

Integration of AI-Technologies into ELT: A Brief Study

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Abstract: A new technology called artificial intelligence has begun to alter educational resources and organizations. Artificial Intelligence (AI) is embedded in society as a technical aspect in almost all the domains. The use of artificial intelligence in education has gained popularity. The usage of AI-based teaching has a favorable effect on students' academic progress. As a result, integrating technology effectively is essential for improving students' learning and achievement. Technology and ELT (English Language Teaching) are now practically interwoven. ELT ultimately gets affected by technological developments. Inevitably the practice and understanding of ELT have changed with the advent of the AI era.

Keywords: Artificial Intelligence, Digital Platforms, ELT, Language Skills

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Introduction

U.S. Department of Education, (2023) states that “Artificial Intelligence,” a rapidly advancing class of foundational capabilities which are increasingly embedded in all types of educational technology systems and are also available to the public.

It is committed to supporting Member States to harness the potential of AI technologies for achieving the Education 2030 Agenda, while ensuring that its application in educational contexts is guided by the core principles of inclusion and equity (UNESCO).

In the present scenario the advent of latest Technology of Artificial Intelligence (AI) makes a lot of changes in every sphere of daily-life. AI plays a significant role in almost all the areas or disciplines in association with the internet-based world; and furthermore, it is considered indispensable to humankind. The impact of Artificial Intelligence on Higher Education is marvelous and advantageous to the Teaching-Learning Process as well as students' motivation. The use of artificial intelligence in education has gained popularity because it alters how rapidly we learn. Since the advent of web-based smart devices, technology continues to play a significant part in education, but it is now used more frequently than ever.

A new technology called artificial intelligence has begun to alter educational resources and organizations. The ideal educational strategy in the realm of education requires the presence of teachers. The employment of teachers, who are vital to the educational system, is altered by the advancement of artificial intelligence. The AI primarily employs the use of machine learning, deep learning, and advanced analytics to track a specific person's relative speed to other people.

In the near future, a great deal of our lives will be impacted by AI; and the field of education will be one of those areas that will be greatly affected. This is because teaching and learning are important aspects of life; and the existing educational system should offer a lot to be desired. AI is making rapid advances in all areas of society, and is expected to play a major role in education in the near future (Carvalho et al., 2022).

Definitions of AI

In our day to day life Artificial intelligence (AI) is embedded in society as a technical aspect in almost all the domains and disciplines; so that it is essential to understand its significance and how AI is advantageous and useful to the present scientific and educational systems. The following are a few definitions for comprehension:

- Artificial Intelligence (AI) is the ability of a computer or a robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and discernment. (Britannica)
- John McCarthy (1955) coined the phrase, Artificial Intelligence (AI) and defined it as, “the science and engineering of making intelligent machines”.
- Artificial Intelligence (AI) is, according to (AI HLEG) of the European Commission (EC), “Systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals.”(High-Level Expert Group on Artificial Intelligence, 2019)
- Nils John Nilsson (2010) “Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment.”
- In general sense, Artificial Intelligence (AI), furthermore, acknowledged as machine intelligence, is a branch of computer science that focuses on building and managing technology that can learn to autonomously make decisions and carry out actions on behalf of a human being. (Techopedia, 2023)

Review of Literature

The significance of AI has increased dramatically, especially since the time that schools and institutions were shut down because of the COVID-19 pandemic. Due to this, instructional management systems, tools for evaluation and other instructional assistance systems may need to be developed in order to address the potential effects of AI on instructional methods.

According to Stone et al. (2016), one of the computer programs is AI that draws inspiration from how human beings use their neural networks to comprehend, learn, evaluate and behave appropriately. Its foundation was the idea that intelligence might be so precisely described that a machine could replicate it. AI is different from other computer programs by its capacity for self-learning; in its most developed form, AI may have abilities comparable to human learning, situational awareness, problem-solving, and natural language communication (Kok et al., 2009).

In their capacities as learning facilitators and examiners, teachers benefit greatly from AI. Big data regarding the learning process gathered from students, teachers, and schools can be used to analyze this, as can be shown in the possibilities. For instance, the chatbot is considered an AI-based program that can detect and comprehend speech and then answer properly. It offers individualized learning support using a variety of tools, including computers, mobile devices, and speakers. According to Topal et al. (2021), the communication between chatbots and students in a classroom may encourage learning by establishing a foundation for an innovative approach in teaching across a range of scientific subjects.

The usage of AI-based teaching, as stated by Zhao et al. (2019), has a favorable effect on students' academic progress and is crucial in helping them overcome word forgetting. Moreover, teachers' usage of an AI-enhanced scaffolding system could improve STEM students' scientific writing (Kim & Kim, 2022).

Applications of artificial intelligence (AI) have the capacity to receive, retain, and analyze data as well as to encourage self-learning, help teachers in accounting for individual student variances and enhancing the standard of learning and instruction. AI offers a wide range of prepackaged programs for self-directed learning or teacher-assisted studying; and these programs can be utilized in dialogues and interactions, reflecting in the improvement of the education system in general. As a result, AI applications have an

impact on the curriculum, instructional strategies, schedule and interaction all of which contribute to the educational procedure.

Integration of AI-Technologies into ELT

The world is becoming increasingly more global in scope, and technology enables individuals to connect to more advanced knowledge, science, and information, which may then be used as a medium for improving teaching and learning. English language learners can now encounter new things that they would not be able to in a traditional classroom because to the technology that is available on educational programs. In the present education the use of technology in the process of teaching and learning becomes inevitable.

The application of technology to enhance the educational experience of students is referred to as technological integration. It is crucial in the study of languages since technology has been demonstrated to promote student enthusiasm and participation, which leads to better learning outcomes. Students can acquire critical and creative thinking, teamwork, communication and problem-solving abilities that are crucial for success by successfully integrating AI technologies.

As a result, integrating technology effectively is essential for improving students' learning and achievement. Multiple technologies are used to enhance the pronunciation of students with the goal of achieving effective spoken involvement. It is essential to provide prospective English instructors with training on how to use technology in the classroom successfully because it is increasingly becoming an essential component of the teaching-learning process.

Since English is the language of business, science, and technology, developments in society have an effect on ELT in some way. According to Willy, A. et al. (2016), ELT (English Language Teaching) is a systematic, dynamic, and complicated process that has altered over time.

As AI becomes more prevalent, ELT must become more flexible and dynamic and teachers must be knowledgeable about both pedagogy and technology. Everyone will be affected by the advent of AI because AI is intruding our most private lives. Technology and ELT are now practically interwoven. ELT ultimately gets affected by technological developments. Inevitably the practice and understanding of ELT have changed with the advent of the AI era.

To improve educational outcomes, teachers and students can use AI tools effectively during the course of instruction and learning. Student learning techniques can be enhanced by the fast growing technology of artificial intelligence and its effects on language instruction. AI also helps in the preparation of lessons, classroom activities and administrative procedures.

AI technology/Tools used in ELT

Although AI tools are frequently discussed primarily in the context of business, there is immense potential for AI to significantly enhance the quality of our educational systems. In the field of education, AI (artificial intelligence) is quickly expanding. This technology's ability to drastically alter many parts of the teaching and learning processes is the cause of its explosive expansion. Artificial intelligence (AI) has the ability to develop "smart content," lessen language barriers and bridge the gap between learning and teaching. The following are AI technologies offered by numerous cutting-edge companies to get the best outcomes in the field of education.

Nuance's Dragon Speech Recognition: Students and faculty can use Nuance's speech recognition software, which is based in Burlington, Massachusetts. For students who struggle to write or type, the Dragon Speech Recognition tool can transcribe up to 160 words per minute. For students who need accessibility features, the program now enables verbal instructions to navigate papers. It is possible to dictate lesson plans, syllabi, worksheets, reading lists, and much more with Dragon at a rate that is three

times faster than typing. While doing so, it achieves 99% accuracy. The following are some of Nuance's Dragon's key characteristics:

- Accessibility features supporting verbal commands
- Voice to assess student work
- Dictate class work with 99% accuracy

Nuance-website: <https://www.nuance.com/dragon/industry/education-solutions.html>

Cognii: Another Boston-based company, Cognii, creates AI-based educational tools for K–12 and higher education institutions. Leading supplier of educational tools powered by artificial intelligence is Cognii. Furthermore, it is used in corporate training settings. With the use of conversational technology, Cognii's virtual learning assistant, one of the company's key AI tools, encourages students to think critically and formulate open-ended responses. In addition, the virtual assistant offers personalized real-time feedback and one-on-one tutoring for each student. Its features as:

- Helps students form open responses
- Provides one-on-one tutoring
- Adaptive personalization for each student.

Cognii-website: <https://www.cognii.com/>

Knowji: Knowji, an audio-visual vocabulary application that makes use of latest educational research, is another of the best AI teaching tools available today. For language learners, Knowji employs a variety of techniques and ideas to speed up learning. The AI teaching tool monitors the progress of each word and anticipates when users are most likely to forget it. These skills are attained by the use of a spaced repetition algorithm, which helps students get better at learning over the course of time. The following are some of Knowji's key characteristics:

- Common Core Alignment
- Multiple learning modes
- Customizable and adaptable
- Images and example sentences

Knowji-website: <https://www.knowji.com/>

Plaito: An AI-powered learning tool called Plaito aids in students' quicker and more efficient learning. Advanced AI technology is used to analyze student's work and offer tailored feedback. Plaito serves as a coach, offering recommendations and prompts to help students progress as they write, argue, and cooperate in novel and stimulating manners. All students can benefit from the tool's deep comprehension, confidence, clarity, and empowerment that come with one-on-one coaching thanks to the use of artificial intelligence (AI). The platform has the following characteristics:

- Using Plaito to submit a screenshot or image of a piece of work to make it live
- Fusing the best elements of artificial intelligence and languages to provide students with individualized instruction
- Having conversations with Plaito in the same way you would with your other friends and picking up knowledge in the process. Four languages are spoken by Plaito that is eager to learn more
- Using learning outcomes to help students learn more quickly and retain information better
- Using game-like characteristics to make it simple to establish a habit of learning a language

Plaito-website: <https://www.plaito.ai/>

Queirum: The AI platform provided by Querium assists students in developing important STEM skills while preparing them for college and jobs. The platform depends on customized education and thorough

instructional assistance. It has been demonstrated that using an AI online tutor can enhance learning for students in terms of assessment, speed, and quality. Teachers can also benefit from Queirum's AI. Instructors can learn more about students' learning styles and potential areas of growth by analyzing replies and how long tutoring sessions take to complete. Some of the primary characteristics of Queirum's AI include the following:

- Personalized, bite-sized lessons
- Step-by-step tutoring assistance
- Increases student engagement

Queirum-website: <https://www.querium.com/>

Carnegie Learning's Platforms: In its learning platforms for high school and college students, Carnegie Learning, a cutting-edge provider of curriculum and education technology, makes use of AI and machine learning. For the subjects of math, literature, or foreign languages, these platforms provide a variety of original solutions. The contributor is the recipient of various awards for education, as well as "Best Artificial Intelligence/Machine Learning App" at the Tech Edvocate Awards. It also provides Fast ForWord, a reading and language program that aids in the development of cognitive skills in learners. In Carnegie Learning the following key characteristics:

- Mimics human tutors
- Individualized instruction personalized to each learner
- Actionable data to manage students

Carnegie Learning's Platforms-website: <https://www.carnegielearning.com/>

Praktika: Interactive English conversation practice software by Praktika uses AI-powered avatars to provide a fully realistic language learning environment. For students who wish to concentrate and hone their English-speaking abilities, the tool is perfect. Users can improve their English communication skills by conversing with AI avatars. Additionally, the app offers immediate and post-session feedback to help students comprehend and fill up the gaps. It has more than a thousand programs and characters to practice numerous themes. The best element is that users can follow their development in fluency along a precise slope to brilliance. This app supports Android operating system as well as the iOS operating system.

Praktika-website: <https://praktika.ai/>

Elsa: An AI-driven English teaching tool called Elsa aids non-native speakers in honing their speaking abilities. Elsa analyzes a student's speech and offers in-the-moment evaluations of pronunciation, accent, and rhythm using natural language processing and machine learning. Elsa provides a personalized and interesting learning experience with voice recognition technology, immediate corrections, and recommendations. Elsa may be tailored to fit particular curricula or lesson plans, whether it is used by individuals or in a classroom setting and it enables students gain trust among them and proficiency in speaking English.

Elsa-website: <https://elsaspeak.com/en/>

Orai: Anyone can master new public speaking strategies with the aid of Orai, which provides engaging, interactive training and in-depth analyses of recorded speech. It provides immediate feedback on unnecessary words, tempo, conciseness and other factors. Orai is simple to use. A short, self-directed technique is honing one's oratory talents. Lessons, Practice, Progress and Recordings are just a few of the elements that Orai offers to help individuals improve their speaking abilities. For the purpose of honing these speaking abilities, each of the key elements includes fascinating content that may be studied again.

It can serve as both a teacher and a support system for teachers. It's a pleasure to use Orai which is receiving exceptional reviews.

Orai-website: <https://orai.com/>

In addition to the above said AI based technologies or software and tools, there are numerous apps and websites available for teaching and learning process, such as: Google Translate, Text to speech (TTS), English ABLE, Chatbots, Duolingo and so on.

The proliferation of technology and digital platforms has made it simpler to teach and study English. These now provide the chance to advance one's English-language abilities. Combining digital and language literacy can help people become more globally competent.

Conclusion

Thus, Artificial Intelligence (AI) is embedded in society as a technical aspect in almost all the domains and disciplines. The impact of Artificial Intelligence on Higher Education is marvelous and advantageous to the Teaching-Learning Process as well as students' motivation. English language learners can now encounter new things that they would not be able to in a traditional classroom because to the technology that is available on educational programs. Therefore, integrating technology effectively is essential for improving students' learning and achievement.

References

Carvalho, L., Martinez-Maldonado, R., Tsai, Y. S., Markauskaite, L., & De Laat, M. (2022). How can we design for learning in an AI world? *Computers & Education: Artificial Intelligence*, 3, Article 100053. <https://doi.org/10.1016/j.caeai.2022.100053>.

Darayseh, Abdulla Al (2023). Acceptance of artificial intelligence in teaching science: Science teachers' perspective. *Computers and Education: Artificial Intelligence* 4 (2023) 100132.

Kim, N., & Kim, M. (2022). Teacher's perceptions of using an artificial intelligence-based educational tool for scientific writing. *Frontiers in Education*, 7. <https://doi.org/10.3389/educ.2022.755914>. Article 755914.

Kok, J. N., Boers, E. J., Kosters, W. A., van der Putten, P., & Poel, M. (2009). *Artificial intelligence: Definition, trends, techniques, and cases. Knowledge for sustainable development: An insight into the encyclopedia of life support systems*. Eolss Publishers.

Nils J. Nilsson, *The Quest for Artificial Intelligence: A History of Ideas and Achievements* (Cambridge, UK: Cambridge University Press, 2010).

Pavel Hamet and Johanne Tremblay (2017). Artificial intelligence in medicine. *Metabolism* Volume 69, Supplement, April 2017, Pages S36-S40.

P. Stone et al (2016). Artificial intelligence and life in 2030: The one hundred year study on artificial intelligence. <https://arxiv.org/ftp/arxiv/papers/2211/2211.06318.pdf>.

Ratna Rintaningrum (2023) Technology integration in English language teaching and learning: Benefits and challenges, *Cogent Education*, 10:1, 2164690, DOI: 10.1080/2331186X.2022.2164690.

Tira Nur Fitria (2021). The Use Technology Based On Artificial Intelligence In English Teaching And Learning. *ELT Echo : The Journal of English Language Teaching in Foreign Language Context* (2021), Vol 6(2). DOI: 10.24235/eltecho.v%vi%i.9299.

Topal, A. D., Eren, C. D., & Geçer, A. K. (2021). Chatbot application in a 5th grade science course. *Education and Information Technologies*, 26(5), 6241–6265. <https://doi.org/10.1007/s10639-021-10627-8>

U.S. Department of Education (2023). Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations, May 2023.

Zhai, C and Wibowo, S (2023). A systematic review on artificial intelligence dialogue systems for enhancing English as foreign language students' interactional competence in the university. *Computers and Education: Artificial Intelligence* 4 (2023) 100134.

Zhao, L., Chen, L., Liu, Q., Zhang, M., & Copland, H. (2019). Artificial intelligence-based platform for online teaching management systems. *Journal of Intelligent and Fuzzy Systems*, 37(1), 45–51.

Zuraina Ali (2020). Artificial Intelligence (AI): A Review of its Uses in Language Teaching and Learning. IOP Conference Series: Materials Science and Engineering. DOI 10.1088/1757-899X/769/1/01204.

Websites

<https://www.unesco.org/en/digital-education/artificial-intelligence>

<https://timesofindia.indiatimes.com/readersblog/newtech/artificial-intelligence-in-education-39512/>

<https://www.cambridge.org/elt/blog/2020/03/09/artificial-intelligence-english-language-learning/>

<https://www.britannica.com/technology/artificial-intelligence>

<https://intellias.com/how-ai-helps-crack-a-new-language/>

<https://www.analyticssteps.com/blogs/5-advantages-using-ai-language-learning>

<https://www.unite.ai/10-best-ai-tools-for-education/>