The Effect of Using AI on Teaching Reading Comprehension to College Students

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Abstract

The research paper aims to examine the benefits AI brings in improving the reading skills of college students in Iraq; 95 learners have been invited for the study and have used a quantitative research method to evaluate the impact of AI on the participants' reading ability. The studies also reveal that a learning-enabling AI enhances the student's reading platform results through higher performance in comprehension tests than their counterparts. As a result of the dynamically developing AI tools, more appropriate and adjustable materials were used to enhance students' text recognition and comprehension. The quantitative regression analysis showed a low and insignificant correlation between the supposed acquaintance with AI and its effectiveness and utilization, as well as faith in its effectiveness. This analysis indicates that by just being familiar with the technology, one cannot adopt it efficiently. Thus, this study stresses the need to train educators and students to ensure students receive the best from AI applications in learning. Self-completion of a questionnaire among the participants also offered further views and experiences of the participants in the use of AI tools. The findings highlighted the importance of universities commencing professional development programs, which prepare teachers to facilitate the use of AI tools and support learners' engagement with them. Despite the optimism in the performance of AI to boost reading comprehension, appropriate strategies of embedding, effective training, and compliance guarantees are still required while being adopted by various education systems.

Keywords: *AI-based learning; reading comprehension; personalized learning; adaptive learning; educational technology.*

1. Introduction

In today's digital age, the use of Artificial Intelligence (AI) in education has become more common. One area of study is the use of artificial intelligence to teach college students reading comprehension skills. Reading comprehension is an important skill for academic success, and AI- powered tools have the potential to improve instruction and student performance. However, the impact of artificial intelligence on teaching reading comprehension is still being debated. While some claim that AI can deliver individualized learning experiences and real-time feedback, others are concerned about the risk of over-reliance on technology and decreasing human connection.

The purpose of this study is to look into the effect of artificial intelligence on teaching reading comprehension to

college students. It will investigate if AI-powered tools can improve reading comprehension, increase student engagement, and minimize instructor effort. By investigating the possible benefits and drawbacks of AI in reading comprehension teaching, this study hopes to add to the increasing corpus of research on AI in education. Finally, the study's findings will help educators and policymakers understand how to effectively integrate AI into college reading comprehension instruction. By harnessing AI capabilities, educators may design more effective and efficient learning environments that meet their students' unique requirements. The following research questions were the focus of this study:

RQ1. To what extent do using AI tools improve reading comprehension among college students compared to traditional methods?

RQ2. What specific AI features have the most significant impact on reading comprehension outcomes?

2. Background

AI technologies, such as intelligent tutoring systems, natural language processing (NLP) tools, and adaptive learning platforms, have the potential to address these limitations by tailoring educational content to individual students' proficiency levels and learning styles. For instance, AI-driven reading comprehension tools can analyze students' responses in real time, providing immediate feedback and adjusting difficulty levels based on their performance (see Zouhaier,2023). Such adaptive systems can track progress over time and offer targeted practice activities to reinforce learning. This dynamic approach contrasts sharply with traditional methods that often lack the flexibility to respond to individual learning paces and needs. Recent advancements in AI, particularly in machine learning and NLP, have facilitated the development of sophisticated educational tools that can engage students in interactive reading exercises (Malik,2023). These tools can include features such as automatic summarization, context-aware vocabulary assistance, and comprehension quizzes that are tailored to the specific text being studied. By integrating these features into reading comprehension instruction, AI tools aim to enhance students' engagement and understanding, ultimately leading to improved learning outcomes.

Although AI holds much promise in the area of education, scientific research for its efficacy, especially in the context of TEFL, is still being determined. Even though many publications explored the incorporation of AI in different areas of learning, there need to be studies that focus on the effects of AI in improving college students' reading comprehension in the context of learning English as a foreign language (Malik,2023). This is the reason why this study was designed to fill this gap by exploring the impact of AI on reading comprehension skills in learners in relation to traditional methods of teaching. In this regard, the study will adopt Zouhaier (2023) a controlled group experimental research whereby subjects will include college students undertaking TEFL. The present research expects to contribute knowledge about the potential and drawbacks of integrating AI into TEFL. By identifying the possibilities of how and to what extent the intellectual technologies may support or augment the conventional models of instruction, this study will provide important data to educators and policymakers, who, in turn, seek to integrate the technologies into language learning in the most effective manner.

Given the advancements in the fields of AI technology, the relevance of AI in educational contexts is set to increase. Hence, there is a need for a methodical investigation of its effectiveness in influencing learning achievements such as general reading abilities (Walter,2024). By explaining the latter, it is possible to identify how precisely AI can enhance the reading programs and determine if the new tools are more effective than the established methods. To support this assumption, the research will seek to establish the extent to which the different aspects of AI, such as the ability to facilitate learning based on the students' needs and an adaptive model, play a central role in the improvement of the results obtained in reading comprehension exercises. It will also be applicable, especially for helping educators identify proper tools and methodologies to use with their learners and for enlightening decision-makers about the advantages and difficulties that may arise from integrating AI into learning settings.

Thus, the study will contribute to an understanding of AI's performance in making improvements in college students' reading comprehension and improving future approaches to education. The outcome of the study will not only reveal the effectiveness and possibilities of the adoption of AI in enhancing learning, but it will also show any challenges or spaces for future development. In conclusion, this study shall guide technological advances and educational processes in TEFL based on empirical data to design a more efficient incorporation of AI into language learning.

3. Problem Statement

Past approaches to teaching reading comprehension have based their teaching on interaction, where everyone is treated equally and has the same abilities. Conventional practices, such as standardized worksheets, group discussions, and others, must be revised to address student variability, including their learning style, frequency, and depth of knowledge (Kaharuddin et al., 2024). As a result, some students may need help facilitating their understanding of central notions and, therefore, have deficiencies in the learning process and academic results. Traditional teaching and learning knowledge is limited to the general pass students receive while completing their courses. In contrast, AI provides a way of arriving at a differentiated approach at appropriate student learning levels (see Kaharuddin et al.,2024, Zouhaier,2023). Closely related to identifying the results of individual student performance and providing options for their improvement with the specificity of needs in mind, AI can also enhance the delivery and selection of instruction content. For instance, AI can customize texts that the particular student can understand or provide questions that a specific learner struggles with to provide practice to that area and give feedback.

This adaptability can increase tenderness and understanding and help close achievement gaps better than conventional ways (Kaharuddin et al. ,2024). That being said, there is a need to reconsider the possibility of using AI in the instructional process regarding reading comprehension selections, its utilization, and the issues that may arise. Therefore, the consideration of AI in this regard is essential for the development of educational processes. The objective of this research as follows:

*RO1.*To quantify the effect of AI. tools on reading comprehension improvement.

*RO2.*To compare the efficacy of AI-based methods with traditional teaching approaches using statistical analysis.

4. Significance Of The Study

This article investigates the significance of artificial intelligence in the field of Teaching English as a Foreign Language (TEFL) and reveal how the current developments can enhance reading proficiency in higher education all over the world in the context of TEFL, such AI instruments allows teachers to design such programs which would cater the skill set of each type of learner, thus promoting the satisfaction level. One of them is intelligent tutoring system, open vocabulary activities with the help of natural language processing, that supports the kind of exercises which target reading as well as nurtures the development of interactivity. In particular, most of the findings suggest that such platforms can bring up to the minute monitoring of how learners read as well as their reading abilities and provide response and follow-up tasks that can help learners who struggle with particular aspects of reading. This personalization of vast amounts of text as well as the various tasks serves to be right where the individual learner is in, hence improving both their reading and understanding rate. The study further points to the creation of Active Student Engagement which telescopes in on artificial intelligence. Also, with the use of modern age advanced technologies, students are supported with VR or lessons that teach reading in students. Apart from that, AI question answers and summarization creation after a study of a large volume of information serves to quicken the study process and boost comprehension of the material.

5. Literature Review

The using AI on teaching reading comprehension to college students suggests that AI-powered tools have the potential to improve reading comprehension skills, increase student engagement, and reduce teacher workload.

Theoretical Framework

This study is grounded in several theoretical frameworks that provide a foundation for understanding the role of Artificial Intelligence (AI) in teaching reading comprehension to college students.

Constructivist Theories

Constructivist learning theories, especially those of Jean Piaget and Lev Vygotsky, affirm the learner's active role in constructing knowledge. Piaget's cognitive development theory propose that a student's ability to comprehend text evolves with age and experience (Khadidja et al., 2016). according to Piaget Reading comprehension, is an active process where learners create new meanings by linking them to previous knowledge. Vygotsky extends this idea with the concept of the Zone of Proximal Development (ZPD), where learning occurs with support from more skilled individuals. In reading comprehension, teaching strategies should be arranged progressively, with support decreasing as learners improve (Khadidja et al., 2016).

Schema Theory

Schema theory, introduced by Bartlett and expanded by Richard Anderson, explains that comprehension relies on mental structures called schemas, which organize and interpret knowledge. people use these schemas in reading to process new information (Webb et al., 2020). Skilled readers draw on prior knowledge to connect new information with existing schemas. For instance, knowing a "detective story" schema helps a reader to understand a mystery novel more easily. This prior knowledge allows readers to anticipate events and grasp key plot elements, illustrating how schema theory explains the interaction between prior knowledge and new information in reading.

Adaptive Learning Models

Adaptive learning models use algorithms and data analytics to personalize educational experiences. Based on classroom practices like differentiation and formative assessments, these systems adjust tasks, recommend lessons, and provide tailored feedback based on student engagement (Kabudi et al., 2021). Aligned with Vygotsky's ZPD, they offer tasks within the learner's competence with targeted assistance.AI-driven adaptive systems use machine learning or natural language processing to track student progress and adapt content to their needs. For instance, if learners struggle with inferential reasoning, the system provides extra practice or additional explanations to help them improve.

Intelligent Tutoring Systems (ITS)

Intelligent Tutoring Systems (ITSs) teach students and offer guidance without a human tutor. They adapt to the learner's responses, tailoring knowledge accordingly. ITSs track student progress, model their knowledge state, and identify areas of difficulty (Wang et al., 2023). In context of reading comprehension, ITSs can provide personalized drills, questions, and explanations by monitoring the learner's interaction with the text. Based on cognitive tutoring and instructional prologue theories, these systems focus on providing targeted feedback and training. ITSs aim to replicate face-to-face teaching through AI, offering dynamic tutoring to learners.

Differentiated Instruction

Tomlinson (2001) defines differentiated instruction as adapting tasks, teaching methods, and materials to meet students' individual needs, preferences, and abilities. He acknowledges that learners differ in readiness, interests, and learning styles. Personalized learning with AI aligns with this approach by delivering content tailored to each student's traits. Differentiated instruction can use different reading materials, flexible groups, and customized tasks.AI improve this process by offering materials according to student performance.

Learner-Centered Design

Learner-centered design focuses on creating learning environments and tools based on students' needs and characteristics. Key elements include interaction, agency, and feedback tailored to individual learning styles. Automation and modern practices aim to enhance the learning experience by considering the learner's environment (Bremner et al., 2022). In reading comprehension, this involves using tools, topics, and strategies suited to the learner. AI can enhance learner-centered design by providing dynamic, interactive materials that adapt to student progress, rather than static content like PowerPoint slides.

6.   **Previous Studies**

Reading comprehension is crucial for academic and professional success, yet many students struggle with it, affecting their performance. Hidayat (2024) evaluated the impact of AI-based reading platforms on improving comprehension among SHS students in Indonesia. The study involved 43 students using the AI platform and 42 in a control group, both assessed with the Degrees of Reading Power (DRP) test before and after. An independent samples t-test showed that students using AI-based platforms had better recognition of text meaning compared to the control group. This suggests AI-based tools can enhance reading comprehension, and curriculum implementers should encourage their use to improve students' reading proficiency.

In the second study (Aditi, 2022), main arguments have been made about how the conventional model of education delivery, which tailors products for the mass market, has been criticized over the years due to its inability to meet individual learners' needs. In today's context, where educational systems globally are moving towards learner-centered contexts, possibilities like Big Data, Machine Learning, and Artificial Intelligence (AI) bring in the possibilities of customizing Contemporary technology is friendly and adaptive in that new styles of intelligent machines and computers are created to imitate different needs, paving the way for educational individualism. New education technology startups and massive government funding for big data and research in artificial intelligence indicate a new enhancement in educational reforms. The paper aims to provide an overview of the substantial literature on AI in educational personalization and emphasize how these findings alter the concept of education through AI-themed critical thoughts. In a study by Kaharuddin et al. (2024), AI has rapidly entered the education system, improving teaching and learning through advanced technology. AI enhances students' learning by providing

academic content and raising awareness of new technologies in higher education. This research focused on how AI improves reading exercises, offers feedback for English writing, and examines students' attitudes toward AI as a moderating factor. Conducted with 80 students from Makassar City, Indonesia, the findings showed that attitudes toward AI influence reading practices, feedback, and writing skill improvements, also mediating the impact of AI on these areas.

The author (Weipeng, 2022) argues that Artificial Intelligence (AI) education presents fundamental challenges for early childhood education (ECE); At the same time, there is a proposed model for teaching AI for the primary classes of school, emphasizing that AI should be viewed and taught as a part of digital literacy since societies tend to become intelligent. It enables young children to have a rather profound understanding of the concept of AI technologies.

Further, the report presents an example of the 'AI for Kids' that describes this model of pedagogy. It provides concrete recommendations for educators on arranging culturally sensitive inquiry-based environments for young children that involve them

This research seeks to determine whether using artificial intelligence (AI) in teaching English for Speakers of Other Languages (ESOL) courses is possible. Its aim is to theories and refurbished prior studies and research regarding adopted AI in EFL and ESL to give a snapshot of the current position of AI in both EFL and ESL. The explored features include intelligent teaching systems, self-regulated learning, the viability of virtual reality in teaching EFL/ESL, and immersive virtual environments with natural language processing systems. Respondents answered questions on questionnaires, and data were analyzed in order to make inferences.

Research Gap

However, one can perceive that though considerable implementation of AI in the educational sector is found, the quantitative research in the said area needs to be revised, depriving the Teaching English as a Foreign Language (TEFL) sector more explicitly. Many works have examined the presence of AI in education in general; however, substantial primary evidence concerning the AI's implementation in TEFL settings still needs to be explored. The first drawback the current research seeks to fill is the sparse number of quantitative reviews focusing on the effects of AI-based applications on Ells' literacy levels. Previous studies related to AI and education concern both general aspects of the educational impact or AI 's use in primary and secondary contexts, with less emphasis on the language acquisition context of TEFL settings. Quantitative research in this area is crucial for several reasons:

1. Effectiveness Measurement: As it stands, there is a lack of statistical data that will provide precise data on the effects of AI on the different components of second language acquisition, including lexis, syntax, comprehension, and oral facility. Many current papers do not include complex quantitative research or rather contain a significant amount of anecdotal information, which hinders the researchers' ability to define the impact of the AI interventions in TEFL.

2. Comparative Analysis: To meet this need, this study aims to fill the gap by offering a comparative view of the TEFL tools powered by Artificial Intelligence compared to conventional teaching approaches. This study will fulfil this research objective by comparing the impact of AI tools on learning systematically to conventional methods to provide an understanding of the potential effectiveness level of each.

3. Longitudinal Impact: However, there still needs to be more studies that adequately investigate the impact of AI tools on students' language skills over the long term. This study shall seek to achieve this by not only looking at the level of learning impact as realized by the learners but also the ability of the AI system to continue creating such impact as would be manifested from the analysis of retention rates among the learners as they progress in their learning initiatives.

    7. **Methodology**

Research Design

This work adopted a quantitative research paradigm to evaluate the efficiency of AI—tools in TEFL. The primary approach is to compose a set of questions based on the literature and research to consistently gather quantitative information about AI's impact on various aspects of language acquisition. Special care is taken to design the questionnaire to gather detailed information on several aspects, such as the use of AI tools; the effect on vocabulary acquisition; grammar mastery; reading and speaking skills. Further, it assesses students' general satisfaction and interest in AI applications. Because of its relatively rigid format, questions for administering to a diverse sample of

TEFL learners can be posed similarly to all the participants, making results comparable and amenable to statistical analysis. This way, the collected data are measurable and can be further used to evaluate certain tendencies, patterns, and correlations linked to the performance of AI solutions. Due to its emphasis on quantitative data, this analysis seeks to present definitive proof of AI's impact on language acquisition. The findings will provide a significant understanding of AI's tangible application in TEFL contexts and the subsequent implementation of efficient educational practices and technology adoptions in language teaching.

Participants

The participants of this study included 95 college students in EFL classes at a Al-Iraqia University in Baghdad. The choice of the sample was conducted through the random sampling technique that would enable the researcher to capture a cross-section of students at Al-Iraqia University based on Age, Gender, nationality, type of learning, etc. Thus, applying this approach allows for generalizing data and avoiding selection bias, which means the result will be more relevant to EFL learners.

Sample Size: The sample size of the study was 95 students. Their selection based on a balance for how many people would allow for enough variability to analyze while at the same time being practical and feasible in terms of time and finances.

Sampling Method: The author used random sampling to recruit participants from the students enrolled in the EFL classes. In this method, all the students had the same probability of being selected, thus increasing its reliability. In any study where issues of measure comparability between groups were salient, the matched sampling method matched the participants according to factors like English fluency levels and earlier reading ability.

Demographics: More so, all the participants were between the ages of 18 and 22, which is close to the college-going age as shown in table 1. While selecting the students, an attempt was made to have about an equal number of boys and girls in the sample see table 2. As for the participants, most were at different levels of English, from complete beginners to post-intermediate, which provided the opportunity to observe the AI. Tools' influence across the spectrum. Earlier reading comprehension fluency was also considered to determine the effect of AI on distinguishing between high and low readers regarding the device's potential use.

8. **Procedure**

This study's data-collecting process included applying a structured questionnaire to capture the effectiveness of artificial intelligence tools in teaching reading comprehension (RC). A self- completion method was used, and each participant was administered the questionnaire, which took him/ her about 20 minutes to complete.

The procedure was as follows:

1. *Questionnaire Distribution*: The questionnaire was self-administered, and it could be on paper or online, depending on the participant's choice. Proper guidelines were issued and formally explained so that everyone involved in completing the questionnaire would know how to proceed.

2. *Completion Time*: Regarding the questions, each participant was given 20 minutes to respond to them. It was determined using the duration and nature of the survey to allow the respondent to provide thoughtful and accurate responses and keep their energy levels high.

3. *Monitoring and Support*: As for the completion period, the participants could be contacted by phone in case any questions or technical problems arose; thus, the process was carried out without any complications, and all

the participants would not encounter any difficulties filling out the questionnaire.

4. *Data Collection*: After that, the filled questionnaires were collected and grouped for processing. This was done to avoid the contamination of the research data for ethical reasons, where all the raw data collected were kept anonymous.

This procedure made it easier to gather information systematically and provided an excellent base for analyzing AI's change. Tools have been brought into TEFL and ensured that every participant gave his/her feedback effectively and orderly.

9.   Data Analysis And Results

Table 1 and Figure 1 provides an overview of the age distribution among the 95 college students who took part in the study on using AI for reading comprehension. The data indicates that most participants are younger students; the largest group consists of 71 individuals, accounting for 74.7% of the total, who are in the 20-25 age range. The next large group includes students under 20, with 14 students, or 14.7% of the total sample. Regarding the older students, only 9 participants (9.5%) were aged between 26-30, and just one participant (1.1%) was in the 31-35 age range. As a result, most participants were traditional college-aged students, with 89.4% being 25 or younger (when combining those under 20 and those aged 20-25).

TABLE 1. The age groups distribution of the samples

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
20-25	71	74.7	74.7	74.7
26-30	9	9.5	9.5	84.2
31-35	1	1.1	1.1	85.3
UNDER 20	14	14.7	14.7	100.0
Total	95	100.0	100.0	

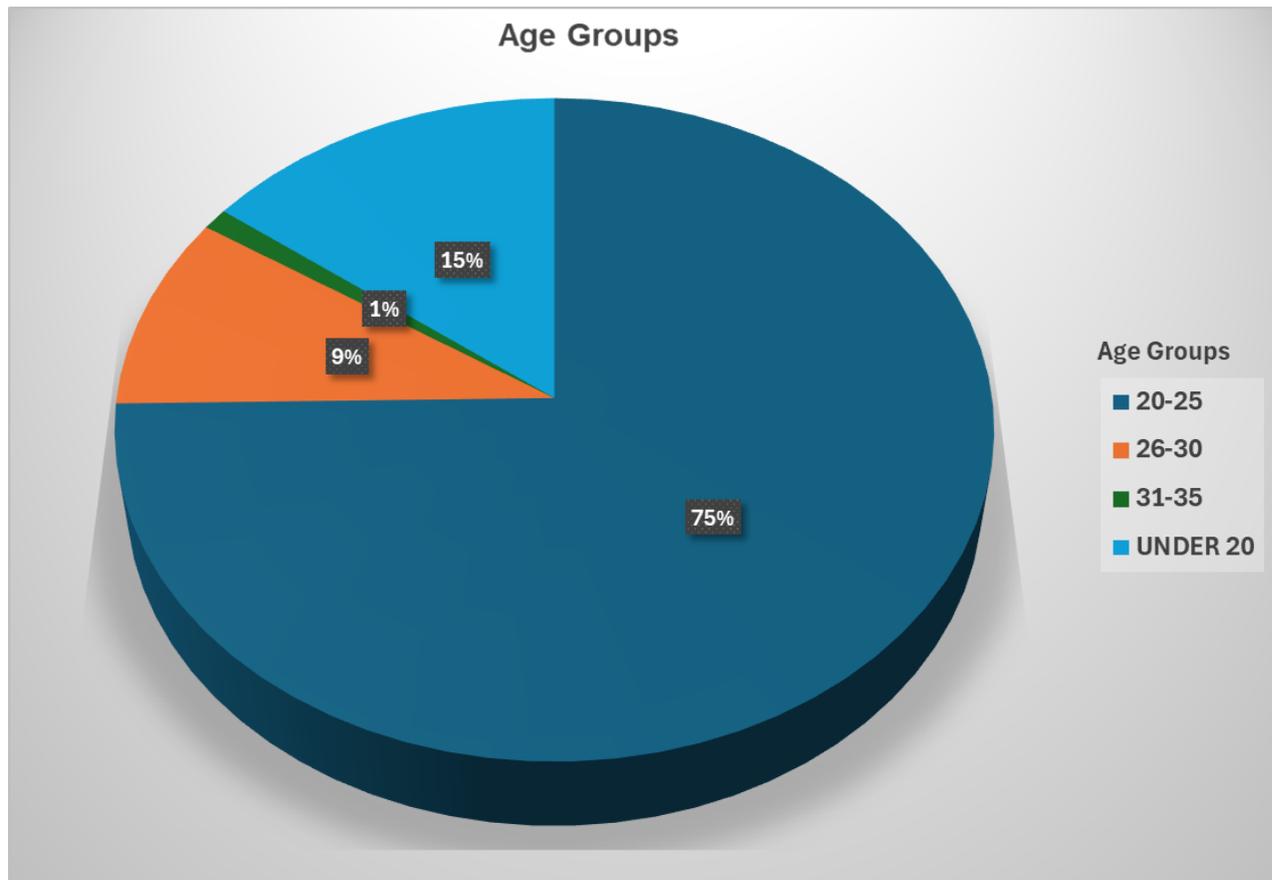FIGURE 1. The age groups distribution of the samples

Table 2 and Figure 2 depict the gender distribution of the 95 participants in the study examining the effect of AI on teaching reading comprehension. The results demonstrate that the sample was primarily female, with 60 participants accounting for 63.2% of the total sample. Male participants numbered 35, representing the remaining 36.8%. It indicates that almost two-thirds of the students were female.

TABLE 2. The gender labelling

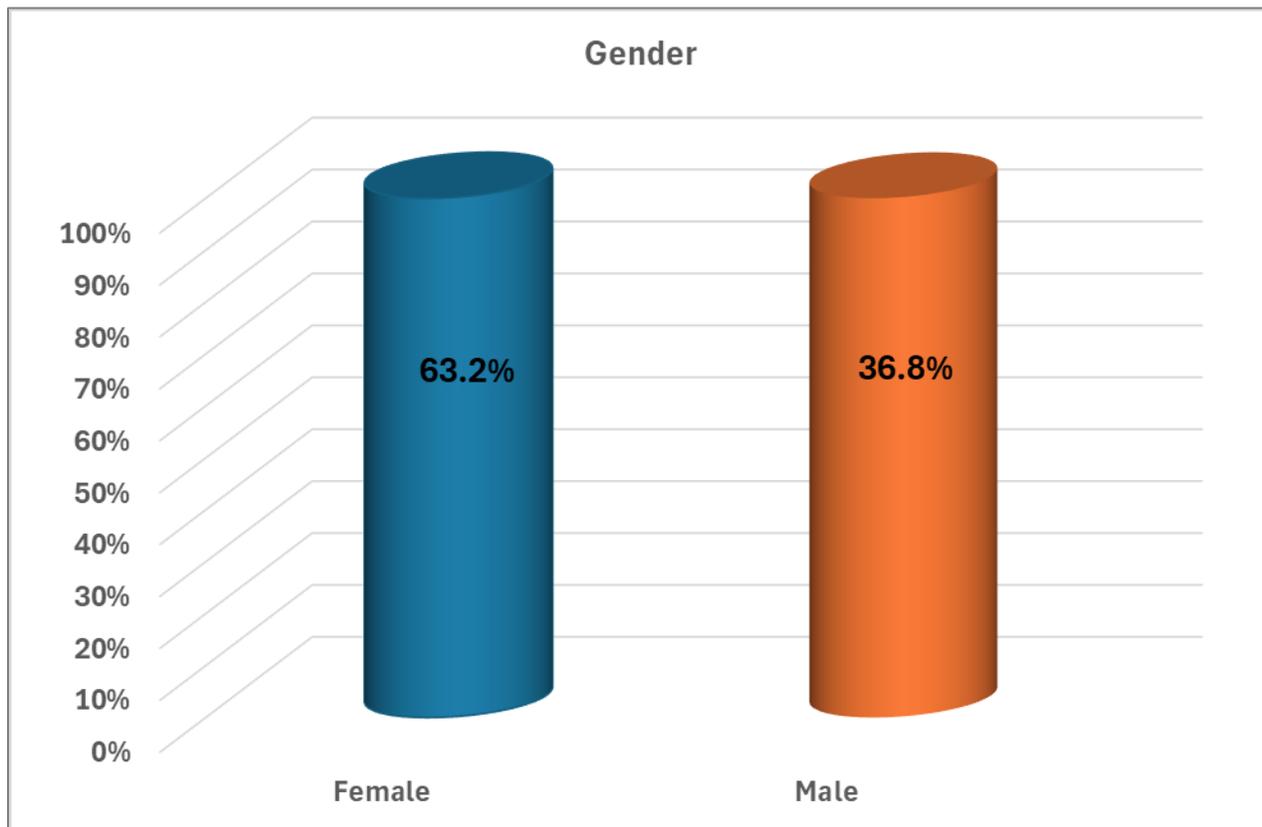| Valid	Frequency	Percent	Valid Percent	Cumulative Percent
F	60	63.2	63.2	63.2
M	35	36.8	36.8	100.0
Total	95	100.0	100.0	

FIGURE 2. The gender labelling

Table 3 and Figure 3 display the distribution of 95 participants based on their years of college education. The results clearly indicate that the majority of students were in advanced stages of their college careers. Specifically, 81 participants, representing 85.3% of the sample, reported being in their third or fourth year of college. Furthermore, only 10 participants (10.5%) indicated they were in their first or second year. Additionally, a small group of 4 students (4.2%) reported having five or more years of college education. The sample mainly consists of upper-level undergraduate students.

TABLE 3. Years of college education

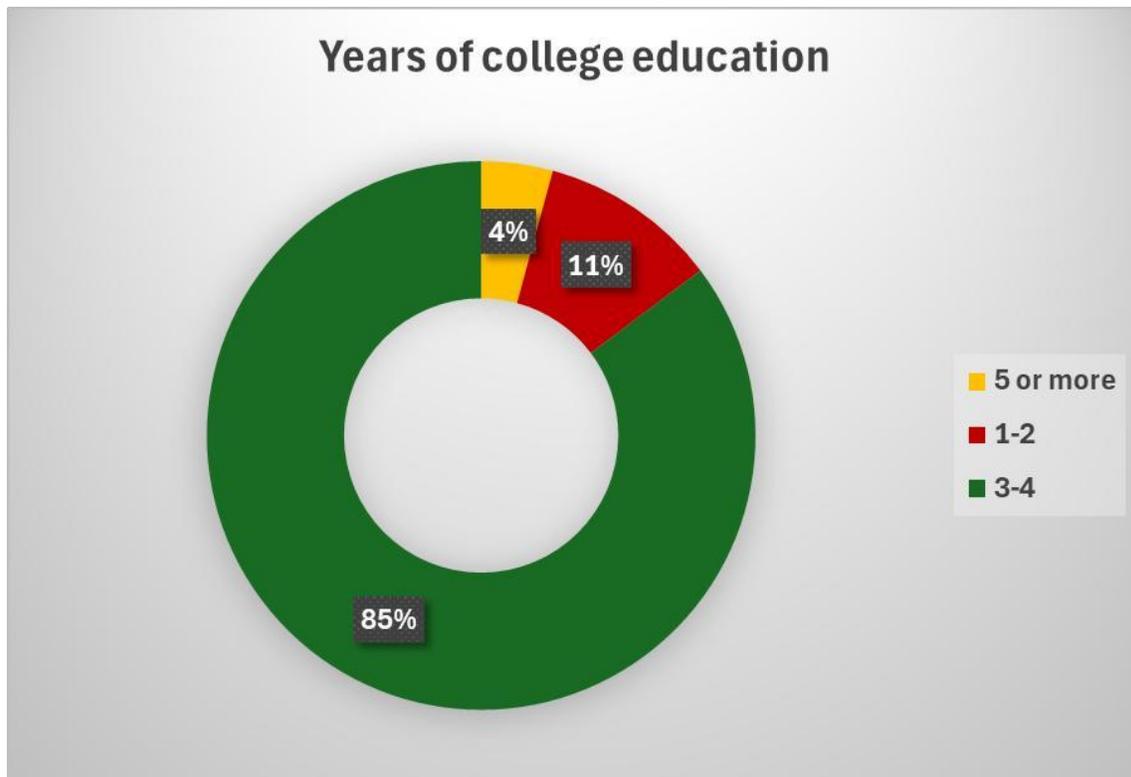| Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1-2	10	10.5	10.5	10.5
3-4	81	85.3	85.3	95.8
5 or more	4	4.2	4.2	100.0
Total	95	100.0	100.0	

FIGURE 3. Years of college education

Table 4 shows the relationship between the level of college studied and familiarity with AI in education. Based on the Spearman correlation coefficient test (since both variables are ordinal, Spearman correlation should be used instead of Pearson correlation), the correlation result shows that these variables are weakly and positively related at 0.056. This means that although familiarization with AI in education does not grow strongly with the increase in the number of years of college education, it grows with the slow increase in the number of years of college education. Considering the correlation coefficient calculated for this interdependence, which equal to 0.056, the significance value (Sig. 2-tailed) equals 0.592. Since this value is greater than the cut-off value of 0.05, the obtained correlation is not considered significant. In other words, observing such a relationship may reflect an accidental occurrence from one observation to another and not reflect a genuine relationship in a population. The comprehensive details are outlined in this study, with both variables having a frequency of 95 (N=95), which shows that the study was conducted on 95 participants. Therefore, although the positive correlation depicts a trend, the fact that the results are not statistically significant in showing that college education correlates with increased awareness of artificial intelligence in education by this sample is a limitation.

TABLE 4. Spearman Correlations of College Education and Familiar with AI

		Years of College Education:	How familiar are you with Artificial Intelligence (AI) in education?
ars of College Education:		1	0.056
	Spearman Correlation		
	Sig. (2-tailed)		0.592
	N	95	95
How familiar are you with Artificial Intelligence (AI) in education?	Spearman Correlation	0.056	1
	Sig. (2-tailed)	0.592	
	N	95	95

The descriptive statistics presented in TABLE 5 indicate that the mean score for familiarity with AI in education is 1.76, which reflects an intermediate level of understanding, with a standard deviation of 0.578. Additionally, the mean score for incorporating AI-powered tools to improve reading comprehension is 2.25, with a standard deviation of 0.799. Also, the mean score related to the idea that AI can enhance the reading process is 1.31, accompanied by a standard deviation of 0.463. Moreover, the mean scores concerning the impact of AI on reading comprehension skills compared to traditional methods are as follows: 1.92 for the assertion that AI could replace traditional teaching methods in enhancing reading comprehension, 1.79 for the inquiry into whether AI could serve as a substitute for such methods, and 2.62 for the preference for AI-based tools over traditional methods for learning reading comprehension. The standard deviations corresponding to these scores are 0.781, 0.862, and 0.980, respectively.

Regression Analysis

TABLE 5. Descriptive Statistics

	Mean	Std. Deviation	N
How familiar are you with Artificial Intelligence (AI) in education?	1.76	.578	95
Do you believe AI can enhance the teaching of reading comprehension?	2.25	.799	95

Have you ever used AI-powered tools or apps to improve your reading comprehension skills?	1.31	.463	95
How do you perceive the impact of AI on your reading comprehension skills compared to traditional methods?	1.92	.781	95
Do you think AI could replace traditional teaching methods in improving reading comprehension?	1.79	.862	95
How often would you prefer AI-based tools for learning reading comprehension over traditional methods?	2.62	.980	95

According to TABLE 6, there is a weak positive correlation between the level of familiarity with AI and the level of belief in AI. It improves reading comprehension (r = 0. 202), and the results are significant (p-value =0. 05). Furthermore, the relationship between the acquaintance of AI and its usage is even weaker and not significant ((r) = 0. 108; p = 0. 298). Furthermore, a weak positive correlation (0.183) suggests that individuals more familiar with AI in education tend to view its impact on their reading comprehension skills slightly more favorably than traditional methods. However, this correlation is not statistically significant (p-value = 0.076). While there is a slight positive trend, there is insufficient statistical evidence to conclude that greater familiarity with AI reliably correlates with a more positive perception of its impact compared to traditional methods in the broader population. Additionally, a very weak positive correlation (0.0097) with a p-value of 0.9258 indicates no statistically significant relationship between familiarity with AI in education and the belief that AI could replace traditional teaching methods for reading comprehension. Furthermore, a weak negative correlation (-0.0261) with a p-value of 0.8016 suggests no statistically significant relationship exists between familiarity with AI in education and a preference for using AI-based tools over traditional methods for reading comprehension.

TABLE 6. Spearman Correlations

Variable	by Variable	Spearman Correlation	P-value
Do you believe AI can enhance the teaching of reading comprehension	How familiar are you with (AI) in education	0.202	0.050
Have you ever used AI- powered tools or apps to improve your reading comprehension skills	How familiar are you with (AI) in education	0.108	0.298

How do you perceive the impact of AI on your reading comprehension skills compared to traditional methods?	How familiar are you with (AI) in education	0.183	0.076
Do you think AI could replace traditional teaching methods in improving reading comprehension?	How familiar are you with (AI) in education	0.0097	0.9258
How often would you prefer AI-based tools for learning reading comprehension over traditional methods?	How familiar are you with (AI) in education	-0.0261	0.8016

TABLE 7 evaluates the overall effectiveness of the statistical model used to predict familiarity with AI in education. Since dependent variable (How familiar are you with Artificial Intelligence (AI) in education?) is ordinal with three levels of (Very familiar =3, Somewhat familiar =2, and Not familiar at all=1), Ordinal Logistic regression Model should be used instead of Linear Regression), It compares a basic "Intercept Only" model, which does not include any predictor variables, to the "Final" model, which includes variables such as Do you believe AI can enhance the teaching of reading comprehension, Have you ever used AI-powered tools or apps to improve your reading comprehension skills, How do you perceive the impact of AI on your reading comprehension skills compared to traditional methods?, Do you think AI could replace traditional teaching methods in improving reading comprehension?, and How often would you prefer AI- based tools for learning reading comprehension over traditional methods?. The Likelihood Ratio Chi-Square test (Chi-Square = 18.479, p-value = 0.140) assesses whether including the predictor variables significantly enhances the model's ability to explain the outcome compared to the baseline model. Since the significance value (p-value = 0.140) is greater than the conventional threshold of 0.05, this result indicates that the predictor variables in the final model do not provide a statistically significant improvement in fit compared to the simple intercept-only model. In other words, based on this test, the combined predictors do not significantly enhance the explanation of individuals' familiarity with AI in education.

TABLE 7: Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	134.453			
Final	115.973	18.479	13	.140

Link function: logit

Dependent variable: How familiar are you with Artificial Intelligence (AI) in education?

TABLE 8 outlines the final model, detailing the estimated effects and statistical significance of predictor variables on the likelihood of familiarity with AI in education. The "Estimate" column shows the coefficients, while the "Sig."

column provides the p-values from the Wald test, indicating the significance of each term. According to the results, none of the independent variables of (Do you believe AI can enhance the teaching of reading comprehension, Have you ever used AI-powered tools or apps to improve your reading comprehension skills, How do you perceive the impact of AI on your reading comprehension skills compared to traditional methods?, Do you think AI could replace traditional teaching methods in improving reading comprehension?, and How often would you prefer AI-based tools for learning reading comprehension over traditional methods?) reached a significant value below 0.05, suggesting they are not significant predictors of familiarity with AI in education.

TABLE 8: Parameter Estimates

term	Estimate	Std. Error	Wald	df	Sig.
Intercept [dependent variable =1]	-1.279	.977	1.715	1	.190
Intercept [dependent variable =2]	2.160	1.012	4.560	1	.033
Do you believe AI can enhance the teaching of reading comprehension=1]	-1.139	1.055	1.165	1	.280
Do you believe AI can enhance the teaching of reading comprehension=2]	-.150	.976	.024	1	.878
Do you believe AI can enhance the teaching of reading comprehension=3]	.214	1.002	.046	1	.830
Do you believe AI can enhance the teaching of reading comprehension=4]	0a	.	.	0	.
Have you ever used AI powered tools or apps to improve your reading comprehend =1]	-.404	.464	.756	1	.384
Have you ever used AI powered tools or apps to improve your reading comprehend =1]	0a	.	.	0	
[How do you perceive the impact of AI on your reading comprehension skills com=1]	1.355	1.560	.755	1	.385
[How do you perceive the impact of AI on your reading comprehension skills com=2]	2.553	1.506	2.874	1	.090
[How do you perceive the impact of AI on your reading comprehension skills com=3]	2.161	1.601	1.824	1	.177

[How do you perceive the impact of AI on your reading comprehension skills com=4]	0^a	.	.	0	.
[Do you think AI could replace traditional teaching methods in improving reading=1]	-.012	.604	.000	1	.984
[Do you think AI could replace traditional teaching methods in improving reading=2]	-.527	.750	.493	1	.483
[Do you think AI could replace traditional teaching methods in improving reading=3]	0^a	.	.	0	.
[How often would you prefer AI based tools for learning reading comprehension=1]	2.135	1.763	1.466	1	.226
[How often would you prefer AI based tools for learning reading comprehension=2]	1.070	1.616	.438	1	.508
[How often would you prefer AI based tools for learning reading comprehension=3]	.480	1.598	.090	1	.764
[How often would you prefer AI based tools for learning reading comprehension=4]	1.663	1.660	1.003	1	.317
[How often would you prefer AI based tools for learning reading comprehension=5]	0^a	.	.	0	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

10. Discussion

Interpretation Of Results

The results of this study are consistent with the latest research on the role of AI in educational processes. For example, Hidayat (2024) found that learners who utilized AI-based reading platforms achieved better on reading comprehension tests than those who did not. These systems raise students' awareness of textual meaning, allowing for more personalized and flexible learning experiences that promote understanding. Several studies indicate the effectiveness of AI in education, indicating that technologies based on artificial intelligence can adapt to students' performance and needs, providing immediate feedback and supporting students in correcting mistakes (Hidayat, 2024). This tailored approach contrasts with common teaching approaches, which frequently use uniform strategies for all pupils. AI is highly useful in providing adaptive learning, notably for reading.

The regression models reveal a small relationship between familiarity with AI and belief in its educational usefulness. This suggests that prior exposure to AI may not always lead to trust in its efficacy. The lack of sufficient training and understanding may cause reluctance in education institutes to integrate AI into their teaching practices. Internal resistance within institutions may also hinder AI adoption.

In addition, external factors like students' socio-economic status, technology access, and the quality of AI tools can impact the effectiveness of AI tools. Even with top-notch software, the advantages of AI in education may be restricted if students do not have consistent access to the necessary devices (Aditi, 2022). Concerns about data privacy and protection also present significant challenges, as AI tools often necessitate the collection of large amounts of student data. It is crucial to ensure the security of this data in order to maintain trust among users.

The authors suggest a seamless integration of AI in education, addressing concerns about biased data, ensuring equitable access, and protecting data privacy. This approach could significantly improve educational outcomes, particularly in enhancing reading skills and overall academic performance, despite potential resistance from schools and parents.

Implications For TEFL

There are a number of significant benefits to using AI tools in teaching English as a foreign language (TEFL), especially when it comes to reading comprehension (RC). Personalized learning, which enables courses to be customized for specific students, is one important advantage. Artificial intelligence (AI) systems have the ability to modify difficulty settings, suggest books based on student performance, and customize practice questions to improve comprehension. This personalization promotes better comprehension and language acquisition by taking into account different learning styles and rates.

Furthermore, AI gives students immediate feedback on comprehension exercises so they can spot and fix errors quickly. This immediate feedback helps students stay focused on the subject matter and reinforces correct answers, which improves learning. The use of AI platforms can improve the delivery of courses by incorporating multimedia elements like exercises, audio, and video to make reading activities more interesting. This is especially significant in TEFL, where keeping students engaged is essential for successful learning. Additionally, AI tools have the capability to monitor student progress and modify learning paths as needed to ensure that tasks align with skill levels and offer a gradually advancing learning journey.

AI tools offer scalability and accessibility, making them applicable in different educational settings and providing

uniform, high-caliber learning experiences to a broad spectrum of students, including those in underprivileged areas. This scalability guarantees that the varying needs of students are addressed, even in regions with scarce educational resources.

11. Conclusion And Recommendations

The numerical results of the research indicate that AI has the potential to aid in the improvement of reading comprehension. Students who utilized AI-supported reading platforms outperformed those who did not in comprehension assessments. In particular, students with AI assistance demonstrated improved ability to recognize and comprehend the meanings within texts. This illustrates the efficacy of AI in enhancing reading comprehension and advancing educational results by catering to individual learning requirements.

At the same time as regression analysis shows small correlation between familiarity with AI, belief in its efficacy, and its usage, the relationship isn't robust. This suggests that at the same time as people can be aware about AI and recognize its capability in training, they will still hold poor attitudes toward its adoption. to enhance AI integration in training, each attention of its competencies and education for effective implementation are essential. but, the findings can be context-precise, proscribing their generalization to broader academic settings.

The observe highlights several elements influencing the usage of AI in reading comprehension. First, the effective overall performance effects endorse that AI can effectively enhance college students' reading skills by using imparting individualized getting to know experiences. AI's adaptability permits materials to be tailor-made to students' getting to know degrees, improving engagement and comprehension. but, the weak correlation among AI familiarity and perceived effectiveness indicates that complete help for both instructors and college students is needed. academic establishments need to investment into teacher education for effective AI implementation, at the same time as college students require train on a way to use AI equipment effectively for mastering.

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