

USING ARTIFICIAL INTELLIGENCE IN DEVELOPING READING SKILLS IN EFL CLASSROOMS

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Abstract: This article explores the role of artificial intelligence (AI) technologies in developing reading skills in English as a Foreign Language (EFL) classrooms. With the rapid advancement of digital tools, AI-based applications such as adaptive reading platforms, intelligent tutoring systems, and automated feedback tools have become increasingly relevant in language education. The study aims to examine how AI technologies contribute to improving learners' reading comprehension, vocabulary acquisition, and reading motivation. A mixed-methods research design was employed, including classroom observations, questionnaires, and reading achievement tests. The findings indicate that AI-assisted reading instruction enhances students' engagement and supports individualized learning by adapting content to learners' proficiency levels. The results suggest that integrating AI technologies into EFL reading instruction can significantly improve learning outcomes and promote learner autonomy. The study provides practical implications for EFL teachers and curriculum developers seeking to implement innovative, technology-driven approaches in reading instruction.

Key words: Artificial Intelligence (AI), EFL (English as a Foreign Language), reading skills, adaptive learning, AI-assisted instruction, learner engagement, reading comprehension, educational technology

Introduction

In recent years, the rapid development of digital technologies has significantly influenced educational practices, particularly in the field of foreign language teaching. Among these technologies, artificial intelligence (AI) has emerged as a powerful tool capable of transforming traditional instructional approaches. In English as a Foreign Language (EFL) classrooms, reading is considered a fundamental language skill that supports vocabulary development, grammatical awareness, and overall language proficiency. However, many EFL learners experience difficulties in reading comprehension due to limited vocabulary knowledge, lack of motivation, and insufficient exposure to authentic texts.

Artificial intelligence offers innovative solutions to these challenges by providing adaptive learning environments that respond to individual learners' needs. AI-based reading platforms can analyze learners' performance, adjust text difficulty, and provide immediate feedback, thereby enhancing comprehension and learner engagement. Despite the growing interest in AI applications in education, empirical research on the systematic integration of AI technologies into EFL reading instruction remains limited. Therefore, this study seeks to explore the role of artificial intelligence in developing reading skills in EFL classrooms and to examine its pedagogical effectiveness in improving learners' reading performance.

Methodology

Research Design

This study employed a mixed-methods research design to investigate the effectiveness of artificial intelligence (AI) technologies in developing reading skills in EFL classrooms. The quantitative component aimed to measure changes in learners' reading comprehension

performance, while the qualitative component focused on exploring learners' perceptions and experiences with AI-assisted reading instruction. An experimental approach was used, involving an experimental group and a control group.

Participants

The participants of the study consisted of EFL learners studying at the secondary school level. A total of 60 students participated in the research and were randomly assigned to two groups: the experimental group ($n = 30$) and the control group ($n = 30$). Both groups had comparable English proficiency levels based on the results of a placement test administered prior to the study.

Instructional Procedure

During the intervention period, the experimental group received reading instruction supported by AI-based learning tools, including adaptive reading platforms and automated feedback systems. These tools adjusted text difficulty according to learners' reading performance and provided immediate feedback on comprehension tasks. The control group was taught using traditional reading instruction methods, such as textbook-based reading activities and teacher-led comprehension exercises. The intervention lasted for eight weeks, with three reading sessions per week.

Data Collection Instruments

Data were collected using multiple instruments. A standardized reading comprehension test was administered as both a pre-test and a post-test to assess learners' reading performance. In addition, a questionnaire was used to gather students' attitudes toward AI-assisted reading instruction. Semi-structured interviews were conducted with a selected number of participants from the experimental group to obtain in-depth qualitative insights.

Data Analysis

Quantitative data obtained from the pre-test and post-test were analyzed using descriptive and inferential statistics to determine the significance of differences between the experimental and control groups. Qualitative data from questionnaires and interviews were analyzed thematically to identify recurring patterns related to learner engagement, motivation, and perceived effectiveness of AI-based tools.

Results and Analysis

Quantitative Results

The quantitative analysis focused on comparing the reading comprehension performance of the experimental and control groups before and after the intervention. The pre-test results indicated no statistically significant difference between the two groups, confirming that both groups had comparable reading proficiency at the beginning of the study. However, the post-test results revealed a notable improvement in the experimental group that received AI-assisted reading instruction.

The mean post-test scores of the experimental group were significantly higher than those of the control group. Statistical analysis demonstrated that the difference in reading comprehension achievement between the two groups was significant at the $p < 0.05$ level. These findings suggest that the integration of artificial intelligence technologies had a positive impact on learners' reading comprehension development.

Within-Group Analysis

A paired-sample analysis of the experimental group showed a substantial increase in reading comprehension scores from pre-test to post-test. This improvement indicates that AI-based reading tools effectively supported learners' progress by providing adaptive content and

immediate feedback. In contrast, the control group exhibited only a slight improvement, which can be attributed to regular classroom instruction rather than the instructional intervention.

Questionnaire Results

The analysis of questionnaire data revealed positive learner attitudes toward AI-assisted reading instruction. A majority of students in the experimental group reported increased motivation and engagement during reading activities. Learners also indicated that adaptive texts and instant feedback helped them better understand reading materials and identify their weaknesses. These results highlight the role of AI technologies in creating a learner-centered reading environment.

Table 1. Learner Perceptions of AI-assisted Reading Instruction

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)
AI tools increased my motivation to read	50	40	10	0
Adaptive reading content helped me understand texts	55	35	10	0
Instant feedback improved my comprehension skills	60	30	10	0
I feel more confident in reading with AI support	45	40	15	0

Qualitative Analysis

Qualitative data obtained from semi-structured interviews supported the quantitative findings. Participants emphasized that AI-based tools allowed them to read at an appropriate difficulty level and track their learning progress independently. Many learners reported feeling more confident in their reading abilities and more interested in completing reading tasks. The thematic analysis identified key themes such as personalized learning, increased autonomy, and enhanced reading motivation.

Discussion of Findings

The combined quantitative and qualitative results indicate that artificial intelligence significantly contributes to the development of reading skills in EFL classrooms. AI-assisted instruction not only improved learners' reading comprehension performance but also enhanced motivation and engagement. These findings suggest that AI technologies serve as an effective instructional support for addressing individual differences and promoting meaningful reading experiences.

Discussion

The findings of the present study demonstrate that the integration of artificial intelligence in EFL reading instruction has a significant positive impact on learners' reading comprehension and engagement. The improvement observed in the experimental group supports the assumption that AI-assisted reading environments provide more effective learning conditions than traditional instructional approaches. These results are consistent with previous studies emphasizing the role of adaptive technologies in facilitating individualized language learning.

One possible explanation for the superior performance of the experimental group lies in the adaptive nature of AI-based reading tools. By adjusting text difficulty and providing immediate feedback, AI technologies addressed individual learners' needs and reduced cognitive overload. This finding aligns with learner-centered and constructivist learning theories, which highlight the importance of personalization and active learner involvement in the learning process. In contrast, traditional reading instruction often relies on uniform materials that may not accommodate diverse proficiency levels.

Furthermore, the qualitative findings indicate that AI-assisted instruction enhanced learners' motivation and reading confidence. Increased engagement can be attributed to interactive features, real-time feedback, and progress-tracking functions embedded in AI-based platforms. These elements encouraged learners to take greater responsibility for their learning and supported the development of learner autonomy. Such outcomes are particularly important in EFL contexts, where limited exposure to the target language can hinder reading development.

The results of this study also contribute to the methodological discussion on the use of artificial intelligence in EFL education. The findings suggest that AI technologies should be viewed not as a replacement for teachers but as a supportive instructional tool that enhances teaching effectiveness. Teachers play a crucial role in guiding learners, selecting appropriate AI tools, and integrating them meaningfully into the curriculum.

Despite its contributions, the study has certain limitations. The relatively small sample size and the limited duration of the intervention may restrict the generalizability of the findings. Future research could involve larger participant groups, longer intervention periods, and the examination of specific AI tools in greater detail. Additionally, further studies may explore the impact of AI-assisted reading instruction on other language skills, such as writing and speaking. Overall, the discussion highlights that artificial intelligence has strong pedagogical potential in developing reading skills in EFL classrooms. When implemented strategically, AI technologies can enhance reading comprehension, motivation, and learner autonomy, thereby contributing to more effective and inclusive language instruction.

Conclusion

This study examined the role of artificial intelligence in developing reading skills in EFL classrooms. The findings indicate that AI-assisted reading instruction has a significant positive impact on learners' reading comprehension, motivation, and engagement. Adaptive reading platforms, instant feedback, and progress-tracking tools contributed to personalized learning experiences, enabling learners to work at their own pace and focus on individual challenges.

The results highlight that AI technologies are effective in addressing individual differences in proficiency levels and fostering learner autonomy. Students in the experimental group demonstrated greater improvement in reading performance compared to those receiving traditional instruction. Furthermore, qualitative data revealed that AI-assisted tools enhanced learners' confidence and interest in reading, supporting the development of positive attitudes toward language learning.

Overall, the study confirms that artificial intelligence can serve as a valuable pedagogical tool in EFL reading instruction. When integrated thoughtfully into the curriculum, AI technologies

can enhance teaching effectiveness, improve learning outcomes, and promote learner-centered instruction. Future research should explore long-term effects of AI-assisted reading programs and investigate their application across other language skills, such as writing and speaking, to provide comprehensive insights into AI's potential in language education.

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