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THE IMPLEMENTATION OF INTERACTIVE LEARNING MODEL BASED ON CHATGPT TO ENHANCE READING SKILLS OF ENGLISH AS FOREIGN LANGUAGE (EFL) UNIVERSITY STUDENTS IN METRO CITY

by

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Abstract:

This study evaluates a ChatGPT-based interactive learning model with the aim of improving the reading skills of English Education students at STKIP Kumala Lampung. Using a quasi-experimental design method, 50 students were divided into an experimental group (with ChatGPT) and a control group (conventional) for eight weeks. The research instruments included comprehension tests, questionnaires, interviews, and observations. The results of the pre-test showed initial equality between the groups. However, post-test results revealed a significant improvement in the experimental group ($M = 74.56$) compared to the control group ($M = 65.24$), with a large effect size (Cohen's $d = 1.30$; $t(48) = 4.69$, $p < .001$). Observational data showed higher involvement in participation and discussion in the experimental group. Qualitative findings confirm that ChatGPT improves vocabulary comprehension, motivation, and active learning, despite the risk of reliance on AI. Overall, the findings indicate that the ChatGPT-based interactive learning model effectively improves students' reading comprehension and engagement. The study implies that ChatGPT can support adaptive, interactive, and student-centered EFL learning in higher education.

Keywords: Chat GPT, Interactive Learning, Comprehension Reading, English Language Learning, College

Abstrak:

Penelitian ini mengevaluasi model pembelajaran interaktif berbasis ChatGPT Dengan tujuan untuk meningkatkan keterampilan membaca mahasiswa Pendidikan Bahasa Inggris di STKIP Kumala

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Lampung. Menggunakan metode desain kuasi-eksperimental, 50 mahasiswa di bagi menjadi kelompok eksperimen (dengan ChatGPT) dan kelompok kontrol (konvensional) selama delapan minggu. Instrumen penelitian meliputi tes pemahaman, kuesioner, wawancara, dan observasi. Hasil pre-test menunjukkan kesetaraan awal antar kelompok. Namun, hasil post-test mengungkapkan peningkatan signifikan pada kelompok eksperimen ($M = 74,56$) di bandingkan kelompok kontrol ($M = 65,24$), dengan ukuran efek yang besar (Cohen's $d = 1.30$; $t(48) = 4.69$, $p < .001$). Data observasi menunjukkan keterlibatan yang lebih tinggi dalam partisipasi dan diskusi pada kelompok eksperimen. Temuan kualitatif mengonfirmasi bahwa ChatGPT meningkatkan pemahaman kosakata, motivasi, dan pembelajaran aktif, meski terdapat risiko ketergantungan pada AI. Secara keseluruhan, temuan penelitian menunjukkan bahwa model pembelajaran interaktif berbasis ChatGPT efektif dalam meningkatkan pemahaman membaca dan keterlibatan mahasiswa. Penelitian ini mengimplikasikan bahwa ChatGPT dapat mendukung pembelajaran EFL yang adaptif, interaktif, dan berpusat pada mahasiswa di perguruan tinggi.

Keyw ords: Chat GPT, Pembelajaran Interaktif, Pemahaman Bacaan, Pembelajaran Bahasa Inggris, Perguruan Tinggi

INTRODUCTION

Reading is a fundamental academic skill that enables students to comprehend, evaluate, and generate knowledge effectively in higher education (Annura et al., 2024). Previous studies have demonstrated that interactive instructional strategies, such as the Draw Label Caption (DLC) approach, can significantly enhance students' language skills and engagement in learning processes (Hartono & Nurnalisa, 2020). Strong reading skills are essential not only for academic achievement but also for developing critical and analytical thinking abilities that support lifelong learning (Zulianti & Hastomo, 2022).

However, empirical evidence shows that many students still struggle with academic texts that require higher-order comprehension and critical engagement (Hattie, 2009). Several factors such as low reading motivation, limited exposure to academic language, and difficulties in processing complex information contribute to these challenges (McKeown & Beck, 2009). As a result, there is a pressing need to design innovative instructional approaches that actively engage students and enhance their reading proficiency in higher education.

The rapid development of Artificial Intelligence (AI) has created new opportunities for language learning, especially through intelligent tutoring systems that provide adaptive and interactive support (Salim & Aditya, 2025). Among the most widely discussed AI technologies is ChatGPT, a large language model that can generate human-like responses and simulate conversational interaction (Annishah et al., 2025; Brown et al., 2020). Recent studies suggest that ChatGPT can assist English language learning by providing instant feedback,

scaffolding comprehension, and supporting students' engagement in reading tasks (Koraishi, 2023; Kostka & Toncelli, 2023).

Moreover, its ability to provide context-sensitive explanations positions ChatGPT as a promising tool to overcome students' difficulties in understanding academic texts (Glahn, 2023; Salim & Habibi, 2025). Despite these potentials, its implementation in reading instruction at the higher education level remains underexplored. Most prior research has primarily examined ChatGPT for writing support or general language assistance (Dempere et al., 2023; Fitria, 2023), leaving a gap in empirical studies on its role in enhancing academic reading comprehension.

The purpose of this study is twofold: (1) to design an interactive learning model based on ChatGPT to enhance students' reading skills in higher education, and (2) to examine its effectiveness in improving students' comprehension and motivation toward academic texts. By addressing this research gap, the study is expected to contribute both theoretically and practically to the field of English language teaching, particularly in integrating AI technologies into reading pedagogy for higher education.

Despite the growing use of ChatGPT in English language learning, previous studies have predominantly focused on writing support and general language assistance. Empirical research investigating the effectiveness of ChatGPT-based interactive learning models in improving EFL university students' reading comprehension and engagement in higher education remains limited. This condition indicates a clear research gap that needs further investigation, particularly regarding the pedagogical impact of ChatGPT on reading instruction in higher education contexts (Sulistiyowati et al., 2025).

Based on the identified research gap and the growing integration of AI in language learning, this study formulates the following research questions:

1. Does the implementation of a ChatGPT-based interactive learning model significantly improve higher education students' reading comprehension?
2. How does the implementation of a ChatGPT-based interactive learning model influence students' engagement and active participation in reading instruction?
3. What are the pedagogical implications and challenges of integrating ChatGPT into

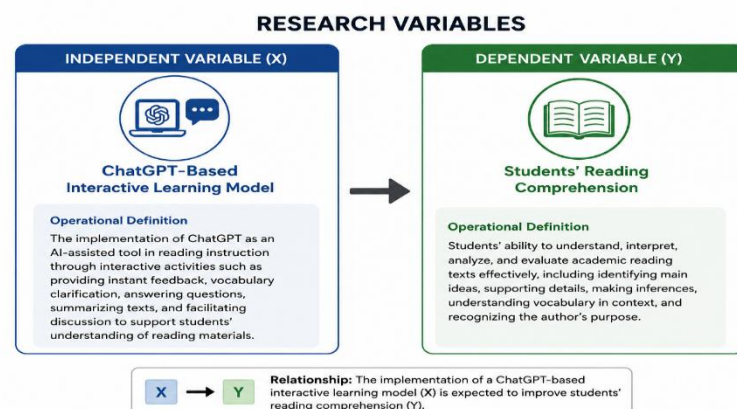
EFL reading instruction in higher education?

Based on the theoretical hypothesis proposed in the introduction, the hypotheses of this study were formulated to address the RQ 1 : *“The implementation of a ChatGPT-based interactive learning model significantly improves higher education EFL students’ reading comprehension”*

METHOD

Design

This study employed a quantitative approach using a quasi-experimental research design with a pre-test and post-test control group design. The study aimed to examine the effectiveness of a ChatGPT-based interactive learning model in enhancing students’ reading comprehension skills. Two groups were involved in the study: an experimental group receiving ChatGPT-assisted reading instruction and a control group receiving conventional reading instruction.



Picture 1. Variable employed in the study

This study introduces a novel design of an interactive learning model that integrates ChatGPT as a core component of reading instruction in higher education. The novelty of this research lies in its combination of constructivist learning principles with AI-powered interaction, allowing students to build meaning actively through real-time dialogue with ChatGPT (Salim & Habibi, 2025; Wahyuni & Ardini, 2026). Unlike conventional teacher-centered or text-based approaches, this model provides a more personalized and adaptive learning experience, enabling students to clarify concepts, test comprehension, and sustain

motivation in academic reading tasks (Sulistyowati et al., 2025).

Participant

The participants of this study were 50 undergraduate students of the English Education Study Program at STKIP Kumala Lampung, enrolled in the *Academic Reading* course during the 2025/2026 academic year. They were divided equally into two groups: the experimental group (n= 25) and the control group (n = 25). A purposive sampling technique was employed with inclusion criteria: (a) being active students registered in the course, (b) having intermediate-level English proficiency based on placement test results, (c) willingness to participate in all intervention sessions, and (d) access to digital devices to support learning. Demographic data such as age, gender, and GPA were documented to ensure group comparability. The purposive sampling approach is consistent with technology-enhanced learning studies that emphasize representativeness in intervention contexts (Kuo et al., 2014).

Instrument and source of data

This study employed three main instruments to collect both quantitative and qualitative data, namely reading comprehension tests, interviews, and classroom observations (Bell et al., 2022).

The reading comprehension test was used to measure students' reading comprehension skills before and after the intervention. The test was administered as a pre-test and post-test in both the experimental and control groups. The test consisted of 30 objective multiple-choice items adapted from academic reading materials relevant to EFL university students (Anggia & Habók, 2023). The items measured students' abilities in identifying main ideas, understanding supporting details, interpreting vocabulary in context, making inferences, and identifying the author's purpose (Annura et al., 2024; McKeown & Beck, 2009). Prior to implementation, the instrument was validated through expert judgment involving two English education lecturers specializing in reading instruction and educational assessment. A try-out test was also conducted to examine item validity and reliability using the split-half reliability method (Amalia Tanjung, 2024).

To obtain qualitative insights, semi-structured interviews were conducted with selected students from the experimental group. The interviews aimed to explore students' perceptions,

experiences, motivation, and challenges in using ChatGPT during reading instruction (Zakwani & Binu, 2025).

In addition, classroom observations were conducted during the intervention process to identify students' engagement, participation, and interaction patterns in learning activities. The study applied non-participant observation using structured observation guided by an observation sheet containing indicators related to student participation, questioning behavior, group discussion, and task completion (Tran et al., 2024).

Data collecting technique

Before the intervention, both the experimental and control groups completed a reading comprehension pre-test to determine their initial reading abilities and establish baseline scores. The intervention was conducted over eight weeks in the Academic Reading course at STKIP Kumala Lampung. During the treatment, the experimental group ($n = 25$) received reading instruction integrated with ChatGPT, where students used the AI to clarify vocabulary, ask comprehension questions, and obtain real-time feedback during reading activities. This approach was intended to support comprehension scaffolding and increase interactive engagement in learning. Meanwhile, the control group ($n = 25$) received conventional reading instruction using printed materials and lecturer explanations without AI assistance. During the intervention process, classroom observations were conducted to document students' participation and engagement, while reflective notes were also recorded to identify the opportunities and challenges of implementing ChatGPT in reading instruction.

Data analysis technique

The quantitative data from the pre-test and post-test were analyzed using descriptive and inferential statistics. A *paired-sample t-test* was applied to identify improvements within each group, while an *independent-sample t-test* compared post-test differences between groups. This approach is widely applied in evaluating instructional interventions in educational research (Amalia Tanjung, 2024). Effect sizes (Cohen's d) were also calculated to determine the magnitude of the treatment effect.

The qualitative data from interviews and observations were analyzed through thematic analysis to identify recurring patterns in students' perceptions and experiences. Combining quantitative and qualitative findings allows for a more comprehensive understanding of the

effects of ChatGPT-based instruction on students' reading skills (Bell et al., 2022). To assess the result of RQ 1 the following is hypothesis testing:

1. Null Hypothesis (H_0): The implementation of a ChatGPT-based interactive learning model does not significantly improve students' reading comprehension skills.
2. Alternative Hypothesis (H_1): The implementation of a ChatGPT-based interactive learning model significantly improves students' reading comprehension skills.

RESULT AND DISCUSSION

Result

Based on the research questions formulated in this study, the results are presented to examine whether the implementation of a ChatGPT-based interactive learning model significantly improves students' reading comprehension and influences their engagement in reading activities. The findings are organized into pre-test results, post-test results, and classroom observation findings.

Pre-Test Results

Table 1. Descriptive statistics of students' reading comprehension pre-test scores

Group	N	Minimum	Maximum	Mean	SD
Experimental (ChatGPT)	25	42	68	55.24	6.41
Control (Conventional)	25	40	70	54.72	7.03
Total	50	40	70	54.98	6.68

The pre-test was administered before the intervention to measure students' initial reading comprehension ability. As shown in Table 1, the experimental group obtained a mean score of 55.24 (SD = 6.41), while the control group obtained a mean score of 54.72 (SD = 7.03). The total mean score of all participants was 54.98.

The independent-sample t-test indicated no statistically significant difference between the experimental and control groups in the pre-test scores ($t(48) = 0.27$, $p > .05$).

Post-Test Results After 8-Week Intervention

Table 2. Descriptive Statistics of Students' Reading Comprehension Post-Test Scores

<i>Group</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>SD</i>
<i>Experimental (ChatGPT)</i>	25	60	88	74.56	7.12
<i>Control (Conventional)</i>	25	55	80	65.24	6.87
<i>Total</i>	50	55	88	69.90	8.32

After the eight-week intervention, the experimental group obtained a mean post-test score of 74.56 (SD = 7.12), while the control group obtained a mean score of 65.24 (SD = 6.87). The total mean score of all participants was 69.90.

The independent-sample t-test showed a statistically significant difference between the post-test scores of the experimental and control groups ($t(48) = 4.69$, $p < .001$). The effect size analysis showed a Cohen's d value of 1.30.

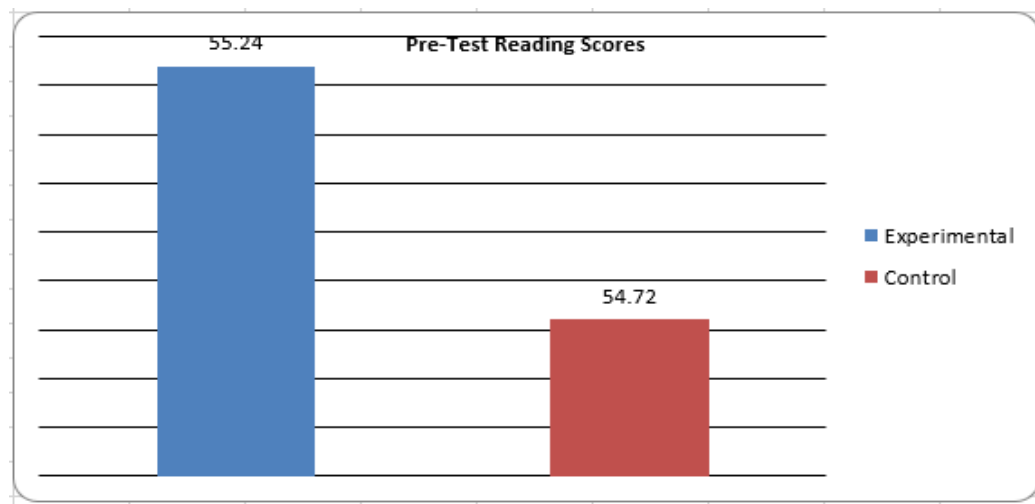
Pre-test result

Table 1. Descriptive Statistics of Students' Reading Comprehension Pre-Test Scores

<i>Group</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>SD</i>
<i>Experimental (ChatGPT)</i>	25	42	68	55.24	6.41
<i>Compared with</i>					
<i>Group</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>SD</i>
<i>Control (Conventional)</i>	25	40	70	54.72	7.03
<i>Total</i>	50	40	70	54.98	6.68

The pre-test was administered to measure students' initial reading comprehension skills before the intervention. As presented in Table 1, the experimental group ($M = 55.24$, $SD = 6.41$) and the control group ($M = 54.72$, $SD = 7.03$) demonstrated comparable mean scores. The total average for all 50 students was 54.98, indicating a moderate level of reading proficiency across participants.

Independent-sample t-test results showed no statistically significant difference between the experimental and control groups at the pre-test stage ($t(48) = 0.27$, $p > .05$). This finding confirms that both groups started from an equivalent baseline in terms of reading comprehension, thereby ensuring the validity of subsequent comparisons in the post-test phase.



The findings of this study revealed several important insights. First, both the experimental and control groups began at nearly the same level of reading comprehension (Experimental $M = 55.24$; Control $M = 54.72$), confirming baseline equivalence and ensuring that subsequent improvements could be validly attributed to the intervention. After the eight-week treatment, the experimental group demonstrated a significant improvement, with scores rising to 74.56 (+19.32 points), while the control group increased only to 65.24 (+10.52 points). Statistical analysis

confirmed that this difference was significant ($t(48) = 4.69, p < .001$) with a large effect size (Cohen's $d = 1.30$), underscoring the substantial impact of the ChatGPT-based learning model.

Observational data further showed that the experimental group displayed higher levels of active participation, questioning, group discussions, and timely task completion than the control group. These outcomes indicate that ChatGPT integration not only enhanced academic performance but also fostered more interactive and independent learning patterns. Nevertheless, a critical issue emerged: some students expressed concern about potential over-reliance on AI support. This highlights the need for clear guidelines to ensure that ChatGPT functions as a complement rather than a substitute for independent reading skills, thereby maintaining a balanced approach to technology-assisted learning. functions as a complement rather than a substitute for independent reading skills, thereby maintaining a balanced approach to technology- assisted learning. functions as a complement rather than a substitute for independent reading skills, thereby maintaining a balanced approach to technology-

assisted learning.

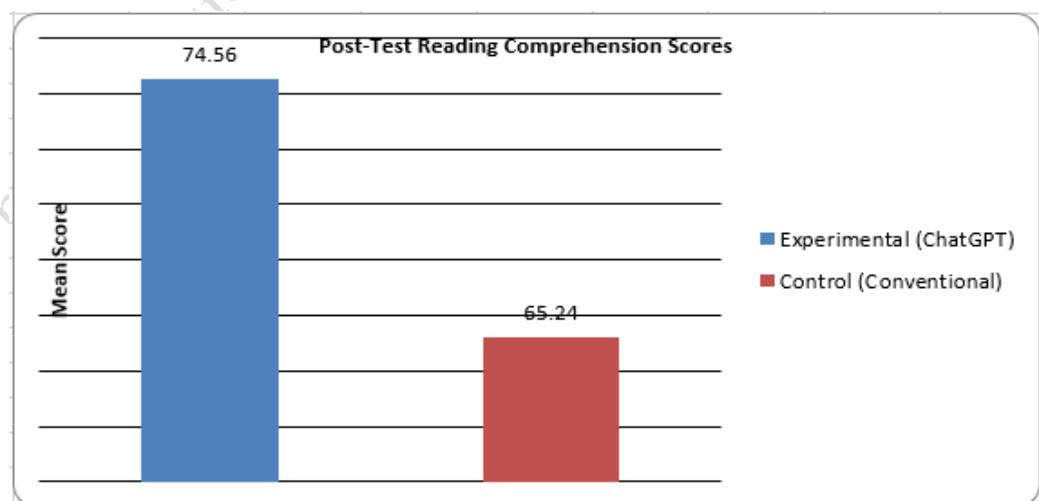
Post-test results after 8-week intervention

Table 2. Descriptive statistics of students' reading comprehension post-test scores

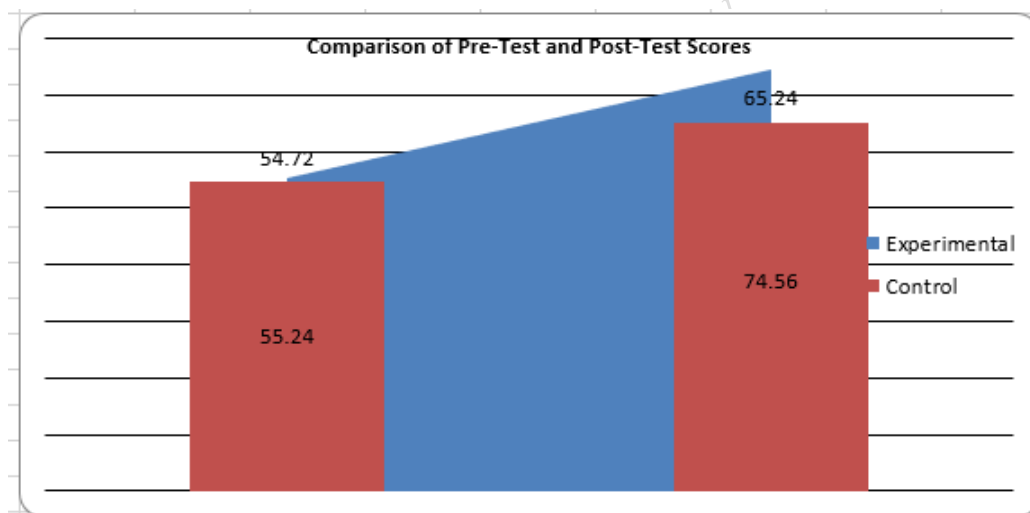
Group	N	Minimum	Maximum	Mean	SD
<i>Experimental (ChatGPT)</i>	25	60	88	74.56	7.12
<i>Control (Conventional)</i>	25	55	80	65.24	6.87
Total	50	55	88	69.90	8.32

After eight weeks of intervention, both groups showed an improvement in their reading comprehension scores compared to the pre-test. The experimental group, which received reading instruction integrated with ChatGPT, achieved a mean score of 74.56 (SD = 7.12). This reflects an average improvement of +19.32 points from the pre-test mean (55.24). The control group, which received conventional instruction, obtained a mean score of 65.24 (SD = 6.87), an improvement of +10.52 points from their pre-test mean (54.72).

An independent-sample t-test revealed that the difference in post-test means between the experimental and control groups was statistically significant ($t(48) = 4.69, p < .001$). The effect size was large (Cohen's $d = 1.30$), indicating that the ChatGPT-based interactive learning model had a substantial impact on students' reading comprehension.



The results demonstrated a significant improvement in the experimental group, which increased by +19.32 points from the pre-test (55.24 → 74.56), while the control group improved by only +10.52 points (54.72 → 65.24). The score range of the experimental group (60–88) was also higher than that of the control group (55–80), indicating that ChatGPT-based learning was capable of driving students toward maximum achievement. Statistical analysis confirmed that the post-test difference was significant ($t(48) = 4.69, p < .001$) with a large effect size (Cohen's $d = 1.30$), providing strong evidence that the ChatGPT intervention had a substantial impact. Beyond statistical outcomes, the pedagogical implications are noteworthy: integrating ChatGPT accelerated reading comprehension, enriched vocabulary acquisition, and enhanced students' motivation and engagement in learning activities.



Graph of pre-test and post-test scores

Figure 1. Comparison of mean pre-test and post-test reading comprehension scores between the experimental (ChatGPT) and control (conventional) groups.

Quantitative insights

The pre-test results showed that both the experimental and control groups started with similar levels of reading comprehension. The experimental group scored a mean of 55.24 (SD = 6.41), while the control group scored a mean of 54.72 (SD = 7.03). An independent-sample t-test confirmed no significant difference between the groups ($t(48) = 0.27, p > .05$), ensuring baseline equivalence.

Following the eight-week intervention, the experimental group, which received ChatGPT- integrated instruction, reached a mean post-test score of 74.56 (SD = 7.12), reflecting a +19.32- point increase from the pre-test. The control group, which followed conventional instruction, obtained a mean of 65.24 (SD = 6.87), an improvement of +10.52 points. An independent-sample t-test indicated that this difference was statistically significant ($t(48) = 4.69, p < .001$). The large effect size (Cohen’s $d = 1.30$) confirms the substantial impact of the ChatGPT-based interactive learning model on students’ reading comprehension.

Qualitative insights

In addition to the quantitative results, observations and interviews with the experimental group revealed several recurring themes:

- 1. Improved Vocabulary Understanding – Students reported that ChatGPT provided instant clarification of difficult vocabulary, which helped them understand academic texts more effectively.
- 2. Enhanced Motivation – Many students felt more motivated to engage with reading tasks because ChatGPT offered immediate feedback and personalized support.
- 3. Active Learning – The interactive nature of ChatGPT encouraged students to ask more questions and test their comprehension in real time, which contributed to deeper learning.
- 4. Concerns on Over-Reliance – A few students expressed concern about becoming overly dependent on ChatGPT and highlighted the importance of balancing AI support with independent reading practice.

Average student engagement during intervention

During the eight-week intervention, student engagement was observed through indicators such as active participation, frequency of asking questions, group discussions, and timely completion of reading tasks.

Table 3. Average student engagement during intervention (n control)

Engagement Indicator	Experimental (ChatGPT) n=25	Control (Conventional) n=25
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<i>Active participation in class</i>	82%	63%
<i>Frequency of asking questions</i>	74%	48%
<i>Group discussion</i>	80%	65%
<i>Timely task completion</i>	88%	72%

As shown in Table 3, students in the experimental group demonstrated higher engagement levels across almost all indicators compared to the control group. This was particularly evident in the frequency of asking questions (74% vs. 48%) and timely task completion (88% vs. 72%).

Reflection on the use of Chat-GPT

Reflections from the observation and interview sessions revealed several important findings regarding the implementation of the ChatGPT-based interactive learning model. Students in the experimental group appeared more confident in asking questions through ChatGPT, particularly when dealing with academic vocabulary and text comprehension difficulties. The integration of ChatGPT also shifted the lecturer's role from being the primary source of information to becoming a facilitator who guided classroom discussions and learning activities. In addition, students demonstrated varied learning strategies by using ChatGPT to summarize texts, compile difficult vocabulary lists, and generate additional practice questions, indicating the adaptive potential of the technology in supporting individual learning needs.

Despite these positive responses, several technical and ethical challenges were also identified. Some students experienced unstable internet access during the learning process, while others showed a tendency to rely excessively on instant answers generated by ChatGPT without engaging deeply with the reading texts. Based on the observation and reflection findings, the implementation of the ChatGPT-based interactive learning model successfully increased student engagement and provided responsive learning support that helped students overcome difficulties in reading comprehension. However, clear guidelines are still necessary to maintain a balance between AI-assisted learning and the development of students' independent reading skills.

Discussion

The effect of the ChatGPT-based interactive learning model on students' reading comprehension (RQ1)

The first research question aimed to examine whether the implementation of a ChatGPT-based interactive learning model significantly improved students' reading comprehension. Referring to the findings presented in Table 2, students who participated in ChatGPT-assisted learning demonstrated significantly better reading comprehension performance than those who received conventional instruction. The statistical analysis revealed a significant difference between the two groups after the intervention period ($p < .001$). Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. This finding confirms that the implementation of a ChatGPT-based interactive learning model significantly improved EFL university students' reading comprehension.

The improvement in reading comprehension can be explained by the adaptive and interactive characteristics of ChatGPT. During reading activities, students were able to ask questions, clarify unfamiliar vocabulary, verify their understanding, and receive immediate explanations regarding difficult concepts found in academic texts. This learning process enabled students to engage more deeply with textual content and reduced barriers commonly encountered during reading comprehension activities. Consequently, students were able to construct meaning more effectively and develop a stronger understanding of academic reading materials.

The findings are consistent with previous studies highlighting the educational benefits of ChatGPT in language learning. (Koraishi, 2023) reported that ChatGPT facilitates language learning through immediate feedback and interactive communication. Similarly, (Kostka & Toncelli, 2023) argued that ChatGPT creates opportunities for more personalized and responsive learning experiences that support language development. The findings also support (Glahn, 2023), who found that ChatGPT assists learners in understanding academic content through contextualized explanations and continuous interaction.

Furthermore, the present findings extend previous research conducted by (Dempere et al., 2023; Fitriati & Febriantina, 2022), which primarily focused on the use of ChatGPT in writing instruction and general language learning. While previous studies emphasized writing support, the current study provides empirical evidence that ChatGPT can also function

effectively as a learning scaffold for reading comprehension. This contribution is particularly important because empirical investigations focusing specifically on ChatGPT-assisted reading instruction in higher education remain limited.

From a theoretical perspective, the findings support constructivist learning theory, which emphasizes that learning occurs most effectively when learners actively construct knowledge through interaction and meaningful experiences (Hattie, (2009). In this study, ChatGPT functioned as a scaffolding tool that supported students in interpreting academic texts and constructing understanding independently. The findings also align with McKeown & Beck, (2009) who emphasized that reading comprehension develops more effectively when learners receive support in vocabulary acquisition, contextual interpretation, and meaning construction during reading activities. Therefore, the integration of ChatGPT into reading instruction represents an innovative pedagogical approach that promotes adaptive, interactive, and student-centered learning.

The Influence of the ChatGPT-Based Interactive Learning Model on Students' Engagement (RQ2)

The second research question investigated how the implementation of a ChatGPT-based interactive learning model influenced students' engagement and active participation during reading instruction. Referring to the observational findings presented in Table 3, students in the experimental group demonstrated consistently higher levels of participation, questioning behavior, involvement in group discussions, and timely task completion compared to students in the control group. These findings indicate that the integration of ChatGPT positively influenced student engagement throughout the learning process.

The increased engagement observed in the experimental group may be attributed to the interactive nature of ChatGPT, which provided students with immediate opportunities to seek clarification, explore ideas, and receive feedback without delay. Unlike conventional learning environments where interaction is often limited to lecturer-student communication, ChatGPT offered continuous learning support that encouraged students to participate actively in classroom activities. The availability of immediate responses appeared to increase students' confidence in asking questions and expressing difficulties encountered during reading tasks.

These findings are consistent with (Kuo et al., 2014) et al. who reported that interaction and responsive learning environments significantly influence student satisfaction, participation, and learning engagement in technology-enhanced educational settings. The present findings also support (Annura et al., 2024) et al. and (Zulianti & Hastomo, 2022) who found that interactive instructional approaches positively contribute to students' engagement and academic achievement. The current study confirms that interactive learning supported by artificial intelligence can similarly promote active participation and enhance the overall learning experience.

Interview findings further revealed that students perceived ChatGPT as a supportive learning companion that provided personalized assistance according to their individual learning needs. Many participants reported feeling more motivated to complete reading tasks because they could receive immediate explanations and guidance whenever difficulties emerged. Such experiences appeared to increase students' confidence and encourage greater involvement in learning activities.

The findings suggest that the integration of ChatGPT does not merely improve academic outcomes but also transforms classroom interaction patterns by encouraging students to become more active and autonomous learners. Consequently, ChatGPT can be considered a valuable tool for fostering engagement and supporting learner-centered instruction in higher education EFL contexts.

Pedagogical Implications and Challenges of Integrating ChatGPT into EFL Reading Instruction (RQ3)

The third research question focused on the pedagogical implications and challenges associated with the implementation of ChatGPT in EFL reading instruction. Drawing upon the observation and interview findings, the study revealed that ChatGPT functioned as an adaptive learning support system that facilitated personalized and responsive learning experiences. Students utilized ChatGPT in various ways, including clarifying vocabulary, verifying comprehension, generating summaries, and obtaining additional explanations related to reading materials. These practices demonstrate the flexibility of ChatGPT in supporting diverse learning needs and preferences.

The findings support previous studies that emphasized the pedagogical potential of

ChatGPT in educational contexts. (Koraishi, 2023) and (Kostka & Toncelli, 2023) highlighted the ability of ChatGPT to provide individualized assistance and immediate feedback, while (Dempere et al., 2023) et al. argued that AI technologies have the potential to transform learning experiences in higher education. The present study reinforces these perspectives by demonstrating that ChatGPT can effectively support reading instruction through interactive and adaptive learning processes.

An important pedagogical implication emerging from this study is the shifting role of lecturers in AI-assisted learning environments. Rather than functioning solely as providers of information, lecturers increasingly assume the role of facilitators who guide learning activities, encourage critical thinking, and support students in using AI responsibly. This transformation aligns with contemporary student-centered learning approaches that emphasize learner autonomy, collaboration, and active knowledge construction.

The findings also suggest that ChatGPT can contribute to the development of more adaptive learning environments by allowing students to learn according to their individual pace and needs. Such flexibility is particularly beneficial in higher education contexts where students possess varying levels of language proficiency and learning readiness. Through personalized interaction, ChatGPT can provide targeted support that may be difficult to achieve through conventional instructional approaches alone.

Overall, the findings indicate that the integration of ChatGPT into EFL reading instruction offers meaningful pedagogical value by promoting adaptive learning, increasing learner autonomy, and supporting more interactive classroom environments. The results further demonstrate that artificial intelligence can serve as a complementary instructional resource that enhances the quality of language learning when implemented within appropriate pedagogical frameworks.

CONCLUSION AND SUGGESTION

Conclusion

Based on the findings of this study, the implementation of the ChatGPT-based interactive learning model significantly improved higher education students' reading comprehension. The statistical results showed that the experimental group achieved higher

post-test scores than the control group after the eight-week intervention. These findings indicate that the alternative hypothesis (H_1) was accepted, while the null hypothesis (H_0) was rejected. The integration of ChatGPT in reading instruction effectively supported students in understanding academic texts, clarifying vocabulary, and improving reading comprehension performance.

This study also found that the implementation of the ChatGPT-based interactive learning model positively influenced students' engagement and active participation during reading instruction. Students in the experimental group demonstrated higher levels of participation, questioning behavior, classroom interaction, group discussion, and task completion compared to students in the conventional learning group. In addition, students showed greater motivation and confidence during reading activities supported by ChatGPT.

Furthermore, the study revealed several pedagogical implications and challenges related to the integration of ChatGPT in EFL reading instruction. ChatGPT functioned as a responsive and adaptive learning support tool that promoted interactive and student-centered learning. However, the findings also identified challenges such as unstable internet access and the risk of students becoming overly dependent on AI-generated responses. Therefore, clear instructional guidelines are necessary to ensure that the use of ChatGPT supports rather than replaces students' independent reading skills.

Overall, the findings indicate that the ChatGPT-based interactive learning model has strong potential to enhance reading comprehension, increase student engagement, and support innovative EFL learning practices in higher education.

Limitation

Despite the positive findings, this study also identified several limitations and challenges. Some students experienced unstable internet access during the implementation process, which occasionally disrupted learning activities. In addition, several participants showed a tendency to rely excessively on instant answers generated by ChatGPT without fully engaging in independent reading processes. This finding suggests that although ChatGPT provides significant learning support, excessive dependence on AI may reduce opportunities for students to develop independent critical reading skills. Another limitation of this study is the relatively small sample size and the focus on a single higher education

institution, which may limit the generalizability of the findings to broader EFL learning contexts. Furthermore, the intervention lasted only eight weeks, meaning that the long-term effects of ChatGPT-assisted learning were not examined comprehensively.

Overall, the findings of this study indicate that the implementation of the ChatGPT-based interactive learning model has strong potential to improve EFL university students' reading comprehension and engagement in higher education contexts. The integration of ChatGPT supports more adaptive, interactive, and student-centered learning environments when implemented with appropriate instructional guidance. However, the use of AI in education should remain balanced with the development of students' independent reading and critical thinking skills to ensure sustainable learning outcomes.

Implication

The implications of this study are both theoretical and practical. Theoretically, it contributes to the growing body of literature on AI-enhanced learning by demonstrating the effectiveness of ChatGPT in the underexplored domain of reading comprehension at the tertiary level. Practically, the study offers valuable guidance for educators and institutions seeking to integrate AI tools into language pedagogy, suggesting that with proper implementation, ChatGPT

can promote higher engagement, deeper comprehension, and improved learning outcomes.

Future research is recommended to expand the sample size, apply the model across different academic courses, and explore long-term effects of ChatGPT-assisted learning. By addressing these areas, subsequent studies may provide a more comprehensive understanding of how AI technologies can be systematically incorporated into higher education to support sustainable and innovative learning practices.

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REFERENCES

- Amalia Tanjung, D. (2024). Utilizing Wattpad Application To Improve The Students' Skill In Writing Narrative Text At The Eight Grade Of Smp Yayasan Perguruan Keluarga Pematangsiantar 2020/2021 Academic Year. *BRIGHT VISION Journal of Language and Education*, 2(1). <https://doi.org/10.30821/brightvision.v2i1.2972>
- Anggia, H., & Habók, A. (2023). Textual complexity adjustments to the English reading comprehension test for undergraduate EFL students. *Heliyon*, 9(1). <https://doi.org/10.1016/j.heliyon.2023.e12891>
- Annishah, A., Widiati, U., & Wulyani, A. N. (2025). English As Foreign Language (Efl) Students' Perception Of Ai Writing Tools Based On Their Education Level. *Premise: Journal of English Education*, 14(3). <https://doi.org/10.24127/pj.v14i3.12243>
- Annura, T., Warna, D., & Sartika, E. (2024). The Correlation Between Reading Anxiety And Reading Comprehension Achievement Efl Of Man 2 Palembang. *Premise: Journal of English Education*, 13(3). <https://doi.org/10.24127/pj.v13i3.10631>
- Bell, E., Bryman, A., & Harley, B. (2022). Mixed Methods Research: Combining Quantitative and Qualitative Research. In *Business Research Methods*. <https://doi.org/10.1093/hebz/9780198869443.003.0040>
- Brown, T. B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., Neelakantan, A., Shyam, P., Sastry, G., Askell, A., Agarwal, S., Herbert-Voss, A., Krueger, G., Henighan, T., Child, R., Ramesh, A., Ziegler, D. M., Wu, J., Winter, C., ... Amodei, D. (2020). *Language Models are Few-Shot Learners*. <http://arxiv.org/abs/2005.14165>
- Dempere, J., Modugu, K., Hesham, A., & Ramasamy, L. K. (2023). The impact of ChatGPT on higher education. In *Frontiers in Education* (Vol. 8). <https://doi.org/10.3389/feduc.2023.1206936>
- Fitria, T. N. (2023). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. *Journal of English Language Teaching*, 12(1), 44–58. <http://journal.unnes.ac.id/sju/index.php/elt>
- Glahn, K. (2023). Using ChatGPT to Teach English for Academic Purposes: Perspectives from the Classroom. *Journal of Education, Innovation, and Communication*, (2, Volume 5, December 2023).
- Hartono, B., & Nurnalisa. (2020). *The effect of using draw label caption (DLC) strategy on students' speaking skills*. 64–69.
- Hattie, J. A. C. (2009). Visible learning: A synthesis of over 800 meta-analyses relating to achievement: Routledge, Abingdon, 2008, 392pp. In *International Review of Education* (Numbers 1–2).
- Koraishi, O. (2023). Teaching English in the Age of AI: Embracing ChatGPT to Optimize EFL Materials and Assessment. *Language Education & Technology Journal*, 3(1).
- Kostka, I., & Toncelli, R. (2023). Exploring Applications of ChatGPT to English Language Teaching: Opportunities, Challenges, and Recommendations. *TESL-EJ*, 27(3).

<https://doi.org/10.55593/ej.27107int>

- Kuo, Y. C., Walker, A. E., Schroder, K. E. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *Internet and Higher Education*, 20. <https://doi.org/10.1016/j.iheduc.2013.10.001>
- McKeown, M. G., & Beck, I. L. (2009). The role of metacognition in understanding and supporting reading comprehension. *Handbook of Metacognition in Education*.
- Salim, M. A., & Aditya, R. B. (2025). Integration of Artificial Intelligence in Islamic Education: Trends, Methods, and Challenges in the Digital Era. *Journal of Modern Islamic Studies and Civilization*, 3(01), 74–89. <https://doi.org/10.59653/jmisc.v3i01.1368>
- Salim, M. A., & Habibi, F. (2025). AI ChatGPT Based Islamic Religious Education to Enhance Students' Critical Thinking and Moral Reasoning. *ISLAMIKA*, 7(4). <https://doi.org/10.36088/islamika.v7i4.5915>
- Sulistiyowati, E., Hartono, B., & Hidayat, K. (2025). *Pendampingan Pengembangan Media Pembelajaran Inovatif Berbasis Artificial Intelligence (AI) Bagi Mahasiswa Calon Guru Di STKIP Nano Ranking Found For Mejuajua: Jurnal Pengabdian Pada Masyarakat. Jurnal.Yaspenosumatera.Org*, 4(3).
- Tran, T. Y., Nguyen, T. M. H., & Huynh, A. T. (2024). Exploring The Social And Emotional Aspects Of Teaching And Learning English As A Foreign Language. *VNU Journal of Foreign Studies*, 40(1). <https://doi.org/10.63023/2525-2445/jfs.ulis.5185>
- Wahyuni, R., & Ardini, W. A. (2026). The dynamics of gendered perceptions toward Chat-GPT use by university lecturers in English academic writing. *Premise: Journal of English Education and Applied Linguistics*, 15(1), 1–20. <https://doi.org/10.24127/pj.v15i1.14262>
- Zakwani, M. Al, & Binu, P. M. (2025). Exploring Student Insights on ChatGPT as a Resource for Learning English and Its Influence on Learner Independence. *Forum for Linguistic Studies*, 7(2). <https://doi.org/10.30564/fls.v7i2.7955>
- Zulianti, H., & Hastomo, T. (2022). Partner Reading Strategy : An Effective Strategy for Improving Students' Reading Comprehension. *Premise: Journal of English Education*, 11(1). <https://doi.org/10.24127/pj.v11i1.4435>