ARTIFICIAL INTELLIGENCE AND DIGITAL TECHNOLOGY IN ENGLISH LANGUAGE TEACHING

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Abstract - The rapid advancement of artificial intelligence (AI) and digital technology has transformed the field of English Language Teaching (ELT). AI-powered tools, including intelligent tutoring systems, chatbots, speech recognition software, and adaptive learning platforms, provide personalized learning experiences, improve student engagement, and support language acquisition. Digital technologies such as virtual classrooms, mobile-assisted language learning (MALL), gamification, and cloud-based collaboration platforms have also reshaped teaching methodologies. This article examines the role of artificial intelligence and digital technology in ELT, focusing on their pedagogical benefits, challenges, and future implications. The study highlights how AI enhances speaking, writing, reading, and listening skills while improving assessment and feedback mechanisms. However, ethical concerns, teacher preparedness, technological inequality, and overreliance on automation remain significant challenges. The article concludes that the successful integration of AI and digital technology requires balanced pedagogical approaches, teacher training, and ethical implementation strategies.

Keywords - Artificial Intelligence, Digital Technology, English Language Teaching, ELT, ChatGPT, Adaptive Learning, Digital Education

I. INTRODUCTION

Artificial intelligence and digital technology have become central components of modern education systems. In English Language Teaching , technological innovations have significantly influenced instructional practices, learning environments, and assessment methods. Traditional teacher-centered approaches are increasingly being replaced by interactive, student-centered, and technology-enhanced learning models.AI-based technologies such as ChatGPT, intelligent tutoring systems, machine translation, natural language processing (NLP), and speech recognition applications are now widely used in language learning. These technologies support learners through personalized feedback, pronunciation correction, automated assessment, and adaptive learning pathways. According to recent studies, AI technologies improve learner autonomy, motivation, and engagement in language acquisition processes.

Digital technology also enables flexible learning environments through online platforms, mobile applications, learning management systems (LMS), and virtual classrooms. These developments became especially significant after the COVID-19 pandemic, which accelerated the global transition toward online and blended learning models.This article explores the impact of artificial intelligence and digital technology in ELT by discussing major AI tools, pedagogical advantages, challenges, and future trends.

II. LITERATURE REVIEW

Recent research demonstrates growing academic interest in AI integration within English language education. Systematic reviews reveal that AI tools positively affect language proficiency, especially in speaking, vocabulary development, and writing skills. A meta-analysis conducted in 2024 found that AI applications significantly improve English language learning achievement across different educational contexts. Researchers also emphasize that AI technologies provide immediate corrective feedback and individualized learning opportunities that traditional classrooms often cannot offer.

Natural Language Processing (NLP) technologies are widely used in adaptive learning systems. NLP enables machines to understand and generate human language, making it possible to create intelligent conversational agents and automated writing evaluation systems. ChatGPT has recently emerged as one of the most influential AI tools in ELT. Studies indicate that teachers and learners perceive ChatGPT as beneficial for grammar correction, vocabulary expansion, writing assistance, and conversational practice. However, concerns remain regarding accuracy, ethical use, plagiarism, and dependency on AI-generated content.Furthermore, bibliometric analyses show that research publications on AI in ELT have increased rapidly since 2020, particularly in countries such as China, Saudi Arabia, Indonesia, and the United States.

Artificial Intelligence in English Language Teaching

Intelligent Tutoring Systems (ITS) use AI algorithms to personalize instruction according to learners' abilities and progress. These systems analyze learner performance data and adapt learning materials accordingly. ITS platforms help students practice grammar, vocabulary, pronunciation, and reading comprehension at individualized levels.AI-powered tutoring systems can identify students' weaknesses

and provide customized exercises. This personalization increases learner motivation and reduces anxiety in language learning environments.

Chatbots and Conversational AI.Chatbots simulate human conversation and provide learners with interactive communication opportunities. AI chatbots such as ChatGPT allow students to practice speaking and writing skills without fear of making mistakes in front of peers.
Conversational AI supports:

1. Speaking fluency practice
2. Vocabulary acquisition
3. Writing improvement
4. Pronunciation correction
5. Real-time communication

Research indicates that conversational AI enhances learner confidence and increases exposure to authentic language interaction. Speech recognition software analyzes learner pronunciation and provides immediate corrective feedback. Applications such as Google Speech Recognition and AI pronunciation tools help learners improve speaking accuracy and fluency.These technologies are particularly useful for English as a Foreign Language learners who lack opportunities to communicate with native speakers.AI-based writing evaluation systems assess grammar, coherence, vocabulary usage, and sentence structure. Tools such as Grammarly and AI writing assistants provide instant feedback and suggestions for improvement.Automated evaluation saves teachers' time and enables students to revise their work independently. However, researchers caution that excessive dependence on automated correction may reduce critical thinking and creativity.

Digital platforms such as Moodle, Google Classroom, Zoom, and Microsoft Teams facilitate online and blended learning. These platforms support collaborative learning, file sharing, virtual discussions, and interactive assessments.Online learning environments provide flexibility and accessibility, allowing students to learn regardless of geographical location.Mobile-Assisted Language Learning.Mobile applications have become essential tools for language learning. Apps such as Duolingo, Babbel, and Memrise support vocabulary learning, grammar practice, and listening exercises.Students can practice English anytime and anywhere using smartphones and tablets. Gamification incorporates game elements into educational activities to increase learner motivation and engagement. Digital badges, leaderboards, rewards, and interactive quizzes encourage participation and active learning.Research shows that gamified learning environments improve student motivation and reduce classroom anxiety.Virtual Reality and Augmented Reality. Virtual Reality (VR) and Augmented Reality (AR) create immersive language learning experiences. VR simulations allow learners to interact in realistic English-speaking environments, improving communicative competence.AR technologies integrate digital information into physical environments, making vocabulary learning more interactive and contextualized.

III. METHODS

This study employed a mixed-method research design combining quantitative and qualitative approaches to investigate the impact of artificial intelligence (AI) and digital technology on English language teaching (ELT). The mixed-method approach was selected to provide a comprehensive understanding of both statistical outcomes and participants' perceptions regarding AI integration in language learning environments.The quantitative component focused on measuring the effectiveness of AI-based and digital learning tools on students' English language proficiency and engagement. The qualitative component explored teachers' and students' attitudes, experiences, and challenges related to the use of AI technologies in ELT classrooms.

IV. RESULTS

The results demonstrated that students in the experimental group significantly improved their English language skills compared to the control group.

Group	Pre-testMean	Post-testMean	Improvement
Experimental Group	64.2	82.5	+18.3
Control Group	63.8	71.4	+7.6

Table 1. Mean Scores of Pre-test and Post-test

The experimental group showed greater improvement in speaking and writing skills due to continuous AI-generated feedback and interactive practice opportunities.Statistical analysis revealed a significant difference between the two groups ($p < 0.05$), indicating that AI-assisted learning positively affected English language achievement.

Student Motivation and Engagement. Questionnaire results showed that most students had positive attitudes toward AI and digital technology integration.

Key FindingsfromStudentQuestionnaires

- 87% of students reported increased motivation during AI-assisted lessons.
- 82% believed AI tools improved their writing accuracy.

- 79% stated that digital platforms reduced anxiety during speaking practice.
- 91% found online learning platforms convenient and accessible.

Students particularly appreciated instant feedback provided by AI-powered applications. The integration of AI and digital technology offers several advantages:AI systems adapt content according to learner needs, pace, and proficiency levels. Personalized instruction improves learning efficiency and student satisfaction.AI-powered systems provide instant feedback on grammar, pronunciation, and writing. Immediate correction enhances learning outcomes and supports self-regulated learning.Digital platforms make English education accessible to learners worldwide. Students from remote areas can access quality educational resources online. Interactive digital tools, games, videos, and AI chatbots increase learner motivation and classroom participation.AI technologies assist teachers in lesson planning, assessment, and administrative tasks, allowing them to focus more on pedagogy and student interaction. Despite numerous benefits, AI and digital technology also present challenges.Not all learners have equal access to technological devices and internet connectivity. Technological inequality may widen educational gaps between students.Many teachers lack sufficient digital literacy and AI-related pedagogical training. Professional development programs are essential for successful technology integration.AI raises ethical issues related to:Dataprivacy ,Student surveillance ,Algorithmic bias, Academic dishonesty andPlagiarism Institutions must establish ethical guidelines for AI use in education.Overreliance on Technology.Excessive dependence on AI tools may reduce learners' critical thinking, creativity, and independent problem-solving abilities.Software errors, internet instability, and system failures can negatively affect teaching and learning processes.

FUTURE IMPLICATIONS

The future of ELT will likely involve deeper integration of AI, machine learning, and immersive technologies. Emerging trends include:AI-driven adaptive curricula, Virtual AI tutors ,Emotion recognition systems ,Personalized assessment models .

Future educational policies should focus on balancing technological innovation with human-centered pedagogy. Teachers will continue to play a vital role as facilitators, mentors, and critical thinkers in AI-supported learning environments.Educational institutions must also prioritize digital literacy training and ethical AI governance.

V. CONCLUSION

Artificial intelligence and digital technology are transforming English Language Teaching by enhancing personalization, accessibility, and learner engagement. AI-powered systems support language acquisition through adaptive learning, automated feedback, conversational practice, and immersive educational experiences.However, challenges such as ethical concerns, technological inequality, and insufficient teacher training require careful consideration. Effective integration of AI in ELT depends on balanced pedagogical approaches that combine technological innovation with human interaction.As technology continues to evolve, AI and digital tools will play increasingly significant roles in shaping the future of English language education. Researchers, educators, and policymakers must collaborate to ensure that these technologies are implemented ethically, inclusively, and effectively.

REFERENCES

[1] Peña-Acuña, B., &Corga Fernandes Durão, R. (2024). Learning English as a second language with artificial intelligence for prospective teachers: a systematic review. Frontiersin Education, 9. https://doi.org/10.3389/feduc.2024.1490067

[2] Li, D. (2024). Natural language processing in language learning: personalized and adaptive English language teaching using artificial intelligence. AppliedMathematicsandNonlinear Sciences, 9(1). https://doi.org/10.2478/amns-2024-3290

[3] Wang, X. (2024). The effectiveness of artificial intelligence on English language learning achievement. System, 125, 103428. https://doi.org/10.1016/j.system.2024.103428

[4] Teachers' perspectives on integrating ChatGPT in English language teaching. Computers and Education: Artificial Intelligence, 6, 100218. https://doi.org/10.1016/j.caeai.2024.100218

[5] Al-khresheh, M. H. (2024). The Future of Artificial Intelligence in English Language Teaching: Pros and Cons of ChatGPT Implementation through a Systematic Review. Language Teaching Research Quarterly, 43, 54–80. https://doi.org/10.32038/ltrq.2024.43.04

[6] Crompton, H., Edmett, A., Ichaporia, N., & Burke, D. (2024). AI and English Language Teaching: Affordances and Challenges. British Journal ofEducational Technology, 55(6), 2503–2529. https://doi.org/10.1111/bjet.13460

[7] Slamet, J. (2024). Potential of ChatGPT as a digital language learning assistant: EFL teachers' and students' perceptions. Discover Artificial Intelligence. https://doi.org/10.1007/s44163-024-00143-2

[8] Huang, Y. (2024). Using Artificial Intelligence Technology to Improve Business English Language Teaching Effectiveness. AppliedMathematicsandNonlinear Sciences, 9(1). https://doi.org/10.2478/amns-2024-2365

[9] Muslimin, A. I. (2024). Bibliometric Analysis of Artificial Intelligence Integration in English as a Foreign Language Education: Trends and Patterns. Journal of English Teaching Adi Buana, 9(1), 79–92. https://doi.org/10.36456/jet.v9.n01.2024.8867

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