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Effects on Developing Listening Skill for ELF Student's with Artificial Intelligence

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ARTICLE INFO	ABSTRACT
	Technology is used in many facets of life, including education, and it plays a significant role in people's daily lives. The development of artificial intelligence is seen as an illustration of technological progress. Investigating how students feel about utilizing a mobile application with artificial intelligence to enhance their English listening abilities is the aim of this study. With the speed at which technology is developing, AI-based applications have become viable resources for teaching and learning languages. The goal of the study was to determine the possible obstacles and restrictions associated with integrating AI technologies into language instruction. In this study, a control group of 15 students from Mech and 15 from EEE was selected during the first semester. In the second semester, following an examination using a traditional technique, the same group participated in an experiment with the digital platform AI. The results of listening skills tests that were administered to both groups during the study were statistically analysed. After that, the questionnaire was framed and the survey was gathered. Lastly, by employing a variety of gamification components, including credentials, knowledge points, levels, and feedback, the research findings demonstrated positive results for both language teachers and students in improving listening skills through artificial intelligence. **Keywords:** Technology, Artificial Intelligence, listening skill, English language, developing skill.

Introduction

Effective communication requires the ability to listen. You can start to strengthen connections, make better decisions, and come to agreements with people more rapidly when you listen intently. Being able to listen effectively shows that you can focus on someone else's ideas, actions, and emotions allows an organization to function effectively with the information provided, which may lead to adaptation creates connections on a personal and business level. Many of us take the ability to listen for granted. It is common for people to hear what is being said, yet hearing and listening are two different things. It takes deliberate effort to listen in order to take in, process, and comprehend what other people are saying.

"Listening not only enhances your ability to comprehend and communicate, but it also makes speaking with you more enjoyable for others. Making the other person aware that you are paying attention to what they are saying is essential to improving your listening abilities. Active listening, one of the most crucial listening abilities, is hearing what is said and observing nonverbal cues. The speaker may convey a completely different message with their body language, posture, and facial emotions than with their spoken words. Active listening is the epitome of the art of hearing.

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Being understood is what everyone desires. Nevertheless, without active listening, that is not possible. For effective communication, active listening involves paying attention to what the speaker is saying, giving feedback, analyzing their body language and other non-verbal clues, and showing empathy for their feelings. The most important means of communication is language. Almost usually, communication occurs inside a specific type of social context. Both on a personal and communal level—that is, on the border—language is inextricably linked to our own identities. Language allows people to express their personal opinions as well as the cultural values and customs of the people they are interacting with, such as their families, social groups, and other associations (Kuiper, Allan, Kuiper & Allan, 2017).

In actuality, language is a talent rather than a content-based discipline like science, social studies, commerce, mathematics, and so forth, which seek to impart knowledge and impression the human mind. Additionally, language proficiency may be an advanced talent that encompasses four subskills: speaking, writing, listening, and reading (Husain 2015). Technology is becoming a very significant and out-of-category aspect of the training process. Learning has been facilitated and improved through the use of technology. One of the most advanced technologies used to enhance English proficiency is artificial intelligence (Ahmandi 2018).

Artificial intelligence, according to The New International Webster's Comprehensive Dictionary of the English Language, Encyclopaedia, Edition, is the study of computers that are capable of human-like cognitive processes including learning, reasoning, and self-correction. In order to provide certain qualities that are typically considered to be similar to human intelligence, such as learning, adapting, self-correction, and so on, the concept of that machine is frequently updated.

Role of AI in developing listening skill:

Artificial intelligence has advanced significantly in recent years and is now present in many aspects of daily life. It is distinguished by its capacity to enhance human intelligence. Education researchers are increasingly looking into artificial intelligence (AI) as a potentially useful technology to promote and improve language acquisition, especially in the development of students' communication abilities. AI has the ability to offer flexible, interactive, and personalized learning experiences that meet each learner's unique requirements and preferences. The goal is to find out how AI may help English language learners improve their communication abilities. The four core language skills—speaking, listening, reading, and writing—can be supported in a variety of ways by integrating AI into language learning environments.

Language learning applications, chatbots, virtual tutors, and speech recognition software are examples of cutting-edge artificial intelligence (AI)-powered systems that could offer students immersive and interesting language learning experiences. Some of the features that these technologies provide include tailored material, adaptive evaluations, and real-time feedback. These components may help students communicate more effectively and accelerate their language learning.

Furthermore, the use of AI in language teaching has the potential to boost uniqueness since students can access resources and receive feedback independently, whenever they want, from any place. Artificial Intelligence can also help create personalized learning paths that adapt to students' learning styles, preferences, and progress. Using AI in language learning environments can help with a number of issues that English language learners face, including the need for specialized attention, the inability to communicate with native speakers, and the lack of fast feedback. The absence of artificial intelligence would create an unimaginable scenario.

The capabilities of artificial intelligence are expanding in step with global advancements. It has a lot more intelligence now than it had a few years ago" Applications of artificial intelligence are transforming models of human-technology interaction. As AI systems become more adept at adjusting to the distinct characteristics and goals of each individual, human-machine interaction becomes more effortless and natural. A supercomputer is a machine with vast processing power and adaptive behavior, including the

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use of sensors and other capabilities, that enhances human-computer interaction and develops cognitive and functional abilities similar to those of humans, according to Chen et al. (2020).

Literature Review:

The teaching and learning process in schools could be revolutionized by artificial intelligence (AI). AI has the potential to be a useful tool for enhancing pupils' speaking and listening abilities in particular. For this reason, this literature review will examine recent studies on the value of AI in education. According to Mercy Gnana Gandhi (2017), "In the current context, a thorough understanding of technology enhanced learning process seems indispensable for teachers and learners." Mercy Gnana Gandhi (2015) adds that in the current context, both teachers and students appear to need a solid grasp of technology in order to enhance the learning process.

John McCarthy, an American physicist, first used the term "artificial intelligence" in 1955. He defined the latter as a computer or software that can reason similarly to a person. According to McCarthy (2007), artificial intelligence gives you the ability to:
1) Think and comprehend instead of acting automatically or instinctively;
2) Quickly grasp new situations and gain experience;
3) Use knowledge to act on your surroundings and think abstractly;
4) Acquire, comprehend, apply, and establish cause-and-effect relationships.

Here, the foundation was laid for a completely new field with tremendous development potential and the potential to significantly boost civilization. Chih-Ming and Ying-you (2020) assert that AI-enhanced digital technology has become indispensable in our everyday lives due to its immense capacity to alter our thoughts, behaviors, and interactions. Artificial Intelligence (AI) has become a potent instrument in language instruction, revolutionizing how teachers and students engage with language learning resources and materials. AI's ability to adapt instruction and content to the requirements, skills, and preferences of individual learners is one of its primary functions in language learning platforms.

By creating and adapting intelligent content, AI can potentially improve language instruction. According to Liu (2023), AI algorithms can create or modify language learning resources to meet the demands of various students. Exercises, tests, and language games that are tailored to challenging proficiency levels and particular learning objectives can be produced by AI. AI has a lot of potential for teaching languages, but it's vital to understand its limitations, according to Liu (2023). Personalized, interactive, and differentiated learning are the primary opportunities for the application of AI in education. Educational researchers have been discussing the advantages of these approaches for decades, but their actual implementation is exceedingly challenging in a typical classroom.

Teachers' motivation to use technology determines how well their pupils learn (Mercy Gnana Gandhi, 2013).

The rise of artificial intelligence holds promise for improving education on many levels, but human interaction will always be necessary to provide high-quality education. Basic language, math, and science learning applications are already available with varying degrees of success (Martin 2006). Tiryakioglu and Erzurum (2011) assert that social networking sites can be effectively incorporated into teaching methods. Resources like blogs, wikis, social networking sites, and video sharing platforms are being used by schools more and more for teaching and learning.

The Artificial Intelligence in Education (AIDE) community has been working to overcome the two sigma challenge by creating systems that are as effective as human teaching one-on-one (Van Lehn, 2011). Sijing and Wang (2018) found that students' hearing and comprehension skills significantly improved when they used technology to converse with native speakers of the target language. According to Roumaissa and Saliha (2020), learners can improve their intonation and stress patterns, recognize and fix pronunciation mistakes, and gain more confidence when speaking thanks to this instant feedback.

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Background:

Technology use has grown to be a crucial component of training and is no longer an exception. Technology has been used to enhance and facilitate education. According to Ahmadi (2018), artificial intelligence is one of the most important technologies used to enhance English proficiency. The notion of that machine is frequently enhanced to assume functions like learning, adapting, self-correction, and others that are typically regarded to be similar to human intelligence. In the summer of 1956, John McCarthy created the phrase artificial intelligence, or AI for short, during a well-known workshop at Dartmouth College (Benko & Silk Lanyi, 2011). Artificial intelligence, a branch of computer science, is concerned with building intelligent machines that behave and operate similarly to humans (Habeeb, 2017). In philosophy, artificial intelligence refers to the branch of mathematics that is marketed by the media as a substitute for human cognition.

Artificial intelligence is a multifaceted, multidisciplinary discipline. The advancement that is made these days has a special position in it. This generation is extremely fortunate to live in a time of technological growth. This facilitates easy and comfortable learning for new students. It gives them access to a new platform where they can participate in learning new languages and skills. AI studies how machines and computers can become as intelligent as people. This technology allows the machine to perform a variety of common human tasks, from simple to complex. Artificial intelligence systems are able to reduce human labor in a variety of fields.

Applications of artificial intelligence make it easier to do tasks faster and with better outcomes. Regular assessments of the students' learning from each lesson were conducted.

Scope:

The major goal of this paper is to demonstrate how AI technology may help EFL students improve their listening skills. AI was created to swiftly complete human-like jobs on computers. Students can now obtain individualized learning thanks to AI technologies. It frequently assists teachers and children who are struggling academically. Students were focused on embracing a generic approach to education prior to the development of technology and the pre-AI age. However, with the advent of AI, students are now able to experience and learn according to their own needs and speed. Students' learning routes are personalized by it. It's critical that you comprehend how artificial intelligence is used in education. Many students' learning styles have significantly improved as a result, and it has also assisted teachers in adopting creative teaching strategies.

Through the use of AI tools and technology, students may learn and comprehend foreign languages. Additionally, students pick up new vocabulary and word pronunciation. By producing interactive information, enabling individualized learning opportunities, and supplying real-time support, artificial intelligence helps students learn effectively through interactive learning. The AI teaching and learning platform currently only meets that need. AI use raises ethical questions, though, including issues with bias and data protection as well as challenges in identifying complex linguistic nuances.

Artificial intelligence (AI) systems may be structured differently than human ones. The use of AI to education in general and listening skills development in particular has the potential to completely transform how students acquire new abilities. AI offers pupils interesting and useful tools to improve their listening abilities. As AI technology advances, it will be fascinating to observe how it may be used in the classroom to enhance students' learning objectives.

Research Methodology:
Control Group:
This study was conducted with a group of thirty first-year polytechnic students who had finished taking different listening skills tests in a traditional manner without the use of any technology. A pre-test consisting of 30 samples was administered at the start of the semester as part of the Diagnostic Assessment of Learning. While students focus on the foundational level of English for specific reasons, courses like Professional English integrate listening abilities. A cloze test, multiple-choice questions,

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true-false, and match the following were used to evaluate the students' performance on a variety of texts from various genres. As a post-test, the average scores were noted.

Experimental Group:

After using the traditional way of listening skills (i.e., Semester II), the same group was given the opportunity to use read-theory in the study. Each pupil has a unique level of listening skill development. The disparities are supported by this AI, which also demonstrates that all learners, regardless of speed, should have individualized listening instruction. The placement pre-test is required of all students who log in for the first time, and it starts at the third grade level by default. This allows for the highest level of differentiation and personalized learning. We closely monitored and recorded the post-test findings via the instructors' dashboard.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	St d. Deviation
Control	30	11	38	26.67	6.759
Experimental	30	17	39	30.43	6.027
Valid N (list wise)	30				

Table 2. Paired Samples Statistics

	Mean	N	St d Deviation	St d Error Mean
Pre-Test	26.67	30	6.759	1.234
Post- Test	31.27	30	6.011	1.097

Using SPSS, descriptive statistics were used to analyze the recorded scores. According to Table 1 above, the control group's mean score was 26.67 and the experimental group's was 30.43. Table 2 shows the pre-test mean score of 26.67 and the post-test mean score of 31.27. Based on the findings of the pre- and post-tests on general listening capacity, the T-test was created to evaluate the group's inferring abilities. The influence on enhancing the listening skills of second language learners is evident from the notable variations in the inferring tests between the two groups. The paired-samples t-test is then altered to illustrate the variations between the pre and post-tests within the controlled and experimental groups. One by one, the performance of the experimental and control groups has changed, as shown by the analysis of Tables 3 and 4.

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Table 3. Paired samples t-test of the Control group

Test	N	Mean	SD	Mean Difference	T	df	sig
Pre-test	30	9.09	1.79	0.28	0.942	38	0.61
Post-test	30	8.81	1.11				

The control group's mean score, where t = 0.94 and P = 0.61, does not differ significantly, as Table 3 clearly shows. P = 0.61 does not satisfy the significance level of 0.05. As a result, the control group clearly shows no changes. The experimental group's mean score in Table 4 is still greater than the pre-test. At the significance level, the mean difference is 7.41 for t = -2.80. There is thus a noticeable distinction between the experimental and control groups.

Table 4. Paired samples t-test of the experimental group

Test	N	Mean	SD	Mean Difference	T	df	sig
Pre-test	30	7.41	2.82	7.41	-2.8	22	0.00
Post-test	30	15.00	0.95				

As compared to the pre-test, the analysis shows that the post-test results show a significant difference. The experimental group has an impact on the use of this digital reading tool, read-theory, at the level of significance 0.05 where t = -2.83, as indicated by the mean difference of 6.1 in table 5.

Table 5. Independent Samples t-test results of the post-test between both experimental and control group

Test	N	Mean	SD	Mean Difference	T	df	Sig
Control	30	9.1	1.11	6.1	-2.83	22	0
Experimental	30	15.6	2.6				

Since the mean difference differs, it may be demonstrated that H1 is accepted. The purpose of the study was to gather information through a questionnaire on their experiences with artificial intelligence.

1) I am inspired to improve my critical thinking and listening skills by artificial intelligence.
2) AI assisted me in expanding my vocabulary.
3) AI starts to become more learner-centred.
4) This AI provides better guidelines than the conventional approach.
5) I choose AI since it contains a lot of interesting articles about real-time occurrences.
6) This tool promotes self-sustaining learning.
7) I find that my listening skills are getting better.

8) AI is a very strong instrument for understanding the most recent global information.
9) Rather than for a duty, I listen a lot because I find it interesting.
10) Using this program to practice listening, I encountered a collaborative learning environment.

Table 6. Questionnaire Results in Percentage

Experimental Group	Students' Questionnaire				
	Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**
MECH	39	43	26	24	18
EEE	35	49	24	24	18
Total	74	92	50	48	36

Figure 1. Questionnaire results (Consolidated)
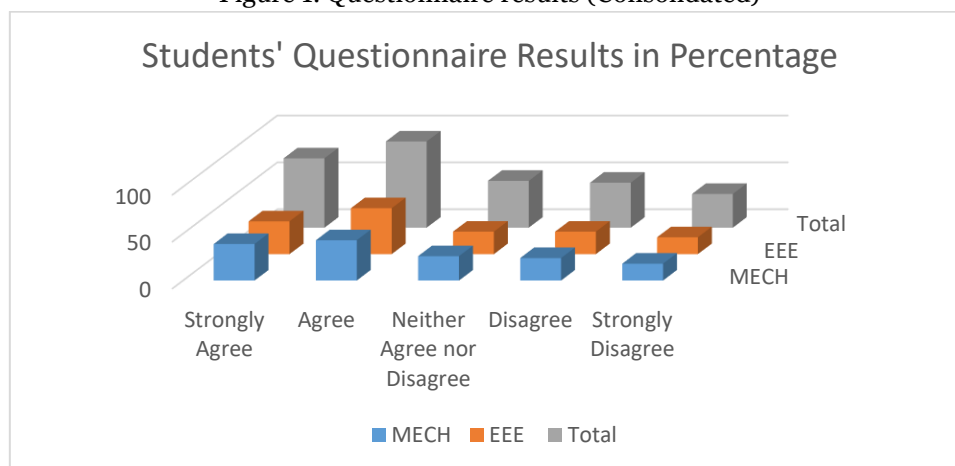
They have been asked to respond in accordance with their understanding of the articles they have been encouraged to read for the class assignment. The replies provided by the Mech & EEE scholars via the feedback form are shown in Fig 1. As the group engaged in both controlled and experimental roles, consolidated results were shown in Figure 1, with 25% strongly agreeing that artificial intelligence can improve listening skills. Of both groups, 31% agreed that artificial intelligence should be used. The percentages for neither agreeing nor disagreeing were 17. 15% of respondents in both groups disapprove with the use of AI. Last but not least, 12% of the study group strongly disagreed with the consequences of AI.

Data Collection:
The questionnaire and recorded test results from the control and experimental students are the sources of data used in this study. Using the digital learning mode, the questionnaire is utilized to investigate how artificial intelligence has benefited students in improving their listening skills. Observations and analyses have been gathered, and suggestions have been made publicly by academics.

Data Analysis:
To arrange the records, numerous steps have been used. Observations were gathered. First, the majority of my commentary notes, as well as other listening lesson plans and activities for the traditional listening test, have been evaluated throughout the first semester of the exam. On the researcher's dashboard throughout the second semester, the results of the experimented group's AI quizzes were

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then obtained. A statistical analysis of the first semester's (Control) and second semester's (Experimental) outcomes was conducted. The Likert scale, a psychometric response measure that asks participants to rate their agreement with a statement, was used to gather and analyze the feedback. It typically has five points: Answers such as disagree, agree, neither agree nor disagree, strongly disagree, and neither agree are all acceptable. It is possible to measure the target sample's opinions on a topic, concept, or phenomenon being studied by using Likert scales. A suitable data sample is produced as a result of the questions' frequent simplicity and high response rate. Measurable feedback may be useful since it can be aligned with actual outcomes instead than hypothetical goals.

Result and Discussion:

The SPSS software was used to analyze the quantitative assessment of the collected scores. The paired-samples t-test and descriptive records were used to analyze the scores obtained from 30 participants in the control and experimental groups. It is important to consider the value of the contextual manner of listening platform at some point, as indicated by the mean difference in the scores. These individuals proved to be reliable sources of information and showed how artificial intelligence may improve listening skills.

Feedback was used consistently throughout the use of this digital listening instrument as part of the evaluation process. Students did not exhibit dejection as a result; instead, they showed that they were confident and engaged during the sessions since they knew what they needed to do to get better at listening. In the EFL classroom, artificial intelligence, a digital program, is thus used as a motivating technique that encourages student participation and even makes students who don't typically participate feel comfortable and secure while they are learning by fostering equality and sharing knowledge. Therefore, by integrating the student's incentive, artificial intelligence improves listening abilities and establishes a trustworthy learning environment. This proves that artificial intelligence is not only entertaining for pupils but also aids in their listening comprehension. Using artificial intelligence to improve listening skills at all levels is something that teachers can be confident will be supported.

Conclusion:

Artificial intelligence is a revolutionary method of addressing listening skills that utilizes the internet and technology. There are certain shortcomings in the research, despite the fact that employing AI to enhance listening abilities was quite successful. Both the effectiveness and the scope of research have become interesting after learning about the advancements made by academics in the field of artificial intelligence. When college students were asked to read and test four to five articles per week, they demonstrated their motivation effectively. Enforcing and motivating students' listening skills is one way to demonstrate such an implementation tool for classroom activities. . Thus, it may be used in a variety of ways as a hub for individualized learning using instructional materials from which a hands-on, activity-focused activity helps students acquire listening skills through cooperation and coordination. Therefore, it is thought that this AI digital listening tool is a useful tool for second language learners who are interested in improving their listening abilities.

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