








# AI Speaks Your Language: Measuring ChatGPT's Impact on English Proficiency and Student Engagement in Higher Education

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**Abstract**– *The integration of Artificial Intelligence (AI) in language education is transforming traditional teaching methodologies. This quasi-experimental study examines the impact of ChatGPT on the motivation, engagement, and proficiency of undergraduate students learning English at the AI level. A total of 290 students from Law and Business Administration programs at Universidad Privada del Norte participated in a 12-week AI-enhanced curriculum. Pre-test and post-test results were analysed alongside student perceptions collected through surveys. Findings indicate that while students reported increased motivation and engagement, statistical analysis showed no significant improvement in test scores. ChatGPT was particularly valued for its feedback and vocabulary-building capabilities but was less effective in enhancing pronunciation. These results suggest that AI tools like ChatGPT can serve as valuable supplements to language instruction, especially when combined with specialized resources for speaking and pronunciation, such as THINKLING. The study highlights the need for continued exploration of AI-driven learning methodologies to optimize their impact on language acquisition.*

**Keywords**– *Artificial Intelligence, ChatGPT, English Language Learning, Student Engagement, Motivation, Pronunciation Improvement.*

## I. INTRODUCTION

ChatGPT, an advanced AI-powered chatbot designed to generate personalized responses to user queries, has recently made a significant impact on education. Numerous studies have explored its role in teaching English as a Second Language (ESL) and English as a Foreign Language (EFL) [1].

The integration of Artificial Intelligence (AI) in language learning is increasingly recognized as a valuable resource, particularly for second language acquisition. AI tools, such as ChatGPT, are believed to enhance language learning by providing instant feedback and fostering meaningful interactions [2].

Moreover, ChatGPT fosters various learning approaches that strengthen linguistic proficiency and promote self-

directed learning[3]. It plays a crucial role in addressing students' psychological needs, including autonomy, competence, and relatedness, thereby facilitating a more engaging learning experience. By offering flexibility and personalized feedback, ChatGPT helps meet students' needs for autonomy and competence. However, students also highlight the indispensable role of human-teacher interaction and empathy in their learning journey[4]. This balance between AI and human interaction is essential for an effective language learning environment.

In addition to improving communication skills, AI tools like ChatGPT serve a range of roles in the educational process, acting as valuable learning companions. Despite its potential, many educators remain unaware of the full spectrum of possibilities that AI-driven tools can offer [5]. Given its critical role in enhancing communication skills, the use and acceptance of ChatGPT by students can yield positive outcomes. However, there remains a gap in research regarding the extent to which ChatGPT-4 enhances students' English communication abilities [6]. Initial findings suggest that regular engagement with ChatGPT significantly improves students' communication skills, creating a sense of comfort and fostering a positive learning environment, which is highly beneficial for language acquisition [7].

Building on these findings, researchers have summarized the various impacts of ChatGPT on EFL learners: 1) it can expand vocabulary through text-based tasks; 2) it improves writing skills via automated assessments; and 3) it motivates students by providing personalized responses and diverse learning methods [8]. Vocabulary acquisition, a fundamental component of language learning, plays a pivotal role in enhancing overall proficiency. With the rise of AI tools, there is an urgent need to explore their impact on English language teaching [9]. To maximize the effectiveness of these tools, teachers must receive adequate training to integrate them into their instructional practices and provide engaging learning experiences for students.

By enhancing skill development, offering personalized feedback, and addressing emotional and psychological needs, AI systems like ChatGPT have the potential to revolutionize language assessment and pedagogy [9]. The integration of AI technologies can foster a more flexible and adaptable learning environment, significantly improving educational outcomes. Research indicates that ChatGPT positively influences students' perceived autonomy, competence, and relatedness, with autonomy and relatedness being key predictors of students' competence in using the tool for learning [10].

While ChatGPT facilitates interactive learning and enhances student engagement, concerns about its accuracy remain, emphasizing the importance of a critical approach when evaluating AI-generated content [11]. Nevertheless, ChatGPT is widely acknowledged for providing real-time feedback that improves writing quality and efficiency [12]. Its ability to influence motivation, enjoyment, critical thinking, and autonomy in EFL learners has been well-documented. By offering personalized learning experiences, ChatGPT fosters greater student engagement and promotes autonomous learning [13].

Furthermore, integrating ChatGPT into task-based learning (TBL) environments for English for Specific Purposes (ESP) can enhance language acquisition. Through real-time feedback and personalized support, ChatGPT helps students improve vocabulary, writing skills, and problem-solving abilities, all within the context of their specific fields of study [14]. This approach allows for more learner-centered instruction, which further nurtures autonomy and engagement in ESP contexts.

ChatGPT also plays a significant role in improving writing skills by providing personalized feedback and targeted corrections, thereby enhancing grammar and composition proficiency. Its integration into language curricula can serve as a valuable supplement to traditional teaching methods, offering immediate corrections and fostering more effective learning outcomes [15]. Given its effectiveness, further research is needed to examine the long-term impact of ChatGPT on writing instruction and to develop guidelines for its optimal implementation [16].

In terms of overall language proficiency, ChatGPT has proven valuable in enhancing fluency, vocabulary acquisition, writing, reading comprehension, and listening skills. A recent survey revealed that frequent interaction with ChatGPT significantly boosts language fluency and comprehension, while also aiding in vocabulary development through the introduction of new words, their definitions, pronunciations, and contextual usage [17]. The tool's ability to improve writing skills through iterative practice and personalized feedback further supports its role in fostering a more engaging and autonomous learning environment [18].

Lastly, professional development for teachers is essential to ensure the responsible use of AI tools like ChatGPT. Educators must be equipped with the necessary skills and knowledge to integrate these tools effectively into their teaching practices. Training programs should focus on promoting student-centered learning and guiding students in critically engaging with AI-generated content to maximize its benefits and mitigate potential limitations [19].

The integration of Artificial Intelligence (AI) in education, particularly through tools like ChatGPT, has shown significant potential in enhancing language learning, especially in the context of English as a Second Language (ESL) and English as a Foreign Language (EFL). However, there remains a lack of comprehensive understanding regarding the specific impact of ChatGPT on various aspects of English language proficiency, such as speaking, listening, writing, and vocabulary acquisition. While ChatGPT has demonstrated success in providing real-time feedback, personalized learning experiences, and fostering engagement, its effectiveness in improving students' English communication skills and its long-term effects on language learning have yet to be fully explored. Furthermore, the extent to which students and educators accept and utilize ChatGPT as a supplementary educational tool remains unclear. This research aims to fill these gaps by examining the role of ChatGPT in improving English language proficiency and exploring the perceptions and experiences of both students and teachers regarding its use in language learning contexts.

This research question will guide the exploration of ChatGPT's potential in language learning and its role in enhancing English language proficiency.

What are students' perceptions of using ChatGPT as a tool for language learning, particularly in terms of motivation, engagement, and learning outcomes?

## II. METHODOLOGY

This study employs a quasi-experimental pre-test/post-test design, evaluating students' performance and perceptions before and after the intervention with ChatGPT, without random group assignment. A single group of 290 participants from Universidad Privada del Norte in Peru, enrolled in an English A1 (Pre-Beginner 1) course, took part in this study. The participants included both undergraduate students from various fields of study and working adults, all attending virtual classes during the 2024-02 academic semester. In the first week, a diagnostic English test was administered to establish a baseline of the students' language skills. Following this, ChatGPT was integrated as a supportive learning tool over 12 weeks, divided into 12 modules, during which students engaged in activities and guided practices facilitated by the technology. At the end of the intervention, the same English

test was re-administered to measure progress, and a perception survey was conducted to collect both qualitative and quantitative data regarding students' experiences with ChatGPT, focusing on motivation, engagement, and perceived learning outcomes. For data analysis, descriptive statistics (such as means and percentages) were used to compare the pre-test and post-test results, while a paired-samples t-test determined whether the observed differences were statistically significant. Additionally, qualitative analysis of survey responses was performed to identify common patterns in the students' perceptions of the tool.

### III. RESULTS

TABLE I  
STUDENT'S FIELDS OF STUDY

FIELDS OF STUDY	STUDENTS	%
LAW	54	18.62%
ADMINISTRATION	35	12.07%
OTHER MAJORS	201	69.31%

Table 1 indicates that most students in the pre-test belong to other academic disciplines (69.31%), while Law and Business Administration students represent a smaller proportion of the total sample.

Given this distribution, any analysis of the pre-test and post-test results should consider that Law and Business Administration students make up only about 30% of the total participants, which may influence the overall trends in language proficiency improvement.

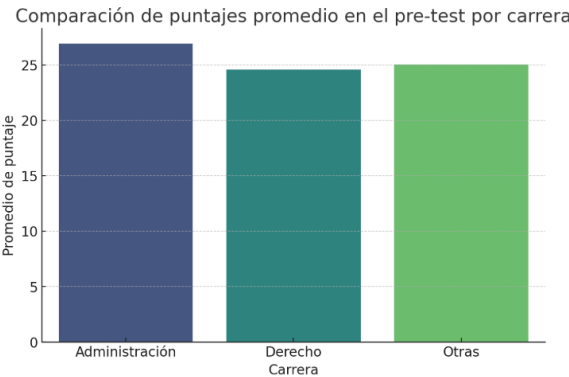


Fig. 1 Interpretation of Results:

The graph shows the average scores obtained in the English pre-test by students from different academic programs:

- Administration students achieved the highest average score: 26.94 points.
- Law students had an average score of 24.59 points.
- Other majors had an average score of 25.06 points.

Students from the Administration program performed better in the diagnostic test compared to those from Law. This suggests that, at the beginning of the study, Administration students had a stronger command of English than their Law counterparts. This difference could be influenced by factors such as previous coursework, exposure to the language, or individual motivation.

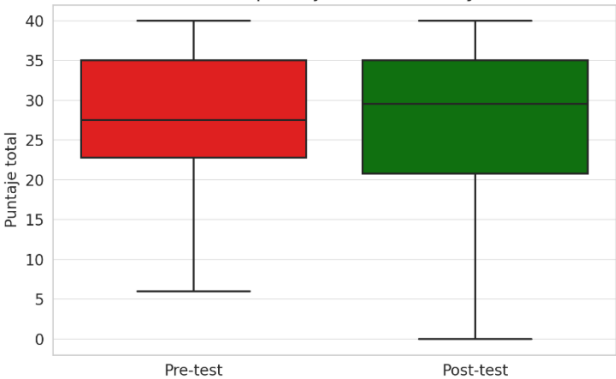


Fig. 2 Interpretation of the Graph.

The box plot shows the distribution of scores in the pre-test (red) and post-test (green). The following trends can be observed:

- Increase in the median:** The central line within each box represents the median. The median of the post-test is slightly higher than that of the pre-test, suggesting an improvement in scores.
- Similar distribution:** Although there is a slight improvement in scores, the dispersion and interquartile range are similar in both exams, indicating that the variability in results did not change drastically.
- Extreme values:** Similar minimum and maximum values are observed in both groups, suggesting that there were no major differences in the performance of the lowest- and highest-scoring students.

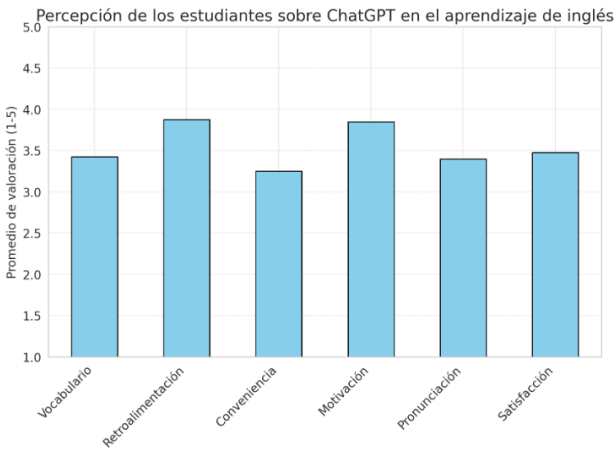


Fig.3 student's perception about ChatGPT.

In analyzing students' responses regarding their perceptions of ChatGPT for English learning, the focus was placed on vocabulary improvement, feedback, convenience, motivation, pronunciation, and overall satisfaction.

#### Vocabulary Improvement:

Most students rated their vocabulary improvement as either "average" (14 responses) or "quite a lot" (13 responses). However, there were some mixed opinions, as only 6 students considered ChatGPT "very helpful" for vocabulary acquisition, while an equal number (6) rated it as providing "very little" assistance.

#### Feedback:

In terms of feedback, most students found ChatGPT's responses to be useful. Specifically, 18 students rated the feedback as "quite useful," and 12 found it "average." A smaller group, 9 students, felt that the feedback was "very useful," indicating a generally positive reception of this feature.

#### Convenience:

When assessing the convenience of using ChatGPT, 16 students rated it as "average." Some students found it more convenient, with 8 rating it as "quite convenient" and 7 as "very convenient." On the other hand, 3 students found it "not convenient at all," suggesting some limitations regarding ease of use or accessibility.

#### Motivation:

A significant number of students reported that ChatGPT "highly motivated" them to practice English, with 16 responses in this category. Additionally, 11 students rated their motivation as

"average," while 9 found it "quite motivating." This indicates that ChatGPT had a generally positive impact on students' motivation to engage in language practice.

#### Pronunciation & Fluency:

In terms of pronunciation and fluency, 14 students felt that ChatGPT helped them "quite a lot," and 13 rated it as "average." However, 6 students found it "very helpful," while a smaller portion, 4 students, felt it helped "a little," and 3 students reported no improvement at all. This suggests that while many students benefited, there were varying degrees of effectiveness.

#### Overall Satisfaction:

When it comes to overall satisfaction, 17 students expressed themselves being "quite satisfied," 12 rated it as "average," and 5 found it "very satisfactory." However, 2 students were "not satisfied at all," indicating some dissatisfaction among a small group. Despite this, more than 70% of respondents were satisfied with their experience using ChatGPT for language learning.

- The highest-rated variables were feedback and motivation, with an average score close to 4 on a 1-to-5 scale.
- Overall satisfaction and perceived improvement in pronunciation were around 3.4.
- The lowest-rated factor was ChatGPT's convenience compared to other AI tools, with an average slightly above 3.

These results suggest that ChatGPT is perceived as a useful tool for English learning, especially for motivation and feedback, but its effectiveness in pronunciation and convenience compared to other AI tools could be improved.

TABLA II  
STUDENTS USE CHATGPT

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
ChatGPT has helped me improve my English skills.	13%	38%	27%	12%	8%
ChatGPT has made learning English more engaging and enjoyable.	10%	29%	41%	10%	8%

ChatGPT has increased my confidence in speaking English.	12%	24%	35 %	11%	14%
ChatGPT has improved my understanding of grammar and sentence structure.	15%	30%	28 %	12%	13%
ChatGPT has helped me learn English vocabulary more efficiently.	17%	35%	27 %	11%	9%
ChatGPT has provided me with personalized learning experiences.	16%	45%	23 %	8%	6%
ChatGPT has helped me practice my pronunciation.	6%	18%	35 %	25%	16%
ChatGPT has helped me identify and correct mistakes more effectively.	27%	47%	16 %	7%	3%
ChatGPT has made English learning more accessible and convenient.	13%	37%	37 %	10%	10%
ChatGPT has allowed me to learn at my own pace.	10%	25%	34 %	20%	10%
ChatGPT has helped me prepare for English language exams.	8%	31%	37 %	16%	9%
ChatGPT has kept me motivated to learn English.	5%	28%	44 %	13%	10%
ChatGPT has helped me overcome language barriers when communicating with others.	7%	21%	34 %	16%	23%
ChatGPT has helped me understand English idioms and expressions better.	10%	33%	31 %	11%	9%
ChatGPT has helped me learn about English culture and customs.	7%	21%	34 %	24%	15%
ChatGPT has provided me with more opportunities to practice English.	10%	29%	31 %	15%	12%

ChatGPT has helped me develop better listening skills in English.	9%	32%	31 %	25%	12%
ChatGPT has helped me develop better reading skills in English.	15%	39%	29 %	10%	7%
I would recommend using ChatGPT to other English learners.	20%	40%	21 %	12%	7%

Engagement and motivation: Over 50% of students agreed or strongly agreed that ChatGPT made learning English more engaging and motivated them to continue learning.

Personalized learning: 61% of students felt that ChatGPT provided them with personalized learning experiences.

Pronunciation challenges: While many students found ChatGPT useful, 41% were neutral or disagreed that it helped them improve pronunciation.

Self-paced learning: 35% of students reported that ChatGPT allowed them to learn at their own pace, but 30% disagreed or strongly disagreed.

Grammar and vocabulary: Over 45% of students felt that ChatGPT improved their grammar and vocabulary skills.

Recommendation: 60% of students would recommend ChatGPT as a tool for English learners.

The data suggests that ChatGPT had a positive impact on students' engagement, learning efficiency, and motivation in English language learning. However, pronunciation and cultural understanding remain areas where students were more divided in their opinions. These findings support the potential of AI tools like ChatGPT in enhancing autonomous and interactive learning experiences, though further improvements in speaking and pronunciation features could enhance its effectiveness.

Below is a brief comparative analysis of the survey items, highlighting where ChatGPT received the strongest and weakest support from students, based on Agree + Strongly Agree percentages, Neutral responses, and Disagree + Strongly Disagree percentages.

#### 1. Highest Levels of Agreement

##### Identifying and Correcting Mistakes

Item: "ChatGPT has helped me identify and correct mistakes more effectively."

Agree + Strongly Agree: 74% (27% strongly agree, 47% agree)

Interpretation: Students feel that ChatGPT's error correction feature is particularly valuable, suggesting that personalized feedback on mistakes is one of the tool's main strengths.

### **Vocabulary Acquisition**

Item: "ChatGPT has helped me learn English vocabulary more efficiently."

Agree + Strongly Agree: 52% (17% strongly agree, 35% agree)

Interpretation: Over half of respondents appreciate ChatGPT's contribution to vocabulary building, indicating it may help fill vocabulary gaps more quickly than traditional methods.

### **Recommendation to Others**

Item: "I would recommend using ChatGPT to other English learners."

Agree + Strongly Agree: 60% (20% strongly agree, 40% agree)

Interpretation: A solid majority of students are willing to endorse ChatGPT to peers, reflecting an overall positive perception of the tool's usefulness.

## **2. Moderate or Neutral Responses**

### **Motivation to Learn English**

Item: "ChatGPT has kept me motivated to learn English."  
Neutral: 44%

Interpretation: While some students are motivated, a large neutral segment suggests that motivation may vary depending on personal learning preferences, study habits, or the novelty factor wearing off.

### **Accessible and Convenient**

Item: "ChatGPT has made English learning more accessible and convenient."

Neutral: 37%

Interpretation: Over one-third of students remain neutral, indicating that accessibility and convenience might depend on factors like internet access, device availability, or familiarity with AI tools.

## **3. Lowest Levels of Agreement**

### **Pronunciation Practice**

Item: "ChatGPT has helped me practice my pronunciation."

Agree + Strongly Agree: 24% (6% strongly agree, 18% agree)

Interpretation: This is the least supported area, suggesting that speaking and pronunciation may need improvement, possibly due to the platform's text-based format.

### **Overcoming Language Barriers in Communication**

Item: "ChatGPT has helped me overcome language barriers when communicating with others."

Agree + Strongly Agree: 28% (7% strongly agree, 21% agree)

Interpretation: A relatively low endorsement indicates that while ChatGPT may help with grammar and vocabulary, real-time interpersonal communication remains a challenge that AI-based text interaction does not fully address.

### **Self-Paced Learning**

Item: "ChatGPT has allowed me to learn at my own pace."

Disagree + Strongly Disagree: 30% (20% disagree, 10% strongly disagree)

Interpretation: A notable portion of students do not feel ChatGPT supports individual pacing, which may reflect personal preferences or external constraints (e.g., limited time or internet access).

## **Overall Observations**

### **Strengths:**

Error Correction & Feedback: Students overwhelmingly appreciate ChatGPT's ability to help them spot and fix mistakes.

Vocabulary Development: Over half credit ChatGPT with efficient vocabulary improvement.

Positive Word-of-Mouth: A majority would recommend the tool to other English learners.

### **Areas for Growth:**

Pronunciation & Speaking Skills: The lowest agreement rates suggest that oral practice remains a gap.

Motivation & Engagement: High neutral responses in certain areas indicate inconsistent motivation or mixed perceptions of ChatGPT's effectiveness.

Practical Communication Skills: Students may still face challenges applying language in real-time conversations, which a purely text-based AI might not fully replicate.

### **Implications for Implementation:**

Language programs considering ChatGPT might complement it with speaking practice, for example:

conversation clubs or voice-based AI features—to address pronunciation and real-time communication.

Training students on how to use ChatGPT effectively (e.g., prompt engineering, feedback review) could maximize its potential in self-paced learning.

## Discussion

The findings from this quasi-experimental study provide valuable insights into the role of ChatGPT in English language learning at the A1 level. Several key themes emerge from the analysis that warrant detailed discussion:

### 1. Impact on Student Engagement and Motivation

The study reveals a notable dichotomy between students' perceived engagement and actual performance outcomes. While 50% of participants reported increased motivation and engagement when using ChatGPT, this did not translate into statistically significant improvements in test scores. This finding aligns with previous research by [4] who found that AI tools can enhance learning experiences without necessarily leading to immediate measurable improvements in proficiency.

The high engagement levels reported by students (60% would recommend ChatGPT to peers) suggest that AI-enhanced learning environments can create positive attitudes toward language acquisition. However, this enthusiasm needs to be channeled effectively to produce measurable learning outcomes.

### Effectiveness in Specific Language Skills

The results indicate varying degrees of effectiveness across different language competencies:

#### a) Writing and Grammar

The strongest positive impact was observed in error identification and correction, with 74% of students reporting improvement in this area. This suggests that ChatGPT's immediate feedback mechanism is particularly effective for developing writing skills and grammatical accuracy.

#### b) Vocabulary Acquisition

52% of students reported improved vocabulary learning efficiency, supporting findings by [17] about AI tools' effectiveness in vocabulary development. This success may be attributed to ChatGPT's ability to provide contextual examples and explanations on demand.

#### c) Pronunciation and Speaking

The study revealed a significant limitation in pronunciation improvement, with only 24% of students reporting positive outcomes. This finding highlights a crucial gap in ChatGPT's capabilities and suggests the need for complementary tools specifically designed for oral skills development.

## Pedagogical Implications

Several important implications emerge for language teaching practice:

### a) Blended Learning Approach

The results support a blended learning model where ChatGPT complements rather than replaces traditional instruction. The tool's strengths in providing immediate feedback and personalized learning experiences (61% positive response) should be integrated with conventional teaching methods that address its limitations in areas like pronunciation.

### b) Autonomous Learning

While ChatGPT shows potential for supporting autonomous learning, the mixed responses regarding self-paced learning (35% positive, 30% negative) suggest that students may need more structured guidance in utilizing the tool effectively.

## Implementation Challenges

The study identified several challenges that need addressing:

### a) Technical Accessibility

The neutral responses (37%) regarding convenience and accessibility suggest that technical barriers may exist. Educational institutions need to ensure adequate infrastructure and support for AI tool implementation.

### b) Skill Integration

The relatively low effectiveness in overcoming language barriers (28% positive) indicates that students may struggle to transfer ChatGPT-assisted learning to real-world communication contexts.

## Future Directions

Based on these findings, several recommendations for future research and practice emerge:

### a) Long-term Impact Studies

Further research is needed to examine the long-term effects of ChatGPT use on language proficiency, particularly in transitioning from A1 to higher proficiency levels.

### b) Integration Strategies

Development of specific pedagogical frameworks for integrating ChatGPT into language curricula, especially focusing on bridging the gap between practice and real-world application.

### c) Hybrid Solutions

Investigation of hybrid approaches combining ChatGPT with other AI tools specifically designed for pronunciation and speaking practice, such as THINKLING, to create more comprehensive language learning environments.

These findings contribute to the growing body of literature on AI-enhanced language learning while highlighting both the potential and limitations of current AI tools in language education. The results suggest that while ChatGPT can significantly enhance certain aspects of language learning, its effective implementation requires careful consideration of its strengths and limitations within a broader pedagogical framework.

#### IV. CONCLUSION

The findings of this study indicate that the integration of ChatGPT into English learning had a positive impact on students' motivation and engagement. Personalized feedback and ChatGPT's ability to correct mistakes were highly valued, suggesting that AI tools can be a useful complement to the language acquisition process.

Despite a slight improvement in post-test scores, statistical analysis showed that this difference was not significant. This indicates that while ChatGPT can enhance the learning experience and students' perception of the process, its impact on performance measured through standardized tests still requires further study.

In terms of specific skills, students reported notable improvements in vocabulary and grammar, but opinions were divided regarding its effectiveness in pronunciation and oral communication skills. This suggests the need to complement ChatGPT with tools specifically designed for speech development.

To maximize the benefits of AI in English learning, educators are encouraged to use AI-integrated materials and texts that provide instant feedback and interactive activities. Additionally, to improve pronunciation and speaking skills, it is recommended to use specialized platforms such as **THINKLING**, which offer practical exercises and approaches focused on oral production.

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