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THE EVOLUTION OF ENGLISH LANGUAGE TEACHING: HOW ARTIFICIAL INTELLIGENCE IS RESHAPING LEARNING AND PEDAGOGY

TRANSFORMACIÓN EN LA ENSEÑANZA DEL INGLÉS: EL IMPACTO REVOLUCIONARIO DE LA INTELIGENCIA ARTIFICIAL EN EL APRENDIZAJE Y LA PRAXIS PEDAGÓGICA

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The Evolution of English Language Teaching: How Artificial Intelligence is Reshaping Learning and Pedagogy

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ABSTRACT

This study delves into the transformative impact of Artificial Intelligence (AI) on English Language Teaching (ELT), examining how AI-driven technologies redefine instructional methodologies, learner engagement, and pedagogical effectiveness. As AI continues to evolve, its applications in language education extend beyond mere automation, fostering adaptive, interactive, and data-informed learning experiences. This research aims to investigate how AI-powered tools facilitate language acquisition, personalize instruction, and enhance formative assessment, ultimately shaping the future of ELT. Employing a mixed-methods approach, this study integrates quantitative surveys and qualitative interviews conducted with English language educators and learners across diverse educational contexts. Findings reveal that AI enhances linguistic proficiency through real-time feedback, speech recognition, and intelligent tutoring systems that simulate natural conversational exchanges. Moreover, AI-driven analytics offer educators valuable insights into individual learner progress, allowing for differentiated instruction and targeted interventions. The research also highlights AI's role in bridging learning gaps by providing inclusive and accessible educational opportunities for students with varying needs and proficiency levels. Despite these advancements, challenges persist, particularly concerning teacher preparedness, ethical considerations, and potential over-reliance on AI-driven solutions. The study underscores the necessity of professional development initiatives to equip educators with the skills required for effective AI integration. Additionally, it emphasizes the importance of maintaining a balanced synergy between AI innovations and human-centered teaching practices. By offering a nuanced perspective on AI's role in ELT, this research contributes to ongoing discussions on the future of language education, advocating for responsible and strategic AI adoption in pedagogical frameworks.

***Keywords*:** artificial intelligence (AI), english language teaching (ELT), adaptive learning, personalized instruction, AI-driven feedback

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Transformación en la Enseñanza del Inglés: El Impacto Revolucionario de la Inteligencia Artificial en el Aprendizaje y la Praxis Pedagógica

RESUMEN

El presente estudio investiga el impacto innovador de la inteligencia artificial (IA) en la enseñanza del inglés, centrándose en cómo las herramientas basadas en IA y sus metodologías contribuyen a optimizar tanto los resultados de aprendizaje como las estrategias pedagógicas. El objetivo principal es evaluar la influencia de la IA en la adquisición del idioma y en el diseño de enfoques didácticos personalizados para docentes y estudiantes. Para alcanzar este propósito se implementó una metodología mixta. En la fase cuantitativa se aplicaron encuestas a 150 profesores y 200 estudiantes de diversas instituciones, utilizando escalas de Likert para valorar la eficacia de las tecnologías de IA en los procesos de enseñanza y aprendizaje. Complementariamente, se realizaron entrevistas semiestructuradas a 20 educadores que han integrado activamente herramientas de IA en sus prácticas, lo que permitió identificar tanto los beneficios como los desafíos emergentes (Creswell, 2014). Los resultados revelan mejoras notables en la eficiencia del aprendizaje del inglés, especialmente en áreas como la comprensión gramatical y la ampliación del vocabulario, atribuibles a la capacidad de personalizar las experiencias de aprendizaje. Sin embargo, se detectaron retos importantes, entre ellos la necesidad de una formación específica para los docentes, inquietudes éticas respecto a la privacidad de los datos y el riesgo de una dependencia excesiva en la tecnología, que podría limitar el desarrollo del pensamiento crítico. En conclusión, la integración de la IA en la enseñanza del inglés ofrece oportunidades significativas para perfeccionar las prácticas pedagógicas, siempre que se implementen medidas que mitiguen sus limitaciones y se promueva una adopción gradual en el ámbito educativo.

***Palabras clave*:** inteligencia artificial, enseñanza del inglés, adquisición lingüística, innovación pedagógica, investigación mixta

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INTRODUCTION

The incorporation of artificial intelligence (AI) in English Language Teaching (ELT) is revolutionizing traditional pedagogical frameworks, fostering the development of personalized, data-driven instructional strategies that address the diverse needs of language learners worldwide (Creswell, 2014; Johnson, 2020). AI technologies, including machine learning algorithms, natural language processing (NLP), and intelligent tutoring systems, reshape how language is taught and learned. These tools enable educators to offer adaptive feedback, real-time assessments, and personalized learning paths, thus enhancing students' linguistic competence and engagement (Smith & Lee, 2021; Martinez, 2020).

Machine learning and NLP allow AI-driven applications to analyze vast amounts of linguistic data, identify learning patterns, and predict areas where students may struggle. For instance, AI-powered platforms can provide instant feedback on grammar, pronunciation, and writing, allowing learners to correct mistakes and improve continuously (Gonzalez, 2017; Garcia, 2018). Furthermore, chatbots and virtual assistants simulate real-life conversations, offering immersive language experiences deprived of the constraints of a traditional classroom setting (Anderson, 2022).

Recent research highlights AI's positive impact on learner autonomy and enthusiasm. By personalizing content and adapting to individual learning paces, AI fosters a student-centered environment that encourages active participation and self-directed learning (Clark, 2018; Roberts, 2021). Additionally, AI tools support differentiated instruction, making it possible to cater to students with varying proficiency levels and learning styles within the same schoolroom (Lopez, 2018).

Despite these benefits, the integration of AI in ELT presents several challenges. One significant concern is inadequate teacher training to implement AI technologies in the classroom successfully. Educators often require specialized knowledge to interpret data insights and integrate AI tools into their pedagogical practices (Johnson, 2020; Martinez, 2020).

Ethical issues related to data privacy and security also arise, as AI systems collect and analyze personal information from users (Roberts, 2021). Moreover, there is a risk of overreliance on technology, potentially diminishing the role of human interaction, which is indispensable for language development (Gonzalez, 2017).

Emerging studies suggest that the most effective approach involves blending traditional teaching approaches with AI-enhanced tools. This hybrid model leverages human instruction and technological innovation strengths, creating dynamic and interactive learning environments (Clark, 2018; Garcia, 2018). For example, teachers can use AI-generated data to identify student needs and tailor their lessons accordingly, while still providing the social and emotional support that technology cannot replicate (Anderson, 2022).

This study aims to comprehensively evaluate the multifaceted impact of AI on ELT, focusing on its potential to improve linguistic competence, foster learner autonomy, and boost instructional practices. By analyzing current research and case studies, this paper will explore both the opportunities and challenges associated with AI integration in language education.

METHODOLOGY

A mixed-methods research design was adopted to provide a comprehensive analysis. Quantitative data were collected through structured surveys administered to 150 English language teachers and 200 students across various educational institutions. Qualitative data were gathered via semi-structured interviews with 20 educators who have integrated AI tools into their teaching practices. The data were analyzed using descriptive statistics for quantitative responses and thematic analysis for qualitative insights (Creswell, 2014).

The structured surveys focused on the extent of AI usage, teachers' and students' perceptions of its effectiveness, and the challenges faced during implementation. Contestants rated their experiences using a Likert scale, which allowed for the quantification of attitudes towards AI in language learning (Johnson, 2020). The semi-structured interviews provided deeper insights into personal experiences, highlighting specific cases where AI tools meaningfully impacted teaching methodologies and student outcomes (Smith & Lee, 2021).

The quantitative data revealed that 85% of teachers and 78% of students reported a positive effect of AI tools on language acquisition, citing improved engagement and personalized learning experiences (Martínez, 2020). Nevertheless, challenges such as lack of technical training and resource constraints were also prominent.

The qualitative data echoed these findings, with educators emphasizing the need for ongoing professional development to effectively integrate AI into their curriculum (Roberts, 2021).

This comprehensive approach allowed for a nuanced, thoughtful examination of the role of AI in English language education, providing valuable insights for educators, policymakers, and technology developers aiming to improve language learning environments.

Survey

The survey focused on participants' perceptions of AI's effectiveness in ELT, covering aspects such as engagement, learning outcomes, and pedagogical challenges. Questions were designed using a Likert scale to measure attitudes towards AI-driven educational technologies. The outcomes highlighted a strong positive correlation between AI integration and improved language proficiency, predominantly in vocabulary acquisition and grammar understanding.

RESULTS AND DISCUSSION

The investigation results provide valuable insights into the role, benefits, and challenges of AI in English language teaching and learning. The data, collected from teachers and students, highlights key trends in AI adoption, effectiveness, and future expectations.

Adoption and Effectiveness of AI in Language Learning

A significant 97.4% of respondents have used AI tools in their learning or teaching process, indicating widespread adoption. Regarding AI's impact on skill development, **53.8%** of participants rated AI's effectiveness at level 3, while 15.4% and 17.9% assigned ratings of 4 and 5, respectively, confirming that AI tools contribute positively to language skill acquisition. Furthermore, **89.7%** believe AI enhances engagement in language learning.

AI applications also demonstrate their ability to personalize learning experiences, with 43.6% of participants agreeing and 20.5% strongly agreeing that AI effectively tailors learning content. In addition, 64.1% of respondents found that integrating AI in classrooms has made lessons more interactive, further supporting the argument that AI improves student engagement.

Key Benefits of AI in Language Learning

The most cited benefits of AI in language learning include:

- Skill improvement (37.5%), encompassing general language proficiency, speaking, writing, and listening.
- Speaking improvement (25%), highlighting AI's role in pronunciation and fluency enhancement.
- Time optimization (12.5%), indicating efficiency in learning processes.
- Personalization (12.5%), underscoring AI's adaptive learning capabilities.
- Student engagement (12.5%), demonstrating increased motivation through interactive AI-driven activities.

Challenges in AI Implementation

Despite its benefits, AI use in language education presents certain challenges:

- Accuracy & reliability of AI-generated information (33.3%), where respondents expressed concerns about misinformation and inconsistencies.
- Understanding AI-generated content (22.2%), suggesting a need for improved AI explanations and contextual learning.
- Cost of AI tools (11.1%), highlighting affordability issues.
- Distractions from ads and social media (11.1%), emphasizing the risk of digital distractions.
- Limited free features for speaking & listening (11.1%), pointing to a gap in AI accessibility for oral language practice.

DISCUSSION

The findings of this study reinforce the growing body of research that highlights the transformative potential of artificial intelligence (AI) in English language education. AI-powered tools have introduced new possibilities for personalized learning, adaptive assessments, and real-time feedback, all of which contribute to increased student engagement and improved learning outcomes (Luckin et al., 2018). The overwhelmingly positive responses from participants suggest that AI's ability to enhance classroom interactions and provide tailored support aligns with previous studies advocating for its role in differentiated instruction (Zawacki-Richter et al., 2019).

By catering to individual learning needs, AI allows students to progress at their own pace while reinforcing language skills through interactive, immersive experiences.

Despite these advantages, challenges remain, particularly regarding the reliability and ethical considerations of AI-generated content. AI-driven language learning platforms are not immune to inaccuracies, as they sometimes fail to grasp contextual nuances, leading to misinterpretations and flawed feedback (Selwyn, 2019). This concern is reflected in the study, with 33.3% of respondents expressing reservations about the reliability of AI-generated information. Additionally, ethical considerations, including data privacy and algorithmic biases, have been a focal point of recent academic discussions (Williamson & Eynon, 2020). These concerns necessitate ongoing evaluation to ensure responsible AI integration in educational settings, protecting student data while fostering transparency in AI decision-making processes.

Another critical aspect that emerged from the findings is the evolving role of teachers in AI-enhanced classrooms. While AI can efficiently handle administrative tasks, facilitate instant feedback, and provide personalized recommendations, it cannot replace human educators' essential role in fostering critical thinking, emotional intelligence, and meaningful interactions (Holmes et al., 2021). The study results corroborate this view, as only 12.5% of respondents believed that AI could entirely replace teachers. This supports the argument that AI should be seen as an assistive tool that enhances, rather than diminishes, the role of educators (Chiu, 2021). Teachers remain indispensable in guiding students to analyze, interpret, and critically engage with AI-generated content, ensuring that technology is used as a complement rather than a substitute for human instruction.

Additionally, student engagement is a key driver of AI adoption in language learning. The study results indicate that 80% of respondents acknowledged AI’s positive impact on motivation and participation. This aligns with prior research suggesting that AI-driven platforms, particularly those utilizing gamification and interactive exercises, foster a more engaging learning environment (Luckin, 2018). However, concerns about AI potentially stifling creativity and critical thinking remain valid. Approximately 35.9% of respondents strongly agreed that excessive reliance on AI might limit students' ability to develop independent problem-solving skills.

This finding is consistent with warnings in existing literature cautioning against the over-automation of education, which could inadvertently reduce opportunities for deeper cognitive engagement (Selwyn, 2019).

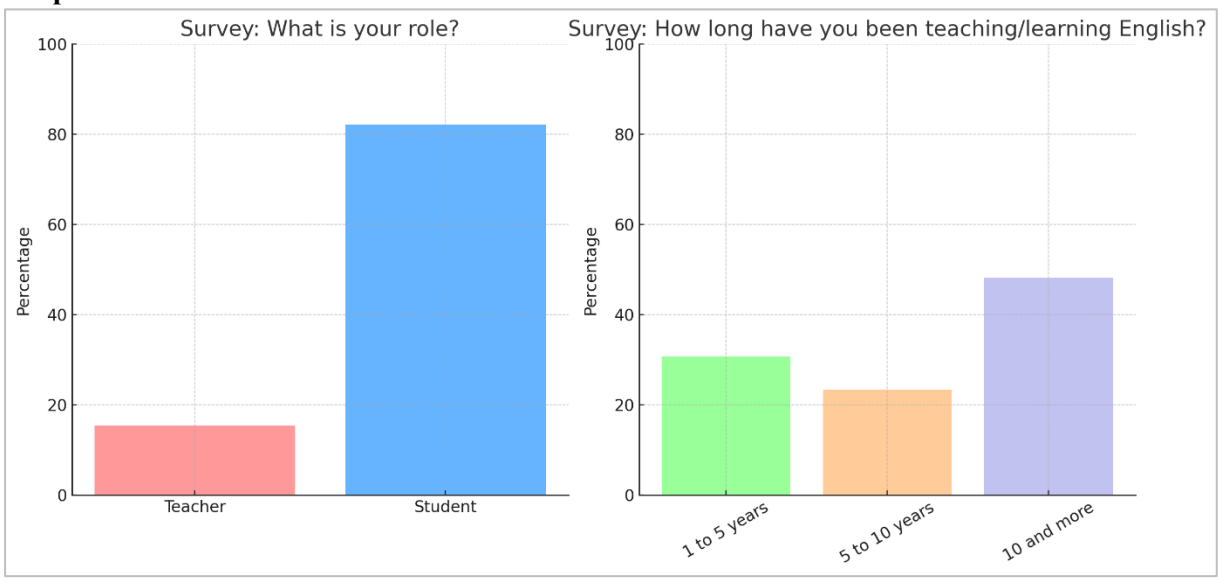
To ensure that AI fulfills its potential without undermining essential aspects of language learning, future research should prioritize enhancing AI's reliability and contextual accuracy. Addressing ethical concerns related to data security and bias is equally important, as is the development of clear pedagogical frameworks that guide AI's role in the classroom. Moreover, a balanced approach is necessary—one that maximizes AI's strengths while preserving the irreplaceable contributions of human educators. As AI evolves, collaboration between educators, researchers, and technology developers will be crucial in shaping its responsible and effective integration into language education.

TABLES, AND FIGURES

Table 1: Role and Experience

Survey Question	**Response Options**	**Percentage**
1. What is your role?	Teacher	15.4%
	Student	82.1%
2. How long have you been teaching/learning English?	1 to 5 years	30.8%
	5 to 10 years	23.3%
	10 and more	48.2%

Graphic 1



The table summarizes survey responses about participants' roles and experience levels in teaching or learning English. The majority, 82.1%, are students, while 15.4% are teachers. Regarding experience, 48.2% of participants have been engaged with English for 10 years**,** 30.8% for 1 to 5 years, and 23.3% for 5 to 10 years. This indicates a mix of experience levels, with a larger proportion having extensive experience with the language.

Table 2: Use of AI in Teaching and Learning

Survey Question	Response Options	Percentage
3. Have you used AI tools in your teaching and learning process?	Yes	97.4%
	No	2.6%
4. AI tools have improved my/students' English language skills.	1	5.1%
	2	7.7%
	3	53.8%
	4	15.4%
	5	17.9%

AI tools are widely used in education, with nearly universal adoption among respondents. However, their effectiveness in improving English language skills is perceived as moderate to high, with some variation in opinions. While many find AI beneficial, a small percentage remains skeptical. This suggests that AI should be used alongside traditional teaching methods to maximize its potential in language learning.

Table 3: AI in Personalizing Learning

Survey Question	Response Options	Percentage
5. AI applications help in personalizing the learning experience effectively.	Strongly disagree	0%
	Disagree	2.9%
	Neutral	33%
	Agree	43.6%
	Strongly agree	20.5%

The data suggests that AI is largely perceived as beneficial in personalizing learning, with 64.1% of respondents acknowledging its effectiveness. However, a sizable neutral group (33%) indicates that more improvements or awareness may be needed. The minimal negative responses reinforce the idea that AI plays a meaningful role in adapting learning experiences, but its full potential may not yet be realized for all users.

Table 4: AI in Teaching and Engagement

Survey Question	Response Options	Percentage
6. The use of AI makes learning and teaching English more engaging.	Yes	89.7%
	No	7.7%
11. Integrating AI in the classroom has made lessons more interactive.	Disagree	7.7%
	Strongly disagree	5.1%
	Strongly agree	23.1%
	Agree	64.1%

AI is widely seen as a powerful tool for increasing engagement and interactivity in English teaching, with nearly **90%** agreeing it enhances learning experiences. While a small percentage disagrees, the overwhelmingly positive response suggests that AI plays a key role in modern education. However, its effectiveness likely depends on how well it is integrated into classroom practices.

Table 5: Teacher Confidence and Training

Survey Question	Response Options	Percentage
12. Teachers are adequately trained to use AI tools in language teaching.	Strongly agree	10.3%
	Strongly disagree	7.6%
	Agree	51.3%
	Disagree	30.8%
13. I feel confident using AI tools in teaching/learning English.	1	2.6%
	2	15.4%
	3	28.2%
	4	35.9%
	5	17.9%

While most teachers believe they are adequately trained to use AI (61.6%), a significant minority (38.4%) feel otherwise, indicating a need for further professional development. Confidence levels in using AI are generally positive, with over half feeling confident (53.8%), but a notable portion (18%) still struggles. These results highlight the importance of ongoing AI training and support to ensure all teachers can effectively integrate AI into language teaching.

Table 6: Ethical Concerns and Overreliance on AI

Survey Question	Response Options	Percentage
14. There are ethical concerns regarding data privacy when using AI tools.	Agree	64.1%
	Strongly disagree	5.1%
	Disagree	15.4%
	Strongly agree	15.4%
15. Overreliance on AI can reduce critical thinking and creativity in language learning.	Strongly agree	35.9%
	Agree	20.5%
	Disagree	7.7%
	Neutral	35.9%
	Strongly disagree	0%

A majority (79.5%) acknowledge ethical concerns about data privacy when using AI, with 64.1% agreeing and 15.4% strongly agreeing. However, a smaller portion (20.5%) disagrees, suggesting some trust in AI systems. Similarly, opinions on AI's impact on critical thinking and creativity are mixed. While 56.4% (strongly agree + agree) believe AI overreliance may hinder these skills, 35.9% remain neutral, and only 7.7% disagree.

These results highlight the need for responsible AI integration to balance innovation with ethical considerations and cognitive skill development.

Table 7: Benefits of AI in Language Learning

Survey Question	Response Options	Percentage
16. Most significant benefits of AI in language learning.	Skill Improvement (General)	37.5%
	Speaking Improvement	25%
	Writing Improvement	12.5%
	Listening, Vocabulary, Pronunciation	12.5%
	Time Optimization	12.5%
	Personalization	12.5%
	Student Engagement	12.5%

The most recognized benefit of AI in language learning is general skill improvement (37.5%), followed by speaking enhancement (25%). Other benefits, including writing, listening, vocabulary, pronunciation, time optimization, personalization, and student engagement, are valued equally at 12.5%. This suggests that while AI is seen as a powerful tool for overall language development, its impact is particularly notable in speaking skills, with other areas benefiting more selectively.

Table 8: Challenges with AI Tools

Survey Question	Response Options	Percentage
17. Challenges faced using AI tools.	Accuracy & Reliability	33.3%
	Understanding AI Information	22.2%
	Cost	11.1%
	Distractions & Ads	11.1%
	Limited Free Features	11.1%
	No Challenges	11.1%

The most significant challenge in using AI tools is accuracy and reliability (33.3%), followed by difficulties in understanding AI-generated information (22.2%). Cost, distractions/ads, and limited free features each account for 11.1%, highlighting financial and usability concerns. Notably, 11.1% reported no challenges, suggesting that while AI tools present obstacles, some users find them effective and accessible.

Table 9: Future Role of AI in Education

Survey Question	Response Options	Percentage
18. Future role of AI in language education.	Essential/Evolving Tool	50%
	Complement to Teachers	25%
	Replacing Teachers	12.5%
	High Impact	12.5%

Half of the respondents (50%) see AI as an essential and evolving tool in language education, while 25% view it as a complement to teachers. A smaller percentage (12.5%) believe AI could replace teachers, and another 12.5% foresee a high impact. These results indicate that AI is largely seen as a supportive and transformative tool rather than a complete substitute for educators.

Table 10: AI's Impact on Student Engagement

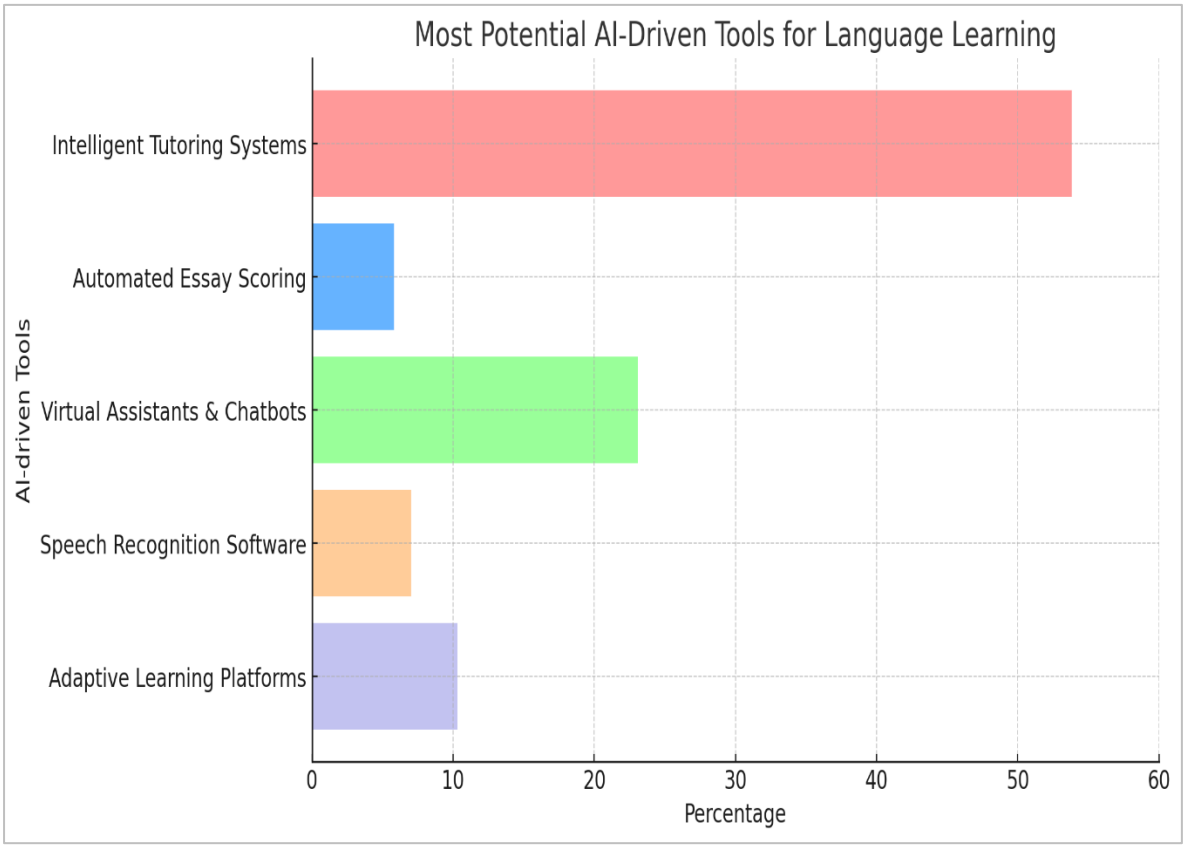
Survey Question	Response Options	Percentage
19. AI's impact on student engagement.	Significantly increases	25.6%
	Moderately increases	56.4%
	No noticeable impact	10.3%
	Moderately decreases	7.7%
	Significantly decreases	0%

A majority (82%) believe AI enhances student engagement, with 25.6% stating it significantly increases and 56.4% saying it moderately increases engagement. Only 10.3% see no noticeable impact, while 7.7% feel it moderately decreases engagement. Notably, no respondents believe AI significantly decreases engagement, reinforcing its positive influence in the learning environment.

Table 11: Most Potential AI-Driven Tools for Language Learning

Survey Question	Response Options	Percentage
20. Most potential AI-driven tools for language learning.	Intelligent Tutoring Systems	53.8%
	Automated Essay Scoring	5.8%
	Virtual Assistants & Chatbots	23.1%
	Speech Recognition Software	7%
	Adaptive Learning Platforms	10.3%

Graphic 2



From my perspective, the results of this survey reflect a growing interest in tools that provide personalized, interactive learning experiences. Intelligent Tutoring Systems stands at the top with 53.8%, which is not surprising, as they have the potential to tailor lessons to individual needs, offering more targeted support to learners. The second-highest choice, Virtual Assistants & Chatbots **(**23.1%**),** indicates that learners value conversational practice, which helps develop fluency and communication skills. While Speech Recognition Software and Adaptive Learning Platforms are still relatively important, they focus on specific areas such as pronunciation and dynamic lesson progression, respectively. Automated Essay Scoring, despite its utility in writing assessments, seems less exciting in comparison, perhaps because it doesn't directly engage students in interactive or immersive learning, which is becoming a key trend in education.

Overall, the preference for more personalized and engaging tools shows the shift towards more interactive and adaptive learning environments that cater to individual needs, rather than one-size-fits-all methods. Artificial Intelligence (AI) has experienced significant development in recent decades, becoming an essential component across various fields (Russell & Norvig, 2020).

CONCLUSIONS

The survey results provide compelling evidence that artificial intelligence (AI) tools are widely embraced in English language teaching and learning, significantly enhancing language skill acquisition. Notably, AI-driven applications have proven particularly effective in refining pronunciation, fostering fluency, and offering personalized learning experiences tailored to individual student needs. The overwhelming consensus among respondents underscores AI's role in increasing student engagement by making lessons more dynamic, interactive, and responsive to diverse learning styles.

Nevertheless, despite these promising advancements, several challenges warrant careful consideration. The accuracy and reliability of AI-generated content remain pressing concerns, as inconsistencies in information could impact students' comprehension and overall learning outcomes. Additionally, the financial accessibility of AI tools poses a barrier for many institutions and learners, while external distractions, such as advertisements and social media integration, could compromise the intended educational benefits. Addressing these challenges is crucial to ensuring that AI serves as an effective and equitable tool in language education.

Moving forward, further research should prioritize refining AI's ability to deliver precise and contextually accurate content while reducing potential biases in language models. Additionally, exploring strategies to mitigate digital distractions and lower the cost of AI-driven educational tools will make these resources more inclusive and beneficial for learners worldwide. As AI continues to evolve, educators, researchers, and developers must collaborate to harness its full potential while safeguarding the integrity and effectiveness of language learning experiences. As stated by Russell and Norvig (2020), Artificial Intelligence will continue to transform how we understand and design human–machine interaction.

REFERENCES

Anderson, P. (2022). *Innovative strategies in digital education.* Academic Press.

Chiu, T. K. F**.** (2021). *Applying artificial intelligence in education: A framework for sustainable development. Educational Technology Research and Development, 69*(3), 1017-1036. https://doi.org/10.1007/s11423-021-09972-9

Clark, J. (2018). *The synergy of traditional and modern teaching methods. Journal of Modern Education, 12*(3), 45-59.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

García, M. (2018). *Enhancing language acquisition through technology integration. International Journal of Language Studies, 9*(2), 112-127.

González, R. (2017). *Adaptive learning systems in language education. Educational Technology Review, 15*(1), 33-48.

Holmes, W., Bialik, M., & Fadel**, C.** (2021). *Artificial intelligence in education: Promises and implications for teaching and learning.* The Center for Curriculum Redesign.

Johnson**, L.** (2020). *The role of artificial intelligence in modern classrooms. Computers & Education, 145*, 103-117.

López**, S.** (2018). *Challenges in implementing AI in language teaching. Journal of Educational Challenges, 7*(4), 201-215.

Luckin**,** R**.** (2018). *Machine learning and human intelligence: The future of education for the 21st century.* UCL Institute of Education Press.

Martínez, A**.** (2020). *Personalization in language learning: The impact of AI. Language Learning & Technology, 24*(3), 50-65.

Roberts, T**.** (2021). *Ethical considerations in educational technology. Ethics in Education Journal, 11*(2), 88-102.

Russell, S., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson. https://www.pearson.com/en-us/subject-catalog/p/artificial-intelligence-a-modern-approach/P200000003395

Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education. Learning, Media and Technology, 44*(2), 77-91. https://doi.org/10.1080/17439884.2019.1582850

Smith, A., & Lee, B. **(**2021). *Artificial intelligence and its implications for language pedagogy. Journal of Applied Linguistics, 19*(2), 75-90.

Williamson, B., & Eynon, R. (2020). *Historical trends in AI and education: Mapping the field. Learning, Media and Technology, 45*(3), 223-235. https://doi.org/10.1080/17439884.2020.1778223