

The Impact of AI Tool Familiarity on the Reading Performance of Saudi EFL Learners

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Abstract—This study explored the impact of English as a foreign language (EFL) learners' familiarity with AI-driven tools on their EFL reading performance. Participants consisted of 30 EFL learners with different levels of AI familiarity, depending on whether they had used such tools a lot, sometimes, or never. They were given an authentic reading test demanding interactive, higher-order cognitive skills. The results were interpreted through SPSS, one-way ANOVA, and post hoc Tukey's HSD. Based on the results of multiple means comparisons (significant at $p < .001$), the study rejected the null hypothesis that AI familiarity would have no positive influence on reading skills. The group that was the most familiar with these tools showed significantly higher improvement compared to the other two groups. In contrast, there was no significant difference between the groups with less AI familiarity ($p = .067$). According to the findings, greater familiarity with AI tools could help EFL learners improve their reading performance, signaling a need for more professional training on AI integration in language education.

Index Terms—AI-driven tool, artificial intelligence, reading skills, Saudi EFL learner, technology integration

I. INTRODUCTION

The growing integration of AI to enhance learning has garnered significant attention (Almusharraf & Alotaibi, 2021; Alshumaimeri & Alshememry, 2024; Yuan, 2023). A particularly promising application of such tools is to bolster the reading skills of English as a foreign language (EFL) learners. As the world becomes increasingly interconnected, proficiency in English has emerged as a critical asset, facilitating communication, collaboration, and access to opportunities. However, acquiring advanced English reading skills poses formidable challenges for EFL learners, from comprehension to vocabulary (Alghizzi, 2021; Alshammari, 2022, 2023; Alzamil, 2022). Traditional approaches have often struggled to address these challenges comprehensively. This problem can be seen, for example, in Saudi Arabia, where EFL learners consistently achieve below-average scores on standardized English proficiency tests targeting receptive and productive skills (Almusharraf & Almusharraf, 2021; Alshammari, 2022; Alzamil, 2021). However, by leveraging the capabilities of AI, such as natural language processing, machine learning algorithms, and adaptive learning systems, educators might be able to provide reading experiences that are more tailored to the individual needs and abilities of learners and thereby improve their reading performance.

Building on previous research (Adiguzel et al., 2023; Al-Khresheh et al., 2022; Chen et al., 2022; Hopcan et al., 2023; Kessler, 2018), this paper explores the potential benefits and challenges of integrating AI-driven tools to improve EFL learners' reading skills. In doing so, it sheds light on the mechanisms through which AI tools can enhance reading proficiency, foster engagement, and promote autonomous learning. To this end, the paper examined various AI-driven tools and platforms designed to facilitate reading instruction, including intelligent tutoring systems, interactive e-books, language learning apps, and virtual reading assistants, to provide insights into best practices for integrating them into EFL reading curricula.

Despite the centrality of reading in second and foreign language acquisition, EFL learners often experience persistent difficulties that impede their academic progress and overall language proficiency. Reading in a foreign language requires not only decoding written symbols but also activating linguistic knowledge, background schemata, and cognitive strategies simultaneously (Alshammari, 2023). For many EFL learners, limited vocabulary knowledge, insufficient grammatical competence, lack of exposure to authentic texts, and weak metacognitive awareness contribute to slow reading speed and poor comprehension (Alhaider, 2023; Alshammari, 2021; Shra'ah, 2021). These difficulties are often compounded by affective factors such as anxiety, low motivation, and lack of confidence, particularly in contexts where English exposure is largely restricted to the classroom. Consequently, traditional reading instruction methods, which frequently rely on uniform texts and teacher-centered approaches, may fail to address the diverse needs and proficiency levels of learners.

In many EFL contexts, including Saudi Arabia and other regions in the Middle East, reading instruction remains heavily textbook-driven and examination-oriented. Such approaches often emphasize surface-level comprehension questions and translation exercises rather than strategic reading, critical thinking, or learner autonomy. As a result, learners may become passive recipients of information rather than active constructors of meaning. Research has shown that this instructional mismatch can lead to disengagement and limited progress in reading development. Therefore, there is a pressing need for

innovative pedagogical approaches that can personalize instruction, provide immediate feedback, and support learners at different stages of reading development.

AI has emerged as a transformative force in education, offering new possibilities for addressing long-standing challenges in language learning. AI technologies are particularly well-suited to language education because they can process large amounts of linguistic data, identify patterns in learner performance, and adapt instructional content in real time. In the context of EFL reading, AI-driven systems can analyze learners' reading behaviors, detect areas of difficulty, and provide customized scaffolding that aligns with individual proficiency levels. This adaptive capability represents a significant departure from traditional one-size-fits-all approaches and aligns closely with contemporary theories of second language acquisition, such as the input hypothesis, interactionist perspectives, and socio-cognitive models.

One of the most significant advantages of AI-driven reading tools lies in their ability to personalize learning experiences. Adaptive reading platforms can adjust text complexity, vocabulary load, and task difficulty based on learners' performance and progress. For example, intelligent tutoring systems can recommend texts that match learners' reading levels while gradually increasing complexity to promote development. Similarly, AI-powered vocabulary support tools can provide contextualized definitions, synonyms, and usage examples, enabling learners to infer meaning without interrupting the reading flow. This individualized support is particularly beneficial for EFL learners who often struggle with unfamiliar lexical items and complex sentence structures.

Another critical contribution of AI to EFL reading instruction is the provision of immediate and formative feedback. Traditional classroom settings may limit teachers' ability to offer timely feedback to every learner, especially in large classes. AI-driven tools, however, can instantly analyze learners' responses to comprehension questions, summaries, or annotations and provide targeted feedback. This immediate feedback helps learners identify misunderstandings, refine reading strategies, and develop greater awareness of their strengths and weaknesses. Over time, such feedback can foster metacognitive skills, enabling learners to monitor and regulate their own reading processes more effectively. Engagement and motivation are also central considerations in EFL reading development, and AI technologies offer innovative ways to enhance both. Many AI-driven reading applications incorporate gamification elements, multimedia features, and interactive tasks that make reading more appealing and less intimidating. For instance, interactive e-books may include audio support, visual aids, and embedded quizzes that transform reading into a dynamic and multisensory experience. Virtual reading assistants and chatbots can simulate conversational interactions, prompting learners to reflect on texts, ask questions, and explore meanings in a supportive environment. Such features can reduce reading anxiety and encourage sustained engagement, particularly among learners who may otherwise perceive reading in English as challenging or monotonous.

The role of autonomy in language learning has been widely acknowledged, and AI-driven tools have considerable potential to promote autonomous reading practices. By enabling learners to access reading materials anytime and anywhere, AI-supported platforms extend learning beyond the classroom and empower learners to take greater responsibility for their own progress. Learners can select texts that align with their interests, track their reading performance, and set personalized goals. This sense of ownership can enhance intrinsic motivation and contribute to more consistent and meaningful reading practice. Moreover, autonomous engagement with AI tools can help learners develop lifelong learning habits that extend beyond formal education.

However, while the potential benefits of AI integration in EFL reading instruction are substantial, several challenges and concerns must be addressed. One major issue relates to the digital divide and unequal access to technology. Not all learners have reliable access to digital devices or high-speed internet, particularly in under-resourced contexts. This disparity may exacerbate existing educational inequalities and limit the effectiveness of AI-driven interventions. Therefore, policymakers and educational institutions must consider issues of accessibility and infrastructure when implementing AI-based reading solutions.

Another challenge concerns teachers' preparedness and attitudes toward AI technologies. Successful integration of AI tools into EFL reading curricula requires teachers to possess not only technical skills but also pedagogical understanding of how to align these tools with instructional objectives. Resistance to change, lack of training, and concerns about the reliability or appropriateness of AI tools may hinder adoption. Professional development programs that focus on digital literacy and pedagogical innovation are therefore essential to ensure that teachers can effectively harness the potential of AI in reading instruction.

Ethical considerations also play a critical role in the use of AI in education. Issues related to data privacy, algorithmic bias, and transparency must be carefully managed to protect learners' rights and ensure equitable learning experiences. AI systems often rely on large datasets to function effectively, raising questions about how learner data are collected, stored, and used. In EFL contexts, where learners may already feel vulnerable due to linguistic and cultural factors, maintaining trust and safeguarding privacy are particularly important.

Furthermore, while AI tools can provide valuable support, they should not be viewed as replacements for teachers. Human interaction remains a cornerstone of effective language learning, particularly in fostering critical thinking, cultural awareness, and nuanced interpretation of texts. AI-driven reading tools are most effective when used as complementary resources that enhance, rather than replace, teacher-led instruction. A balanced approach that combines technological innovation with sound pedagogical principles is therefore essential.

Given these opportunities and challenges, there is a growing need for empirical research that examines the effectiveness of AI-driven tools in improving EFL reading skills across different contexts and proficiency levels. Although existing studies have reported positive outcomes, findings are often context-specific, and further investigation is required to identify best practices and implementation strategies. In particular, more research is needed to explore how AI tools can support higher-order reading skills, such as inferencing, critical analysis, and synthesis, which are crucial for academic success.

In addition, cultural and contextual factors must be considered when integrating AI into EFL reading instruction. Learning preferences, educational traditions, and institutional policies can all influence how AI tools are perceived and used. In contexts such as Saudi Arabia, where educational reforms increasingly emphasize technology integration and learner-centered approaches, AI-driven reading tools may offer timely and relevant solutions. However, their effectiveness depends on thoughtful adaptation to local curricula, assessment practices, and learner needs. In light of these considerations, this paper positions AI as a powerful yet complex tool for enhancing EFL reading instruction. By examining a range of AI-driven platforms and applications, the present study seeks to contribute to a deeper understanding of how technology can support reading development in foreign language contexts. The discussion highlights both the pedagogical affordances and the practical challenges of AI integration, offering insights for educators, researchers, and policymakers alike.

Ultimately, improving EFL learners' reading skills is not only an academic objective but also a broader educational and societal goal. Reading proficiency enables learners to access knowledge, engage with global discourses, and participate more fully in academic and professional communities. As AI technologies continue to evolve, their thoughtful and ethical integration into EFL reading instruction holds promise for addressing long-standing challenges and creating more inclusive, adaptive, and effective learning environments. By situating AI within a pedagogically grounded framework, this paper underscores the potential of intelligent technologies to transform EFL reading instruction and support learners in achieving higher levels of language proficiency and academic success.

II. LITERATURE REVIEW

Alshumaimeri and Alshememry (2024) provided a foundational overview of the discourse surrounding AI's role in EFL education. Despite AI being present in educational contexts for decades, they observed that educators remained cautious about its pedagogical value. Their systematic review synthesized studies on diverse AI technologies—such as intelligent tutoring systems, chatbots, and adaptive learning platforms—focusing on their effects on students' language skills and perceptions. They also identified research gaps, noting that while AI tools demonstrated the potential to support personalized and interactive learning, empirical evidence regarding long-term outcomes and best practices remained insufficient.

Rad (2024) empirically investigated AI's impact on second language learners' speaking skills. Employing a mixed-methods approach, the study randomly assigned 66 participants to an experimental group, which used the AI voice coach Speeko, and a control group, which received conventional teaching methods. Data were collected through tests, questionnaires, and semi-structured interviews administered before and after the intervention. The experimental group showed significantly higher second language speaking proficiency, willingness to communicate, and perceptions compared to the control. This finding substantiated the claims made in broader theoretical literature that AI tools can create low-stress, personalized environments conducive to language practice. The results also aligned with constructivist principles, emphasizing learner autonomy and interactive engagement, and offered a critique of conventional pedagogical models, which often lack the responsiveness and interactivity that AI can afford. By quantifying these benefits, Rad supported AI's pedagogical value but also called attention to questions about scalability, teacher preparedness, and the potential replacement of human interaction with technological mediation.

Drawing on multi-modal blended learning theory and independent learning principles, Shi et al. (2023) proposed AI-driven models for integrating college-level English instruction with deep learning technologies. Their framework highlighted AI's role not merely as a supplementary tool but as a catalyst for rethinking pedagogical design. By combining big data analytics, cloud computing, and adaptive feedback systems, the authors suggested that educators could better tailor instruction to individual learners' needs. This approach exemplifies the shift from a teacher-centered to a learner-centered paradigm, underscoring AI's potential to facilitate autonomous and lifelong learning. The study also stressed the need for better teacher training and balancing technological integration with pedagogical intentionality.

Yuan (2023) investigated the efficacy of incorporating chatbots into EFL classrooms in a Chinese elementary school. Seventy-four students were divided into two groups, one using traditional teaching methods and the other utilizing chatbots. Pre- and post-tests measured students' oral English proficiency, while a questionnaire assessed their willingness to communicate. Interviews with teachers and students provided additional insights into chatbot usage and asked for their suggestions. Students using chatbots significantly outperformed the control in oral English proficiency and willingness to communicate. The qualitative findings revealed that students and teachers valued chatbots for their immediacy, individualized feedback, and non-judgmental interaction. Yuan also identified areas for improvement, such as customizing chatbot features for age-appropriate engagement and enhancing feedback precision. This finding highlighted a broader concern in AI-assisted language learning; while AI can replicate certain instructional functions, it must be aligned with learners' developmental and cultural needs.

Zhang et al. (2023) discussed this issue within the context of globalization and higher education reform. They argued that universities must help students attain strong linguistic skills and cross-cultural communication to meet market demands. The authors advocated for smart classrooms integrating AI technologies to create immersive, culturally rich learning experiences. They claimed that embedding AI into English language and literature classrooms could promote linguistic proficiency and cultural literacy. Their model emphasized personalization, real-time feedback, and active student engagement, echoing themes present in other studies mentioned above. However, they also highlighted a crucial dimension often overlooked in AI literature: cultural immersion and the humanistic side of language learning. They suggested that AI's true value lies not in replacing teachers but in amplifying cultural authenticity and contextual understanding through intelligently designed material.

The studies reviewed above (Alshumaimeri & Alshememry, 2024; Rad, 2024; Shi et al., 2023; Yuan, 2023; Zhang et al., 2023) revealed the promise and challenges of integrating AI into language learning. They examined AI's capacity to personalize learning, enhance engagement, and improve specific linguistic competencies, such as speaking proficiency and willingness to communicate, while also addressing pedagogical skepticism, infrastructure barriers, and ethical considerations.

Across this literature, a central question emerges. Can AI truly enhance the complex, human-centered process of language learning? The consensus appears cautiously optimistic. Empirical evidence (e.g., Rad, 2024; Yuan, 2023) has supported AI's efficacy in enhancing speaking proficiency and learner motivation, while theoretical frameworks (e.g., Shi et al., 2023; Zhang et al., 2023) have positioned AI as a driver of pedagogical innovation. Nevertheless, unresolved issues persist, including ethical concerns, lack of teacher readiness, inadequate infrastructure, and the need for longitudinal research (Alshumaimeri & Alshememry, 2024). Ultimately, these studies suggest that AI has the potential, when thoughtfully integrated, to help personalize, democratize, and enrich the EFL learning experience.

Beyond speaking-focused applications, a growing body of research has begun to examine AI's role in enhancing EFL learners' reading skills, which remain comparatively underexplored in the literature. Reading comprehension is a cognitively demanding process involving lexical access, syntactic parsing, background knowledge activation, and metacognitive regulation. Several scholars have argued that AI technologies are particularly well-suited to support these multifaceted processes because of their ability to provide adaptive input, real-time feedback, and data-driven personalization. For instance, AI-powered reading platforms equipped with natural language processing can analyze learners' interactions with texts, identify comprehension breakdowns, and adjust instructional scaffolding accordingly. Such affordances align with interactive and cognitive theories of reading, which emphasize the dynamic interplay between the reader, the text, and the learning context.

Recent studies have also highlighted the effectiveness of intelligent tutoring systems and adaptive reading environments in promoting reading comprehension and vocabulary development among EFL learners (Alharthi, 2024; Liu, 2024). These systems often incorporate automated glossing, text simplification, and comprehension checks that respond to learners' proficiency levels. Research has shown that contextualized vocabulary support and adaptive feedback can reduce cognitive load and facilitate deeper comprehension, particularly for lower-proficiency learners. Moreover, AI-driven analytics enable instructors to track learners' reading behaviors, such as time spent on tasks, error patterns, and strategy use, thereby informing more targeted instructional interventions. Another strand of literature has focused on the role of AI in fostering metacognitive awareness and strategic reading. Metacognition—learners' ability to plan, monitor, and evaluate their reading processes—is a critical predictor of reading success in EFL contexts. AI-based reading tools can prompt learners to reflect on their understanding, ask guiding questions, or suggest strategies such as skimming, scanning, or inferencing. By externalizing these cognitive prompts, AI systems help learners internalize effective reading strategies over time. Studies grounded in self-regulated learning theory suggest that such features can enhance learners' autonomy and confidence, especially when reading complex or unfamiliar texts.

Motivation and engagement also emerge as recurring themes in AI-assisted reading research. Traditional reading instruction is often perceived as passive or monotonous, particularly when texts are not aligned with learners' interests or proficiency levels. AI-driven platforms address this limitation by offering personalized content recommendations, multimodal texts, and interactive features such as quizzes, annotations, and gamified tasks. Empirical evidence indicates that these features can increase learners' reading frequency, persistence, and enjoyment, which are essential for long-term reading development. Importantly, increased engagement has been linked not only to improved comprehension outcomes but also to more positive attitudes toward reading in English.

Despite these promising findings, scholars caution against uncritical adoption of AI technologies in reading instruction. Concerns have been raised regarding overreliance on automated support, which may limit learners' ability to cope with authentic, unsupported texts. Additionally, algorithmic bias and limited transparency in AI systems may affect the quality and fairness of instructional recommendations. These concerns underscore the need for pedagogically informed design and teacher mediation to ensure that AI tools complement, rather than replace, effective reading instruction.

Collectively, the extended literature suggests that while AI has demonstrated considerable potential in enhancing EFL reading development, particularly through personalization, strategy support, and engagement, its effectiveness depends on thoughtful integration within broader pedagogical frameworks. The relative scarcity of longitudinal and reading-specific studies further highlights a gap in the literature, reinforcing the need for research that systematically examines how AI-driven tools influence EFL learners' reading skills over time and across diverse educational contexts.

III. METHODOLOGY

A. Design

This quantitative study involved a three-month experiment during which EFL learners were exposed to AI-driven tools. These participants were divided into three groups: those who had used AI-driven tools a lot ($n = 10$), those who had sometimes used them ($n = 10$), and those who had never used them ($n = 10$). Each group also contained students from three different EFL proficiency levels: (a) above average, (b) average, and (c) below average.

B. Research Questions

This study sought to answer four research questions:

- Does familiarity with AI-driven tools affect the reading performance of Saudi EFL learners?
- To what extent does familiarity with AI-driven tools affect the reading performance of Saudi EFL learners with above-average English proficiency?
- To what extent does familiarity with AI-driven tools affect the reading performance of Saudi EFL learners with average English proficiency?
- To what extent does familiarity with AI-driven tools affect the reading performance of Saudi EFL learners with below-average English proficiency?

C. Hypotheses

Based on the questions above, the study tested the following null hypotheses:

- Familiarity with AI-driven tools has no impact on the reading performance of Saudi EFL learners.
- Familiarity with AI-driven tools has no impact on the reading performance of above-average Saudi EFL learners.
- Familiarity with AI-driven tools has no impact on the reading performance of average Saudi EFL learners.
- Familiarity with AI-driven tools has no impact on the reading performance of below-average Saudi EFL learners.

D. Instruments

A reading post-test was created to measure the impact of length of exposure to (and thus level of familiarity with) AI-driven tools on learners. It assessed any between-groups significance through a one-way ANOVA. If a significant relationship was found, post hoc descriptive statistics were run to indicate the exact significance of differences between groups.

IV. RESULTS

The statistical results were analyzed via SPSS to determine whether the null hypotheses should be rejected. The descriptive statistics and means comparison (see Table 1) showed that learners who used AI-driven tools “a lot” had mean scores ($M = 88.56$) that outperformed those who only sometimes ($M = 77.50$) or never ($M = 71.55$) used such tools.

TABLE 1
DESCRIPTIVE STATISTICS FOR PARTICIPANTS BASED ON FAMILIARITY WITH AI TOOLS

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
A lot 100%	9	88.56	3.812	1.271	85.63	91.49	85	95
Sometimes 50%	10	77.50	5.720	1.809	73.41	81.59	71	87
Never 0%	11	71.55	7.090	2.138	66.78	76.31	65	88
Total	30	78.63	9.031	1.649	75.26	82.01	65	95

Moreover, the one-way ANOVA revealed a significant difference between participants according to level of familiarity with AI tools ($p < .001$), as illustrated in Table 2.

TABLE 2
ONE-WAY ANOVA RESULTS FOR POST-TEST SCORES BASED ON FAMILIARITY WITH AI TOOLS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1451.517	2	725.759	21.452	<.001
Within Groups	913.449	27	33.831		
Total	2364.967	29			

To explore the exact differences between these groups, post hoc Tukey's HSD was used, the results of which are presented in Table 3.

TABLE 3
POST HOC TUKEY'S HSD RESULTS

(I) Limit of AI-Driven Tools exposure	(J) Limit of AI-Driven Tools exposure	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
A lot 100%	Sometimes 50%	11.056*	2.672	<.001	4.43	17.68
	Never 0%	17.010*	2.614	<.001	10.53	23.49
Sometimes 50%	A lot 100%	-11.056*	2.672	<.001	-17.68	-4.43
	Never 0%	5.955	2.541	.067	-.35	12.26
Never 0%	A lot 100%	-17.010*	2.614	<.001	-23.49	-10.53
	Sometimes 50%	-5.955	2.541	.067	-12.26	.35

*. The mean difference is significant at the 0.05 level.

Participants who reported having “a lot” of exposure to AI-driven tools showed significantly higher scores ($p < .001$) than those who had sometimes (50%) or never (0%) been exposed to such tools. In contrast, there was no significant difference ($p = .067$) between the latter two groups. The mean post-test scores for all three groups are plotted in Figure 1, illustrating the sharp divide in test scores.

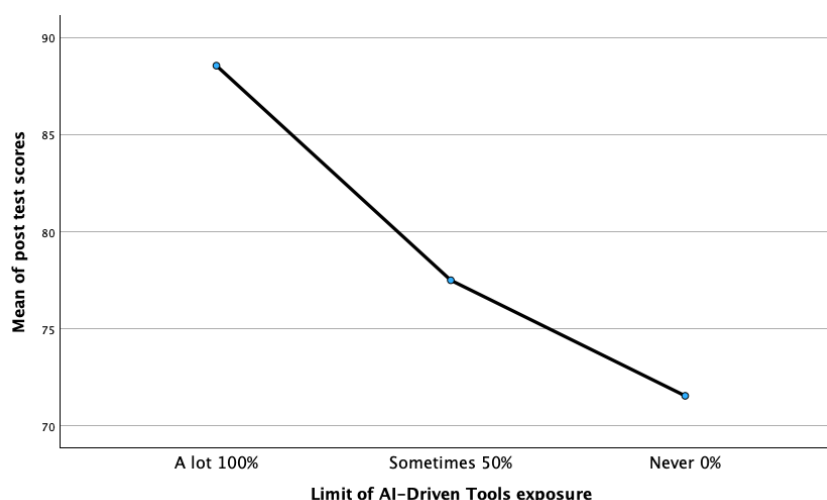


Figure 1. Post-Test Scores Based on Frequency of Exposure to AI-Driven Tools

V. DISCUSSION AND CONCLUSION

Regardless of how much previous exposure they had to AI tools, participants generally expressed positive attitudes toward using AI to improve their language learning. However, several noted that they had limited access to AI due to living far from areas with sufficient internet speed. The first null hypothesis (familiarity with AI-driven tools has no impact on the reading performance of Saudi EFL learners) was rejected, as the group with more exposure to such tools scored significantly higher than the groups with less or no exposure. Thus, it would appear that familiarity with AI-driven tools could improve the reading performance of Saudi EFL learners. On the other hand, there was no significant difference between those who sometimes and those who never used such tools. The other three null hypotheses were likewise rejected, as more exposure to AI-driven tools appeared to benefit students regardless of their English proficiency level (above average, average, or below average). These findings supported those of previous studies (Adiguzel et al., 2023; Al-Khresheh et al., 2022; Chen et al., 2022; Hopcan et al., 2023; Kessler, 2018). Furthermore, they highlight the potential value of AI integration in language learning, specifically EFL reading skills. Greater familiarity with this technology appeared to help EFL learners interact with it more effectively, which resulted in higher reading skill development.

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REFERENCES

- [1] Adiguzel, T., Kaya, M. H., & Cansu, F. K. (2023). Revolutionizing education with AI: Exploring the transformative potential of ChatGPT. *Contemporary Educational Technology*, 15(3), ep429. <https://doi.org/10.30935/cedtech/13152>
- [2] Al-Khresheh, M. H., Mohamed, A. M., & Asif, M. (2022). Teachers' perspectives towards online professional development programs during the period of COVID-19 pandemic in the Saudi EFL context. *FWU Journal of Social Sciences*, 16(2), 1–17.

- [3] Alghizzi, T. M. (2021). Saudi female EFL undergraduates' knowledge, perceptions, problems, and suggestions for research method courses. *Arab World English Journal*, 12(2), 496–520. <https://doi.org/10.24093/awej/vol12no2.34>
- [4] Alhaider, S. M. (2023). Teaching and learning the four English skills before and during the COVID-19 era: Perceptions of EFL faculty and students in Saudi higher education. *Asian-Pacific Journal of Second and Foreign Language Education*, 8(1), 19. <https://doi.org/10.1186/s40862-023-00193-6>
- [5] Alharthi, S. M. (2024). Siri as an interactive pronunciation coach: Its impact on EFL learners. *Cogent Education*, 11(1), 2304245. <https://doi.org/10.1080/2331186x.2024.2304245>
- [6] Almusharraf, A., & Almusharraf, N. (2021). Socio-interactive practices and personality within an EFL online learning environments. *Education and Information Technologies*, 26(4), 3947–3966. <https://doi.org/10.1007/s10639-021-10449-8>
- [7] Almusharraf, N., & Alotaibi, H. (2021). Gender-based EFL writing error analysis using human and computer-aided approaches. *Educational Measurement: Issues and Practice*, 40(2), 60–71. <https://doi.org/10.1111/emip.12413>
- [8] Alshammari, H. A. (2021). Assessing the reading skills of the Saudi elementary stage EFL learners. *Advances in Language and Literary Studies*, 12(1). <https://doi.org/10.7575/aiaac.all.v.12n.1.p.55>
- [9] Alshammari, H. A. (2022). Investigating the low English proficiency of Saudi EFL learners. *Arab World English Journal*, 13(1), 129–144. <https://doi.org/10.24093/awej/vol13no1.9>
- [10] Alshammari, H. A. (2023). Current state of knowledge and theories on second language reading. *Forum for Linguistic Studies*, 5(3), 1795. <https://doi.org/10.59400/fls.v5i3.1795>
- [11] Alshumaimeri, Y. A., & Alshememry, A. K. (2024). The extent of AI applications in EFL learning and teaching. *IEEE Transactions on Learning Technologies*, 17, 653–663. <https://doi.org/10.1109/tlt.2023.3322128>
- [12] Alzamil, A. (2022). Saudi students' attitudes to the use of subtitles to improve their listening skills. *Arab World English Journal*, 13(1), 486–494. <https://doi.org/10.24093/awej/vol13no1.32>
- [13] Alzamil, J. (2021). Listening skills: Important but difficult to learn. *Arab World English Journal*, 12(3), 366–374. <https://doi.org/10.24093/awej/vol12no3.25>
- [14] Chen, X. L., Zou, D., Xie, H. R., Cheng, G., & Liu, C. X. (2022). Two decades of artificial intelligence in education: Contributors, collaborations, research topics, challenges, and future directions. *Educational Technology & Society*, 25(1), 28–47. <https://www.jstor.org/stable/48647028>
- [15] Hopcan, S., Polat, E., Ozturk, M. E., & Ozturk, L. (2023). Artificial intelligence in special education: A systematic review. *Interactive Learning Environments*, 31(10), 7335–7353. <https://doi.org/10.1080/10494820.2022.2067186>
- [16] Kessler, G. (2018). Technology and the future of language teaching. *Foreign Language Annals*, 51(1), 205–218. <https://doi.org/10.1111/flan.12318>
- [17] Liu, Y. M. (2024). A study of the effects of four reading styles on college students' mental health and quality of life based on positive psychology: A first-of-its-kind study. *Plos One*, 19(8), e0308475. <https://doi.org/10.1371/journal.pone.0308475>
- [18] Rad, H. S. (2024). Revolutionizing L2 speaking proficiency, willingness to communicate, and perceptions through artificial intelligence: A case of Speeko application. *Innovation in Language Learning and Teaching*, 18(4), 364–379. <https://doi.org/10.1080/17501229.2024.2309539>
- [19] Shra'ah, M. H. A. (2021). The effect of Kahoot on developing EFL Saudi students' vocabulary acquisition, reading comprehension, and their attitudes towards such a strategy. *IUG Journal of Educational and Psychology Sciences*, 29(1), 604–619. <https://doi.org/10.33976/IUGJEPS.29.1/2021/27>
- [20] Shi, L. Z., Umer, A. M., & Shi, Y. T. (2023). Utilizing AI models to optimize blended teaching effectiveness in college-level English education. *Cogent Education*, 10(2), 2282804. <https://doi.org/10.1080/2331186x.2023.2282804>
- [21] Yuan, Y. J. (2023). An empirical study of the efficacy of AI chatbots for English as a foreign language learning in primary education. *Interactive Learning Environments*, 32(10), 6774–6789. <https://doi.org/10.1080/10494820.2023.2282112>
- [22] Zhang, X., Sun, J., & Deng, Y. T. (2023). Design and application of intelligent classroom for English language and literature based on artificial intelligence technology. *Applied Artificial Intelligence*, 37(1), 2216051. <https://doi.org/10.1080/08839514.2023.2216051>

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