19	I prefer to use the Hello English Application over other applications.	3,3%	43,3% %	53,3%	0%
20	Using Hello English Application is less fun because it is difficult to use its features	0%	16,1%	80,6%	6,5%

Table 2. Statement about the Hello English app

In the table above there are statements from several questions that exist hello English application. The statements resulting from several questions in the hello English application are very helpful for researchers in researching the use of hello English application in students at Batang Hari Jambi University. The questions tested in this study were 20 questions that contained hello English statements about the benefits, objectives and functions of the use of the quizizz application for students at Batang Hari Jambi University. The statement containing the benefits of using hello English obtained a percentage of 50% with the category of strongly agreeing. The statement contained that the quizizz application is a practical and interesting online application with a percentage acquisition of 42.1% with the category strongly agreeing. The statement on the hello English application states that the hello English application is very useful for improving their speaking skills, besides that there are also interesting features that do not make people bored in using this application.

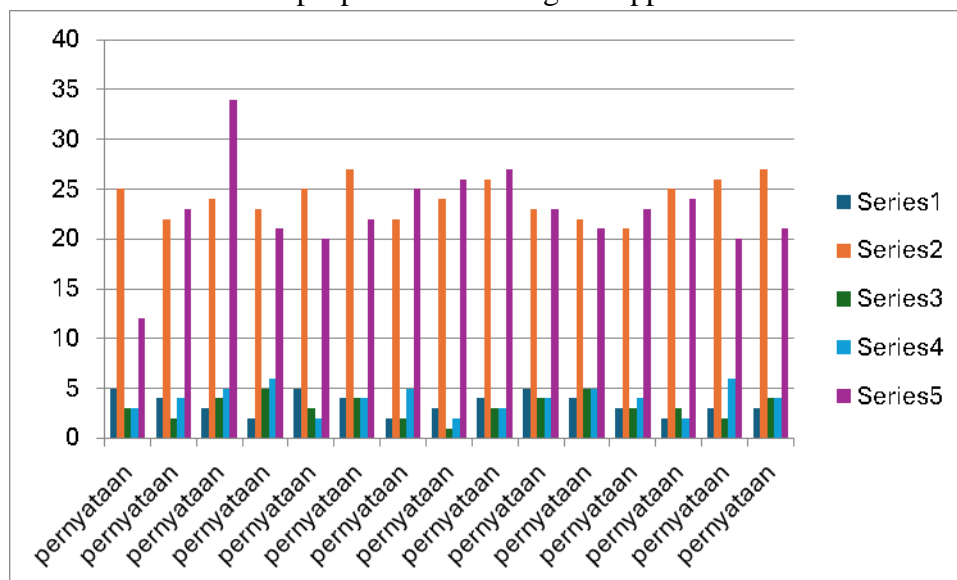


Table 3. Hallo Application Test Results

Data dari hasil uji penelitian aplikasi hello English pada mahasiswa Universitas Batang Hari Jambi dapat dijelaskan sebagai berikut :: pada kategori sangat setuju terdapat perolehan presentase tertinggi sebesar 65%, kategori sangat setuju ini adalah perolehan presentse tertinggi dari beberapa kategori yang ada. Sedangkan perolehan presentase terendah pada kategori sangat setuju memperoleh presentase sebesar 43%. Perolehan presentase yang kedua yaitu dengan kategori setuju dengan perolehan presentase

tertinggi sebesar 45% , sedangkan perolehan terendah pada kategori setuju ini memperoleh presentase sebesar 20%. Pada kategori tidak setuju terdapat perolehan presentase tertinggi sebesar 15%, sedangkan pada tingkat terendah memperoleh presentase sebesar 5%. Perolehan kategori selanjutnya yaitu kategori sangat tidak setuju yang memperoleh presentase tertinggi sebesar 5%, sedangkan presentase terendah yaitu sebesar 0%. Berdasarkan hasil keseluruhan dari penelitian tersebut, peserta didik yang sangat setuju dengan pertanyaan yang terdapat diquizizz memperoleh presentase tertinggi sebesar 65%. Sedangkan peserta didik yang tidak menyukai pertanyaan diquizizz memperoleh presentase sebesar 5%.



Figure 1. Hello English Application Images

In the picture above there is the hello English application. The form of this hello English application is like a series of materials and tasks that can be practiced by students to improve their speech skills. This media is in the form of a tool that can be downloaded on the student's android and is easy to carry everywhere. The features in the hello English application make it easier for students to use it. The use of this hello application has a great influence on English language students because it is very helpful in improving speaking skills. With this android-based application, it makes it easier for students to access anywhere and anytime. Lecturers and teachers are greatly helped by the existence of the hello English application kraena with this application students can learn on their own anywhere and only in the past. Hello English can also help educators to find out students' speaking skills. Hello English can also make learning fun or interactive, because it allows students to practice and do very fun missions in the application.

The characteristics of this learning media are that the material and mission provided are very clear, not long-winded, the purpose of learning hello english application is clear, the instructions for using the tool are clear and the learning flow is clear. In this day and age, hello English application is widely liked by students and even students because it is internet-based and simple to use, using this media students can learn in the shower to improve their communication skills, besides this application is very flexible and fun to use. The use of the hello English application has its own attraction for students. The positive impact of using the hello English application is that it is flexible and makes it easier for students to access the material and practice directly with native speakers. In addition, this application can also be used offline and does not have to use a good internet section and of course does not take up a lot of quota. Therefore, students must be biased to use this application properly and correctly. So that students can be proud of their parents, especially majors. Students can use this application by downloading it on the play store for Android phones and the appstore for iphone, after downloading the user can log in with an email account or phone number, after that the user can use this application with a tutorial on how to use it that is directly on the first page of the application.

The result of this study is the use of the hello English application in English majors. The use of

hello English application makes it easier for students to learn and improve their speaking skills. The use of this application also makes it easier for educators to test the ability of students, especially in the English department. The use of hello English application is very suitable for English majors. The advantage of this quizz application is that it is easy to carry everywhere a fun, real time, effective application and more importantly this application is very practical. The use of hello English application has a great effect on students, because initially students are not enthusiastic about learning with this application can increase students' learning ability to improve speaking skills with the help of practice in the application. The disadvantage of using this application is that the speaker's voice is similar to the voice of the voice of the voice on google, this makes it difficult for students to imitate their pronunciation because sometimes the speech is not clear.

The research researched on this hello English application is that many students like learning with android media such as this application. The method used in this study is a quantitative method that uses numbers or symbols in a study. This quantitative research method is obtained by collecting a large amount of data obtained by the researcher by visiting the research site directly which aims to find research data that comes from the source and is valid for the truth. By using quantitative methods, researchers can explain in detail how many people or how much data have been researched in the field. This method also makes it easier for researchers to make scientific papers by using tables, bar charts, circle charts, line diagrams or graphs in scientific papers by using data that is clear in its sources and provisions based on what is in the research place. The advantages of this quantitative method are that the results obtained are more accurate if used according to the rules, can simplify complex and complex problems in a model, can utilize existing theories, this method is more specific, clear and detailed. And the size of this study is large. Meanwhile, the disadvantages of this method are that it cannot guarantee assumptions if the reality that occurs is deviant, cannot be used for analysis of small samples, data collection from the highest value and this method is not subjective.

The use of the hello English application is one of the proofs to improve students' speaking skills with the help of native speakers that can help. The Hello English application is very suitable for distance learning which can be used by entering an email. This media is an application provided for free that can be used as easily as possible for both students and educators. The features contained in the hello English application are very diverse, including: providing a 100% offline dictionary, and the presence of a native speaker that can help improve students' speaking skills. The purpose of this study is to facilitate educators and students in the learning process. There have been many students and students who have used the hello English application because it is useful and mudsh to use, but there are still other students who have not used this application because they do not get the benefits of the application.

CONCLUSION

The types of conversations that appear on the Hello English application are dialogues or conversations on exercises, and oral monologues and dialogues on lessons or in certain terms there are possessive adjectives, imperative dialogues, dialogues and most of them contain positive sentences, interrogative and questions. The lessons related to speaking skills are categorized into 5 different themes, namely a) asking and giving something, b) talking about something, c) describing something, d) interviewing and others. Conversational practice is categorized into 9 themes, namely a) greeting or introduction, b) asking and giving something, c) hobbies or things that are liked, d) talking or expressing something, e) describing or explaining or discussing, f) place, g) work, h) sports and i) others. Furthermore, speaking practice is integrated with productive skills that can be seen with the following topics that appear in conversation practice and the system can be repeated as much as you want for free, besides this application is taught to lean to face direct situations and give immediate responses, also given

automatically correct in verbal speech errors. According to Hossain, productive skills are important because they allow students to do communicative aspects, dealing with communicative skills. Transcribe conversations using the Gail Jefferson transcription system, and basically the lesson section that the user will learn during a review of the topic. Gail Jefferson's system of transcribing is indicated by signs and signs to point out different and different spellings up and down the vowel length. Experts believe that speech is an act in itself, knowing how to convey words from the tongue can draw conclusions from the actions that have been taken. Researchers assume that transcribing Conversations in the Hello English app can make you better understand and practice pronunciation.

The Hello English efficacy study addressed the question of whether the introduction of additional learning tools to students from grades 8 to 12 would significantly improve their language proficiency. The study showed that students attending school who used the HEloHE app in addition to their regular language classes showed greater progress compared to their classmates who did not use the HE app. On average about 73% of the HE users could expect to improve their language knowledge by at least one level compared to only 42% of their classmates. This difference between the two groups is statistically significant. The 95% confidence interval for HE students' progress is between 60% and 83%. Improvement The language improvement of the students who were complete beginners in English (Low Beginner Level of the HE group) was the most impressive with around 88% of them improving by at least one level. Students with higher starting levels also improved, but to a lesser extent (45%). These results are in line with previous language research (Vesselinov & Grego, 2012, 2016). Progress Progress of more advanced language learners was smaller compared to the progress of true beginners.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

Author 5: Supervision; Validation.

REFERENCES

- Abualigah, L., Diabat, A., Mirjalili, S., Abd Elaziz, M., & Gandomi, A. H. (2021). The Arithmetic Optimization Algorithm. *Computer Methods in Applied Mechanics and Engineering*, 376, 113609. <https://doi.org/10.1016/j.cma.2020.113609>
- Abu-elezz, I., Hassan, A., Nazeemudeen, A., Househ, M., & Abd-alrazaq, A. (2020). The benefits and threats of blockchain technology in healthcare: A scoping review. *International Journal of Medical Informatics*, 142, 104246. <https://doi.org/10.1016/j.ijmedinf.2020.104246>
- Acheampong, A. O., Adams, S., & Boateng, E. (2019). Do globalization and renewable energy contribute to carbon emissions mitigation in Sub-Saharan Africa? *Science of The Total Environment*, 677, 436–446. <https://doi.org/10.1016/j.scitotenv.2019.04.353>
- Ai, Y., Peng, M., & Zhang, K. (2018). Edge computing technologies for Internet of Things: A primer. *Digital Communications and Networks*, 4(2), 77–86. <https://doi.org/10.1016/j.dcan.2017.07.001>
- Anjali, Tripathi, A., Gupta, S., & Singh Yadav, S. (2021). Plagiarism Detector using Long Term Common Tracking. 2021 International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), 184–189. <https://doi.org/10.1109/ICACITE51222.2021.9404586>
- Atkinson, J. G., & Atkinson, E. G. (2023). Machine Learning and Health Care: Potential Benefits and Issues. *Journal of Ambulatory Care Management*, 46(2), 114–120. <https://doi.org/10.1097/JAC.0000000000000453>

- Barzilai, O., Rika, H., Voloch, N., Hajaj, M. M., Steiner, O. L., & Ahituv, N. (2023). Using Machine Learning Techniques to Incorporate Social Priorities in Traffic Monitoring in a Junction with a Fast Lane. *Transport and Telecommunication Journal*, 24(1), 1–12. <https://doi.org/10.2478/ttj-2023-0001>
- Bengio, Y., Lodi, A., & Prouvost, A. (2021). Machine learning for combinatorial optimization: A methodological tour d'horizon. *European Journal of Operational Research*, 290(2), 405–421. <https://doi.org/10.1016/j.ejor.2020.07.063>
- Bhatia, S. K., Jagtap, S. S., Bedekar, A. A., Bhatia, R. K., Patel, A. K., Pant, D., Rajesh Banu, J., Rao, C. V., Kim, Y.-G., & Yang, Y.-H. (2020). Recent developments in pretreatment technologies on lignocellulosic biomass: Effect of key parameters, technological improvements, and challenges. *Bioresource Technology*, 300, 122724. <https://doi.org/10.1016/j.biortech.2019.122724>
- Bordihn, S., Fladung, A., Schlipf, J., & Kontges, M. (2022). Machine Learning Based Identification and Classification of Field-Operation Caused Solar Panel Failures Observed in Electroluminescence Images. *IEEE Journal of Photovoltaics*, 12(3), 827–832. <https://doi.org/10.1109/JPHOTOV.2022.3150725>
- Cai, J., Luo, J., Wang, S., & Yang, S. (2018). Feature selection in machine learning: A new perspective. *Neurocomputing*, 300, 70–79. <https://doi.org/10.1016/j.neucom.2017.11.077>
- Chen, W., & Lei, Y. (2018). The impacts of renewable energy and technological innovation on environment-energy-growth nexus: New evidence from a panel quantile regression. *Renewable Energy*, 123, 1–14. <https://doi.org/10.1016/j.renene.2018.02.026>
- Davidovic, J. (2023). On the purpose of meaningful human control of AI. *Frontiers in Big Data*, 5, 1017677. <https://doi.org/10.3389/fdata.2022.1017677>
- de Oliveira Garcia, W., Amann, T., Hartmann, J., Karstens, K., Popp, A., Boysen, L. R., Smith, P., & Goll, D. (2020). Impacts of enhanced weathering on biomass production for negative emission technologies and soil hydrology. *Biogeosciences*, 17(7), 2107–2133. <https://doi.org/10.5194/bg-17-2107-2020>
- De Vries, A., Bliznyuk, N., & Pinedo, P. (2023). Invited Review: Examples and opportunities for artificial intelligence (AI) in dairy farms*. *Applied Animal Science*, 39(1), 14–22. <https://doi.org/10.15232/aas.2022-02345>
- Ding, J., Zhang, H., Leng, D., Xu, H., Tian, C., & Zhai, Z. (2022). Experimental investigation and application analysis on an integrated system of free cooling and heat recovery for data centers. *International Journal of Refrigeration*, 136, 142–151. <https://doi.org/10.1016/j.ijrefrig.2022.01.003>
- Foltýnek, T., Meuschke, N., & Gipp, B. (2020). Academic Plagiarism Detection: A Systematic Literature Review. *ACM Computing Surveys*, 52(6), 1–42. <https://doi.org/10.1145/3345317>
- Germain, A., Tinacci, L., Pantaleone, S., Ceccarelli, C., & Ugliengo, P. (2022). Computer Generated Realistic Interstellar Icy Grain Models: Physicochemical Properties and Interaction with NH₃. *ACS Earth and Space Chemistry*, 6(5), 1286–1298. <https://doi.org/10.1021/acsearthspacechem.2c00004>
- Hochreiter, J., Hoche, E., Janik, L., Volk, G. F., Leistritz, L., Anders, C., & Guntinas-Lichius, O. (2023). Machine-Learning-Based Detecting of Eyelid Closure and Smiling Using Surface Electromyography of Auricular Muscles in Patients with Postparalytic Facial Synkinesis: A Feasibility Study. *Diagnostics*, 13(3), 554. <https://doi.org/10.3390/diagnostics13030554>
- Hüllermeier, E., & Waegeman, W. (2021). Aleatoric and epistemic uncertainty in machine learning: An introduction to concepts and methods. *Machine Learning*, 110(3), 457–506. <https://doi.org/10.1007/s10994-021-05946-3>
- Hurlbut, A. R. (2018). Online vs. traditional learning in teacher education: A comparison of student progress. *American Journal of Distance Education*, 32(4), 248–266. <https://doi.org/10.1080/08923647.2018.1509265>
- Karhade, A. V., Ogink, P., Thio, Q., Broekman, M., Cha, T., Gormley, W. B., Hershman, S., Peul, W. C., Bono, C. M., & Schwab, J. H. (2018). Development of machine learning algorithms

- for prediction of discharge disposition after elective inpatient surgery for lumbar degenerative disc disorders. *Neurosurgical Focus*, 45(5), E6. <https://doi.org/10.3171/2018.8.FOCUS18340>
- Khan, M. K., Teng, J.-Z., Khan, M. I., & Khan, M. O. (2019). Impact of globalization, economic factors and energy consumption on CO2 emissions in Pakistan. *Science of The Total Environment*, 688, 424–436. <https://doi.org/10.1016/j.scitotenv.2019.06.065>
- Lett, E., Asabor, E., Beltrán, S., Cannon, A. M., & Arah, O. A. (2022). Conceptualizing, Contextualizing, and Operationalizing Race in Quantitative Health Sciences Research. *The Annals of Family Medicine*, 20(2), 157–163. <https://doi.org/10.1370/afm.2792>
- Madni, A., Madni, C., & Lucero, S. (2019). Leveraging Digital Twin Technology in Model-Based Systems Engineering. *Systems*, 7(1), 7. <https://doi.org/10.3390/systems7010007>
- Mehrabi, N., Morstatter, F., Saxena, N., Lerman, K., & Galstyan, A. (2022). A Survey on Bias and Fairness in Machine Learning. *ACM Computing Surveys*, 54(6), 1–35. <https://doi.org/10.1145/3457607>
- Mi, X., Fujinawa, A., & Berghthorson, J. M. (2022). A quantitative analysis of the ignition characteristics of fine iron particles. *Combustion and Flame*, 240, 112011. <https://doi.org/10.1016/j.combustflame.2022.112011>
- Mithu, M. A., Momo, S. I., Hasan, Md. M., Rahman, K. M., & Sattar, A. (2022). Pumpkin Leaf Disease Detection: Convenience of CNN Over Traditional Machine Learning in Terms of Image Classification. In A. K. Somani, A. Mundra, R. Doss, & S. Bhattacharya (Eds.), *Smart Systems: Innovations in Computing* (Vol. 235, pp. 347–357). Springer Singapore. https://doi.org/10.1007/978-981-16-2877-1_32
- Mohan, S., Thirumalai, C., & Srivastava, G. (2019). Effective Heart Disease Prediction Using Hybrid Machine Learning Techniques. *IEEE Access*, 7, 81542–81554. <https://doi.org/10.1109/ACCESS.2019.2923707>
- Pretorius, R., & Kotze, B. J. (2021). An Artificial Intelligence Energy Management System For An Educational Building. 2021 Southern African Universities Power Engineering Conference/Robotics and Mechatronics/Pattern Recognition Association of South Africa (SAUPEC/RobMech/PRASA), 1–7. <https://doi.org/10.1109/SAUPEC/RobMech/PRASA52254.2021.9377027>
- Ros, G., Fraile Rey, A., Calonge, A., & López-Carrillo, M. D. (2022). The Design of a Teaching-Learning Sequence on Simple Machines in Elementary Education and its Benefit on Creativity and Self-Regulation. *Eurasia Journal of Mathematics, Science and Technology Education*, 18(1), em2066. <https://doi.org/10.29333/ejmste/11487>
- Saha, D., & Manickavasagan, A. (2021). Machine learning techniques for analysis of hyperspectral images to determine quality of food products: A review. *Current Research in Food Science*, 4, 28–44. <https://doi.org/10.1016/j.crfs.2021.01.002>
- Schmidt, J., Marques, M. R. G., Botti, S., & Marques, M. A. L. (2019). Recent advances and applications of machine learning in solid-state materials science. *Npj Computational Materials*, 5(1), 83. <https://doi.org/10.1038/s41524-019-0221-0>
- Shalev-Shwartz, S., & Ben-David, S. (2014). *Understanding Machine Learning: From Theory to Algorithms* (1st ed.). Cambridge University Press. <https://doi.org/10.1017/CBO9781107298019>
- Sofroniou, A., Premnath, B., & Poutos, K. (2020). Capturing Student Satisfaction: A Case Study on the National Student Survey Results to Identify the Needs of Students in STEM Related Courses for a Better Learning Experience. *Education Sciences*, 10(12), 378. <https://doi.org/10.3390/educsci10120378>
- Stich, P., Busch, R., Wahl, M., Weber, C., & Fathi, M. (2021). Branch selection and data optimization for selecting machines for processes in semiconductor manufacturing using AI-based predictions. 2021 IEEE International Conference on Electro Information Technology (EIT), 1–6. <https://doi.org/10.1109/EIT51626.2021.9491836>

- Yu, D.-G., Li, Q., Song, W., Xu, L., Zhang, K., & Zhou, T. (2023). Advanced Technique-Based Combination of Innovation Education and Safety Education in Higher Education. *Journal of Chemical Education*, 100(2), 507–516. <https://doi.org/10.1021/acs.jchemed.2c00568>
- Zainuddin, Z. (2023). Integrating ease of use and affordable gamification-based instruction into a remote learning environment. *Asia Pacific Education Review*. <https://doi.org/10.1007/s12564-023-09832-6>

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