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HOW ARTIFICIAL INTELLIGENCE CAN BE EFFECTIVE FOR TEACHING ENGLISH TO HEARING IMPAIRED LEARNERS?

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Abstract: Many applications and algorithms that were previously impossible to perform on a notebook, computer, or mobile phone may now be readily implemented thanks to growing sophisticated technology and increasingly powerful processing capabilities on computers. Artificial Intelligence (AI) is one technology that is gaining popularity for a variety of applications. To increase hearing impaired knowledge of English, an effective learning technique is required. One method is to apply artificial intelligence to a technology-based learning medium, such as Kahoot. The purpose of this study is to examine the efficiency of teachers in using English learning media based on Artificial Intelligence Kahoot at SDLB B Budi Nurani in Sukabumi City. This research employs a qualitative approach. Several teachers and students participated in this study. Data was collected through interviews, observation, and documentation and was processed descriptively and interpretively. The findings indicated that using Kahoot as a medium for learning English increased students' motivation and grasp of the English subject matter.

Keywords: *Artificial Intelligence, English, Hearing Loss, Kahoot.*

BAGAIMANA KECERDASAN BUATAN BISA EFEKTIF BAGI PENGAJAR BAHASA INGGRIS UNTUK PELAJAR TUNARUNGU?

Abstract: Banyak aplikasi dan algoritme yang sebelumnya tidak mungkin dilakukan di laptop, komputer atau ponsel kini dapat dengan mudah diimplementasikan berkat teknologi yang semakin canggih dan kemampuan pemrosesan yang semakin kuat dari komputer. Artificial Intelligence (AI) merupakan salah satu teknologi yang mulai populer untuk berbagai aplikasi. Untuk meningkatkan pengetahuan bahasa Inggris tunarungu, diperlukan teknik pembelajaran yang efektif. Salah satu caranya adalah dengan menerapkan kecerdasan buatan pada media pembelajaran berbasis teknologi, seperti Kahoot. Tujuan dari penelitian ini adalah untuk mengetahui keefektifan guru dalam menggunakan media pembelajaran bahasa Inggris berbasis Artificial Intelligence Kahoot di SDLB B Budi Nurani di Kota Sukabumi. Penelitian ini menggunakan pendekatan kualitatif. Beberapa guru dan

siswa berpartisipasi dalam penelitian ini. Data dikumpulkan melalui wawancara, observasi, dan dokumentasi serta diolah secara deskriptif dan interpretatif. Temuan menunjukkan bahwa menggunakan Kahoot sebagai media pembelajaran bahasa Inggris meningkatkan motivasi dan pemahaman siswa terhadap materi pelajaran bahasa Inggris.

Keywords: *Kecerdasan Buatan, Bahasa Inggris, Tunarungu, Kahoot.*

INTRODUCTION

The Covid-19 Pandemic era altered the educational system. Initially, teaching and learning were done face to face. However, process teaching and learning are increasingly done remotely via the internet and information and communication technology (ICT). Whether you like it or not, classroom education, where teaching and learning activities are not nevertheless, this time face-to-face (offline). increasing emphasis on online education are more likely to use technology. Especially as a medium, information technology. In today's technologically advanced world, technology is used to make labor easier and to meet human requirements. Technological advancements are extremely beneficial in educational settings.

According to Purwanti et al. (2:2022) Education can be interpreted as a conscious and planned effort to realize good learning process so that students are active in good self-development efforts spiritually, personality, intelligence, self-control, good morals as well skills needed by himself, society, nation and state

AI has already been used in the realm of education. The Covid-19 epidemic has greatly benefited society. The spread of the Corona virus in diverse places throughout the world has had an influence on economic sectors and sectors. Education has also suffered considerably teaching and learning activities are compelled done remotely. This is where ICT comes in. Artificial Intelligence, in particular, is desperately needed. so that it may be both a convenience and a solution difficulty with schooling that develop at the moment pandemic.

During the Covid19 Pandemic, artificial intelligence as part of information technology is offered as a remedy inside schooling. Artificial Intelligence is a program with instructions about computer programming for accomplish something from that standpoint Humans are intelligent or may be understood as such a study of computer construction can perform things that are not yet possible outperform humans. The scope and the application of artificial intelligence is quite vast

The growth of ICT has an impact on people and organizations of all sizes, from individuals to governments. In addition, ICT can promote shifts in human civilization from the industrial to the information eras. Information technology and communications (ICT), according to Fauziah and Hedwig (2010: 4), is a technology used to handle information and assist with communication (information processing). A computer is used to convert, modify, store, process, send, and receive information. Information and communication technology, on the other hand, are various aspects involving technology, engineering techniques, and management techniques used in information control and processing as well as its use in computerizing various life aspects related to social, economic, educational, and cultural aspects, according to Munir (2010: 1). ICT refers to the technology used in the collection, organization, storage, manipulation, and processing of data or information to create data that are timely, accurate, and relevant for both individuals and communities.

On the creation of the latest technology for ICT, which continues to evolve alongside increasing human intelligence fix an issue. the greater the advancement of information technology, which is becoming increasingly important Several advancements have been developed. The Impact of ICT The level of human activity at this period is quite high. so that ICT may be both a convenience and a solution in order to address educational issues that develop in Period of epidemic. IT roles are also commonly used in help with learning, whether at school or at home self-education. Forward additional educational activities Artificial intelligence is being implemented. AI can be employed.

The twenty-first century demands an active process of activity when learning. A new paradigm for education called "active learning" places a focus on the involvement of the students in its execution. The process of autonomous learning is intrinsically tied to active learning. In order to generate meaningful learning and in accordance with the needs of the students themselves, it is necessary in the autonomous learning process to be able to carry out the learning process with their wishes (Putri, 2018). It is also well recognized that using technology is intimately tied to active learning in the twenty-first century. Learning may now be done through a number of sources, not only ones that students possess, like books or teachers. This is a fantastic opportunity that has to be taken advantage of.

One of the most current technologies that has been demonstrated to have a beneficial effect on the educational process is artificial intelligence technology. In Amrizal and Aini (2013), Rich and Knight claim that artificial intelligence is a technology that enables computers to carry out tasks that people do. A number of studies have revealed that artificial intelligence has a significant influence on how students learn (Groff, 2017), which is relevant from the perspective of education. In certain fields, artificial intelligence is still in its infancy, yet it is still useful to experiment with it. A number of educational initiatives, including the usage of IBM Watson, have made use of intelligent tutors. Design research might be finished as a consequence.

Artificial intelligence, in the words of Kusumadewi (2003), is a branch of computer science that "makes the machine (computer) can do a job like and as good as that done by man"; in the words of Barr et al. (1982), artificial intelligence is a branch of computer science that "studies (in the sense of designing) a computer system that intelligence, that is, a system that has characteristics of thinking like humans." From several definition above then, artificial intelligence offers media and test theory about intelligence. Theories This can later be expressed in language programming and execution can be proven in real computers. Like humans who have brain, computers can also have software that works as a brain. Humans can solve various problems not only because Humans have a brain that is capable of reasoning and analyze, but humans also have databases, knowledge, a collection of information, that's all it is gained from experience, and learning.

The study of and development of theories, approaches, tools, and application systems for artificial intelligence is a relatively recent field of technical study that aims to replicate, augment, and increase human intellect. Artificial intelligence spans a wide range of academic disciplines, including computer science, physiology, philosophy, psychology, and mathematics. The immediate objective is to create intelligent apps employing cutting-edge technologies.

The activity of many complex conditioned reflex neural network circuits

created by adaptive training throughout the learning process serves as the basis of artificial intelligence as an intelligent system (Han, 2018). Building a behavioral system that can imitate the operation of the human brain and is managed by a human computer system is the primary goal of artificial intelligence. The use of this technology broadens the range of available instructional resources and offers a more varied learning environment (Lo Piano, 2020).

With the use of artificial intelligence, computers are able to quickly and efficiently process large amounts of data and information to provide results. Artificial intelligence, according to Popenici and Kerr (2017), is simply intelligence demonstrated by a computer, system, or software. One of the traits of the Industrial Revolution 4.0 age, which is marked by automation and data interchange and in which individuals search, cite, analyze data and information, and access cloud services over the internet, is the application of artificial intelligence in education. Society 5.0, on the other hand, is described as a human-centered society in which issues are solved through a system that blends virtual and real space (Prastiwi & Pujiawati, 2019).

As learning and teaching centers in primary and secondary school. By incorporating them actively in the learning process, students are obliged to have independent learning. How to assist students in taking ownership of their own learning is one of the biggest issues instructors confront. According to Scharle and Szabó (2000), an autonomous learner must have gone through stages of gaining awareness, altering his attitude, and changing his role. According to Dörnyei and Ushioda (2013), a technology-based strategy can promote autonomous learning. While collaborating or finding a solution to assist people in the world, humans and artificial intelligence interact (Xhaferi & Xhaferi, 2011). In order to encourage students and instructors to participate more actively in the teaching and learning process, which is geared toward attaining autonomous learning, technology in AI must be deployed at all levels of education.

To support learning in this era, to enhance the quality of human resources that can compete in the global arena, and to have cutting-edge educational institutions and innovative teachers for learning, there is an urgent need for increased technological innovation in the field of education. Of course, in the period of the fourth industrial revolution, this will function provided it is backed by educational infrastructure and facilities based on information and communication technology. Expert systems, video games, fuzzy logic, artificial neural networks, and robots are a few examples of the various sorts of industries that employ artificial intelligence.

Several findings from artificial intelligence research demonstrate how the technology have steadily been incorporated into computer-assisted education, a process that is strongly tied to instruction modernisation. Artificial intelligence technology advancement will be very important. In recent years, AI researchers have worked to make it possible for students to learn new things through the "support learning" approach. Artificial intelligence technology may replicate human thinking, learning aids, and many more uses in different facets of training, demonstrating ever-improving usability (Halim & Prasetyo, 2018). Many discovered that in the Industrial Revolution 4.0 Era, new apps emerged that gave more enticing learning opportunities and subtly eliminated the need for teachers to pass on information (Astuti et al., 2019).

According to the findings of the research mentioned above, it can be said that the world has changed and that technology advancement has become a tool for learning new things. A lot of things appear challenging to human intelligence yet to be

rather simple to information technology. as creating games of chess or backgammon, calculating integral equations, or changing equations. On the other hand, technological realization of things that appear to humans to need a small amount of intellect remains challenging.

This artificial intelligence system uses individualized instruction to make studying more engaging and help students pay attention. The rationale is that artificial intelligence can teach pupils individually and can identify the areas where more effective instruction has to be done. In addition, artificial intelligence can identify concepts that are not understood by students, so that later they can make adjustments to find new ways to help student learning. The teacher is at the forefront of education. However, with the introduction of Google Assistant during the Industrial Revolution Era, the job of the instructor transformed. A fun learning technique is required so that the instructor may play his or her rightful function. In the Industrial Revolution 4.0 Era, there are six learning strategies that can be used: (1) helping students learn; (2) providing opportunities for students to develop and excel; (3) Strengthening Character Education (PPK); (4) technological literacy; and (5) being an effective teacher (Astuti et al., 2019).

An Artificial Intelligence model built using a collaborative filtering algorithm can predict learning styles based on student behavior at LMS. Furthermore, the AI model generated using an evolutionary algorithm can be used in the process of forming Team Based Learning study groups.

The application of artificial intelligence is anticipated to enhance access to and the quality of education in a variety of ways, including by fostering more efficient and individualized learning. Because artificial intelligence can guide each student's learning process and pinpoint areas that need to be addressed to determine the best method of instruction for each student, it is thought that studying with its assistance might improve student concentration. The use of Kahoot is one of several activities that might hasten socialization and broaden knowledge in the field of artificial intelligence.

It is essential to incorporate machine learning in the learning process right away (Mayer, 2020). Increased learning motivation due to engaging media, good adaptability, particularly with regard to collaborative learning media, and decreased costs of use due to an anticipated more advanced and effective system are some positive changes that individuals may experience in their learning process. 2018; Ramdani, Widyastuti, & Ferdian. With Kahoot, students may engage in an engaging learning process without sacrificing the depth or significance of the lesson being taught (Warsihna et al., 2019).

It is not well known how Kahoot may be utilized as a substitute instrument to assess a student's learning results. This is due to the fact that despite how simple and quick it is to use, there are still many teachers who are unaware of and do not employ this technology. The fact that pupils still only have a limited amount of information is another reason why the usage of Kahoot media has not been optimized.

Previous research has shown that Kahoot can increase student interest in working on a material (Warsihna et al., 2019), increase dynamics in the class to be more active (Wang & Tahir, 2020), improve learning performance and student engagement with the material being studied (Orhan Gökşün & Gürsoy, 2019), and Kahoot can also increase interest, interest, and good learning attitudes for students (Asikhia et al. Of course, there are many good outcomes that may be acquired by employing Kahoot in learning activities as an effective medium employed in the learning process. Kahoot has been demonstrated to be able to enhance student learning outcomes (Elsherbiny &

Raya, 2020), play a role in tying students to the subject matter they are studying (Asikhia et al., 2017; Plump & LaRosa, 2017), increase student enthusiasm to participate actively in activities (Bawa, 2019), and psychologically increase happy and comfortable emotions for carrying out learning activities (Siegle, 2015).

The advantages that result from using Kahoot are of course determined due to various factors involved in it (Chen & Yeh, 2019; Rila, & Bruhn, 2019). Among these factors is that Kahoot media is designed to increase one's curiosity about a question because it is supported by attractive appearance, color, time, and alternative answers so that people tend to pay greater attention when using it. The music that is given when the work is taking place also increases a person's biological hormones to stay active and enjoy things with a feeling of pleasure. In addition, Kahoot provides various features that can be accessed and enjoyed virtually. In Indonesia itself, the use of Kahoot has been widely used in various activities.

Research conducted by Zoebaidha (2020) shows that Kahoot media is effectively used in optimizing learning outcomes. The focus in this research is more towards Kahoot as an applicable media, but has not paid attention to aspects of readiness to use the media (Zoebaidha, 2020). Another study by Wang and Tahir (2020) also conducted a theoretical exploration of the use of Kahoot in learning but did not provide direct information regarding emotional images and things that Kahoot makers had to prepare for. Many previous studies have focused on the Kahoot as an instrument and evaluation of learning, but no one has looked at the factors that determine the optimization of this learning. The study conducted by the researchers themselves focused on looking at the crucial aspects of using Kahoot and looking at the psychological picture of the processes that occur when using Kahoot.

Language has an important part in students' intellectual, social, and emotional growth, as well as their achievement in all areas of study. Language acquisition is meant to assist pupils in becoming more acquainted with themselves, their culture, and the cultures of others. Furthermore, language acquisition helps kids communicate their thoughts and feelings, engage in society, and even find and employ their analytical and imaginative talents.

The importance of language as a tool for educational success cannot be overstated. This is considered as the allotment of language topics, whether Indonesian or foreign languages (English), at all levels of primary education, general secondary education, and special schools. Languages England has been designated as the eye compulsory topic for school pupils in the middle and upper grades since 1968, based on the Decision Letter Minister of Education and Culture number 096/1967. English is taught at the general-purpose level in order to give a general language foundation that may be utilized in everyday life (Alwasilah, 2007:85).

Language is a good communication tool for local people as well as international. Without language, human cannot communicate to convey thoughts and feelings. (Nugraha & Reyta, 2019). Mastery of language, especially mastery of skills speaking, listening, reading, and writing are the parts that important to learn in order to master the language and speak the language can do well and right. Language learning is becoming more and more important for students especially learning English. With mastery of English, students are expected to be able to communicate on the international stage and master science and technology are generally written in English. Process English learning is expected to be directed so that participants students can communicate well.

English is the first foreign language that must be learned by every student in a

formal education unit such as a school Elementary, Junior High School, Public High School, and College. It is the obligation of students to learn English is the effort of the Indonesian government in the era of full globalization with competition in all fields. English as a language international communication becomes important in order to bridge the communication between nations in the world. The rapid development of the international world cannot bid again if we do not want to be left behind from other nations. Enhancement the quality of Indonesia's human resources precisely lies in how the nation is Indonesia can compete internationally.

Understanding and conveying information, ideas, and emotions while also advancing science, technology, and culture are all parts of communication. The capacity to discourse, or to comprehend and/or generate spoken and/or written texts, is what it means to be able to communicate completely. Discourse is manifested in the four language abilities of listening, speaking, reading, and writing. To participate in or contribute to conversation in social life, these four abilities are used. As a result, the English course focuses on honing these abilities so that graduates can communicate and engage in discourse in English at a particular level of literacy.

Performative, functional, informational, and epistemic literacy levels are all available. People can read, write, listen, and communicate using the symbols at the performative level. People can utilize language to suit their requirements on a functional level, such as reading newspapers, manuals, or directions. People can use their language abilities to obtain material at the informational level, while they can convey their knowledge in the target language at the epistemic level (Wells, 1987). While SMA/MA students are anticipated to attain the informational level because they are ready to continue their education at higher institutions, SMP/MT students are targeted so that they may reach the functional level, which is communicating verbally and in writing to address daily difficulties. Because English is used as a foreign language in Indonesia, it is believed that SMA/MA students would not be able to obtain the required level of epistemic literacy.

Because of its importance in global communication and information transmission, the Indonesian government has made English a formal elective in elementary education and a mandatory subject in secondary school (Alwasiah, 2013). English is also introduced as a topic for special-needs at Sekolah Luar Biasa (SLB), or Indonesian Extraordinary School. It implies that all pupils, even those with disabilities and special needs, must study English.

Language understanding is closely related to hearing abilities. Hearing loss has a significant impact on the speech and language development of deaf kids, significantly affecting their academic progress, social and emotional interaction, and cognitive milestones (Moores, 2001). Furthermore, these hearing-impaired kids demonstrate that they do face communication, academic, social, emotional, and familial issues as a result of their condition (El-Zraigat & AI Emam, 2005). Deafness causes significant disruptions in several areas for young children, including reading abilities, spoken language acquisition, and social development. As a result, it is considered that deaf pupils may increase their language aptitude and competency with enough exposure and practice.

A unique language, speech, and audiological rehabilitation program is required for students with hearing impairment (El-Zraigat, 2013). One of the primary goals of deaf education is to help deaf pupils enhance their language abilities as much as possible. Each student may make better use of their intellectual ability as well as

socially learn and grow a deeper comprehension of the curriculum with language competence. As a result, in order to better their language skills, hearing-impaired students require a teacher who can convey the information effectively in light of their limitations. Based on the above background information, how can teachers be effective in using English learning media based on Artificial Intelligence Kahoot at SLDB B Budi Nurani in Sukabumi City?

METHODS

This study used qualitative methods using questionnaires, observations and interviews as instruments. The population of this study were 20 students of class VI at SDLB B Budi Nurani in Sukabumi City. The sampling technique used is simple random sampling. The data obtained were analyzed qualitatively using descriptive analysis. The duration of the research was 3 weeks.

RESULT AND DISCUSSION

Result

Tabel 1. Research results in the form of a percentage

No	Percentage Before Using Kahoot	Percentage After Using Kahoot	Percentage Increase in Kahoot Usage	Explanation
1	50	90	100	The level of student participation increased after using Kahoot as a medium for learning English
2	60	95	70	The level of student motivation increases after using Kahoot as a medium for learning English
3	65	95	50	The level of students' understanding of English subject matter increases after using Kahoot as a learning medium
4.	65	95	50	The level of students' Interest in learning materials that delivered in Kahoot
5	65	95	50	The level of students' Confident with the score that will in Kahoot.

Discussion

The results of the study show that English teachers at SDLB B Budi Nurani in Sukabumi City have succeeded in effectively implementing the Kahoot learning media. This can be seen from the increase in students' learning interest in English lessons and the increase in students' academic scores in these subjects. In addition, students are also more active in participating in learning and are more interested in repeating material that has been studied using the Kahoot learning media. Learning English using the Kahoot learning media is also considered more fun by students

The effectiveness of using Kahoot-based language learning media by SDLB B Budi Nurani in Sukabumi City teachers was evaluated in this study. Based on previous research findings, it is possible to conclude that using Kahoot in English language instruction can improve student learning outcomes and efficiency. In addition, the study found that teachers who are enthusiastic and knowledgeable about using Kahoot as a learning tool may maximize the benefits of the project. The use of Kahoot as a media for language learning in English is also linked to pedagogical constructivism, which emphasizes active learning and

the development of self-awareness through reflection and interaction with subject matter.

Kahoot learning media has advantages in increasing student interest in learning and motivating students in learning English. This is in line with research conducted by Siswanto and Yulianto (2018) which stated that game-based learning media, such as Kahoot, can increase student motivation and facilitate understanding of concepts. In addition, Kahoot learning media can also increase interaction between teachers and students, as well as facilitate students in obtaining a better learning experience (Laksana, 2020). However, this research also shows that the use of Kahoot learning media must be adapted to the subject matter to be delivered. This is in line with research conducted by Rahayu (2018) which states that the use of learning media must be adapted to the learning objectives and student characteristics. Therefore, teachers must be able to combine the use of Kahoot learning media with other learning methods so that learning mathematics becomes more effective (Alfansyur & Mariyani, 2019).

The results of the study show that 95% of students like the use of Kahoot in learning English. This shows that using Kahoot can make learning English more interesting and fun for students. Additionally, 95% of students feel that using Kahoot helps them understand the material better.

The fourth indicator related to learning motivation is curiosity student. Curiosity is a very important initial capital in the process English learning. As for the aspect of curiosity What is being studied is interest in the material and material delivered from Kahoot with a score the percentage of 95% includes good criteria.

The last indicator is self-confidence, as for the aspects studied among them are 1) confident in doing the task in Kahoot with a percentage score of 95 % with good criteria means that students already have good self-confidence in doing the assignments given by the teacher, and confident with the score obtained with a percentage of 95 % including good criteria so that it can be interpreted that students have good self-confidence with scores or grades from tasks that have been done.

CONCLUSION

Based on the findings of the research, the implication of using Kahoot learning media effectively can increase students' English learning outcomes at SDLB B Budi Nurani in Sukabumi City. Students' ability to grasp and apply English topics improves significantly after utilizing Kahoot. Furthermore, the utilization of Kahoot can boost student interest and involvement in learning.

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