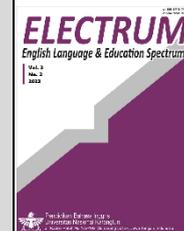




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Students' Use and Perceptions of AI Grammar Checkers in English Grammar Learning

I Made Budana Yasa

¹ English Education Department, Universitas I Gusti Bagus Sugriwa Denpasar

INFO

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ABSTRACT

This study explores students' use and perceptions of AI grammar checkers in English grammar learning. Conducted with 30 fourth-semester students of the English Language Education Study Program at Universitas Cokroaminoto Palopo, the research employed a descriptive quantitative design using a structured questionnaire consisting of 6 items related to usage and 12 Likert-scale items measuring perception. The questionnaire was adapted from previous studies and analyzed using SPSS version 26. The results indicate that the majority of students frequently used AI grammar tools, particularly Grammarly and QuillBot during academic writing, with most reporting that they discovered these tools through peers. Descriptive statistics showed high agreement on statements related to usefulness, such as helping identify mistakes ($M = 1.40$), improving writing quality ($M = 1.97$), and supporting learning from feedback ($M = 2.00$). However, concerns were also found regarding overreliance ($M = 1.93$), confusion with suggestions ($M = 2.47$), and trust in accuracy ($M = 2.63$). Interestingly, students did not prefer AI over human correction ($M = 3.90$), highlighting their continued reliance on teacher support. These findings suggest that AI grammar checkers are valuable supplementary tools when used critically and in combination with guided instruction.

INTRODUCTION

Grammar is an essential part of English learning, as it provides the rules that help learners form correct and meaningful sentences. It plays a

key role in all language skills, including speaking, writing, reading, and listening. Without grammar, learners may struggle to express ideas clearly, even when they know the right vocabulary. [1] state that

grammar is the structure behind communication, helping learners express relationships between actions, time, and ideas. In formal language learning contexts, grammar is especially important because learners must often rely on formal instruction to master the rules of the language. Grammar is not only necessary for exams or academic writing but also for building confidence and fluency in real communication.

Despite its importance, grammar learning can be challenging for many students. Traditional methods such as memorizing rules and doing repetitive exercises may help learners recognize patterns, but they do not always lead to better performance in real tasks. [2] and [3] explain that many students find grammar difficult because the feedback they receive is too general, delayed, or not connected to their personal learning needs. In large classrooms, teachers often do not have enough time to give individual grammar feedback, making it harder for students to know what mistakes they are making. This gap in grammar learning has led to interest in new ways to support students, particularly through digital tools.

One promising solution is the use of Artificial Intelligence (AI) in language learning. AI grammar checkers such as Grammarly, QuillBot, and ChatGPT are increasingly popular among students. These tools can instantly detect grammar errors, suggest corrections, and provide explanations in real time. [4] found that students appreciated the immediate feedback and found it helpful for self-correction. Because AI grammar tools are easy to access on laptops and smartphones, students can use them outside of class and apply them while writing emails, assignments, or even social media posts. This has changed the

way many students engage with grammar, making it a more active and independent process.

Research also shows that AI grammar tools influence how often and how confidently students work on their grammar. [5] reported that students used grammar checkers regularly during writing tasks to avoid repeated mistakes. [6] found that learners felt more motivated when they received instant grammar suggestions, which made them want to write more and improve. [7] showed that learners using AI tools like chatbots made greater progress than those who studied grammar in groups, partly because AI gave consistent, non-judgmental feedback. These studies suggest that learners use AI not just for checking grammar, but also as a way to learn from their errors and improve over time.

Beyond usage patterns, students' perceptions toward AI grammar tools are also important. [8] observed that students viewed AI feedback as helpful in understanding grammar rules, especially in difficult tenses like the present perfect. [9] reported a significant improvement in students' grammar scores when they used AI-enhanced learning platforms. However, some challenges remain. According to [10], some students become too dependent on AI and may skip the learning process by simply accepting corrections without reflection. Others worry about data privacy, especially when using web-based tools [11]. These concerns show that even though students benefit from AI grammar checkers, they also need guidance on how to use them critically and responsibly.

Considering these developments, it is important to study how students actually use AI grammar checkers in their daily learning and what they think about their usefulness. Many students

may use different tools for different purposes, and their opinions may vary based on experience. While some may use grammar checkers often, others may still prefer traditional methods. Similarly, while many students may feel that AI is helpful, they might also face limitations in understanding the corrections or trusting the tools fully.

This study focuses on how students use AI grammar checkers in their English learning, including the frequency of use and the types of tools they prefer. It also examines learners' perceptions of these tools in supporting grammar development, particularly the benefits they gain and the challenges they encounter. The results of this study are expected to help educators, developers, and students better understand the role of AI in grammar learning and how it can complement, rather than replace, traditional instruction.

Research Questions

To explore the use and perceptions of AI grammar checkers among students, this study addressed the following research questions:

1. How do students use AI grammar checkers in their English learning?
2. What are the students' perceptions toward the use of AI grammar checkers in learning English grammar?

LITERATURE REVIEW

Grammar plays an essential role in English learning because it helps students form accurate and meaningful sentences. However, many students struggle with traditional methods that rely on memorization and repetitive exercises, often without receiving clear or timely feedback [12],

[13]. In large classes, teachers may not be able to give individual grammar corrections, making it difficult for students to improve effectively.

To support grammar learning, AI grammar checkers such as Grammarly, QuillBot, and ChatGPT have become popular tools. These applications provide instant grammar suggestions and explanations, which can help students correct mistakes and build writing skills. Studies have shown that students appreciate the real-time feedback [14] and feel more motivated to write [15]. However, concerns such as overreliance on AI [16] and lack of understanding of corrections still exist. Therefore, AI tools should be used as support, not replacement for thoughtful grammar learning.

METHODOLOGY

A. Research Design

This study used a descriptive quantitative research design to collect and analyze numerical data related to the use and perceptions of AI grammar checkers among students. This design was chosen because it allows the researcher to describe and summarize patterns of behavior and opinions without manipulating any variables. The aim was not to test a hypothesis but to provide a clear picture of how often students use AI grammar tools, what types they prefer, and what they think about the benefits and challenges of these tools in grammar learning. All data were collected using a structured questionnaire and analyzed using descriptive statistics such as frequencies, percentages, mean scores, and standard deviations.

B. Participants

The participants of this study were 30 fourth-semester students from the English Language Education Department at Universitas

Cokroaminoto Palopo. They were selected using convenience sampling based on their accessibility and willingness to participate. All participants were non-native English speakers who had received formal instruction in English and had experience using AI grammar checkers such as Grammarly, QuillBot, or ChatGPT to support their grammar learning.

C. Instrument

The main instrument used in this study was a questionnaire developed by the researcher to collect data related to the use and perceptions of AI grammar checkers among students. The questionnaire was designed to answer the two research questions and consisted of two sections.

The first section focused on the use of AI grammar checkers. It included multiple-choice and Likert-scale questions that asked participants about how often they used AI grammar tools, what types of tools they commonly used (e.g., Grammarly, QuillBot, ChatGPT), and in what contexts they used them (such as academic writing, assignments, or personal learning).

The second section addressed participants' perceptions of AI grammar checkers. This part used a 5-point Likert scale (ranging from Strongly Agree to Strongly Disagree) to measure students' opinions on the usefulness of the tools, the benefits they experienced (such as learning from corrections and gaining confidence), and the challenges they faced (such as misunderstanding suggestions or becoming too dependent on the tools).

The questionnaire was developed by the researcher by adapting and modifying items from relevant previous studies, including those by [6], [5], and [7], which explored the use of AI tools in grammar learning among among students in

English language contexts. The items were designed to align with the research questions and to collect meaningful data related to learners' use of AI grammar checkers and their perceptions toward the tools.

D. Data Collection Procedure

The data for this study were collected through an online questionnaire distributed to 30 students who had experience using AI grammar checkers. The questionnaire was created using Google Forms to ensure easy access and wide reach. The link to the form was shared through messaging platforms and social media, allowing participants to respond at their convenience.

Before filling out the questionnaire, participants were informed about the purpose of the study and were assured that their responses would remain confidential and used only for academic purposes. Participation was entirely voluntary, and respondents could choose to stop at any time without any consequences.

The questionnaire included both closed-ended and Likert-scale questions and was designed to take approximately 5–10 minutes to complete. Only participants who confirmed that they had used AI grammar checkers (such as Grammarly, QuillBot, or ChatGPT) were allowed to proceed with the full set of questions. Those who answered “No” to the initial filter question were not included in the analysis.

E. Data Analysis

The data collected from the questionnaire were analyzed using the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistical methods were applied to examine the responses related to the use and perceptions of AI grammar checkers among students.

For Section A of the questionnaire, which included multiple-choice and closed-ended questions, the data were analyzed using frequency distributions and percentage calculations. This analysis described how often participants used AI grammar checkers, which tools they used, and the main purposes and contexts of their usage.

For Section B, which consisted of 5-point Likert-scale items, the responses were analyzed by calculating the mean scores and standard deviations for each item. The mean scores were used to identify general tendencies in learners' perceptions, while the standard deviations showed how varied the responses were among participants. A lower standard deviation indicated more agreement in perceptions, while a higher one reflected greater variability.

All results were summarized and presented in tables to support clarity and ease of interpretation. These descriptive analyses provided a comprehensive overview of how students engaged with AI grammar tools and how they perceived their usefulness in improving grammar accuracy.

RESULTS

A. Results of the Questionnaire on the Use of AI Grammar Checkers in Grammar Learning

This section presents the results of the questionnaire regarding the use of AI grammar checkers in learning English grammar. Data were collected from 30 students through several multiple-choice and frequency-based questions. The items explored how often students used AI grammar tools, what types of tools they commonly used (such as Grammarly, QuillBot, or ChatGPT), and for what purposes and situations they applied them.

The results are presented in the form of frequency tables and percentages. Each response category is described narratively to give a clearer understanding of the students' usage patterns and preferences in using AI grammar checkers as part of their English grammar learning process.

Table. 1 How often do you use AI grammar checkers?

		Frequency			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Often	8	26.7	26.7	26.7
	Rarely	6	20.0	20.0	46.7
	Someti	7	23.3	23.3	70.0
	Very o	9	30.0	30.0	100.0
Total		30	100.0	100.0	

The results indicate that the majority of students in this study regularly use AI grammar checkers in their English grammar learning. As shown in Table 1, 30% (n = 9) of the respondents reported using AI grammar checkers very often, while 26.7% (n = 8) stated that they use them often. Together, these two categories account for more than half of the participants (56.7%), suggesting that frequent use of AI grammar tools is common among students.

Meanwhile, 23.3% (n = 7) of the participants reported using AI grammar checkers sometimes, and 20% (n = 6) indicated that they rarely use such tools. Notably, no participants selected "never," which implies that all respondents have at least some experience using AI grammar checkers.

These findings suggest that AI grammar tools have become an integral part of many learners' writing routines, with a strong tendency toward regular usage. The high frequency of use reflects the perceived usefulness and accessibility of these tools in supporting grammar learning outside of traditional classroom instruction.

Table 2. Which of the following tools have you used?

		Tools Used			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ChatGPT	8	26.7	26.7	26.7
	Grammar	11	36.7	36.7	63.3
	QuillBo	11	36.7	36.7	100.0
Total		30	100.0	100.0	

Table 2 presents the tools most frequently used by participants when utilizing AI grammar checkers. Among the 30 respondents, 26.7% reported using ChatGPT, while both Grammarly and QuillBot were used by 36.7% of the participants each. These results indicate that Grammarly and QuillBot are the most popular AI tools among the respondents, possibly due to their accessibility and user-friendly features. In contrast, ChatGPT, although still used by a significant number of participants, was slightly less favored. The relatively even distribution suggests that students tend to explore various AI tools to support their grammar learning process.

Table 3. What is the main purpose for using AI grammar checkers?

		Purpose			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Academic writing	9	30.0	30.0	30.0
	Homework/assignments	14	46.7	46.7	76.7
	Personal practice	4	13.3	13.3	90.0
	Professional communication (e.g., email, documents)	3	10.0	10.0	100.0
Total		30	100.0	100.0	

The most common reason for using AI grammar checkers was to complete homework or assignments, reported by 46.7% of the participants. Academic writing followed as the second most frequent purpose, chosen by 30% of users. Some participants (13.3%) used these tools for personal practice to improve their grammar independently, while a smaller group (10%) applied them in professional communication, such as writing emails or formal documents. These results indicate

that the main motivation for using AI grammar tools is to support academic tasks, especially in fulfilling school-related responsibilities.

Table 4. When do you usually use AI grammar tools?

		When			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	After writing	5	16.7	16.7	16.7
	Before submitting assignments	7	23.3	23.3	40.0
	Randomly or without a fixed pattern	5	16.7	16.7	56.7
	While writing	13	43.3	43.3	100.0
	Total	30	100.0	100.0	

Most participants (43.3%) use AI grammar tools while writing, suggesting that these tools are commonly used as real-time assistance during the writing process. Meanwhile, 23.3% use them before submitting assignments, likely to ensure accuracy. A smaller portion (16.7%) use AI tools after writing, and another 16.7% use them randomly or without a fixed pattern. These results indicate that AI grammar tools are most often integrated during writing rather than solely for final checking.

Table 5. How did you learn about AI grammar checkers?

		Source			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	From a teacher/lecturer	6	20.0	20.0	20.0
	From friends/classmates	19	63.3	63.3	83.3
	Through social media or	5	16.7	16.7	100.0
Total		30	100.0	100.0	

The majority of participants (63.3%) learned about AI grammar checkers from friends or classmates, highlighting the strong role of peer influence in spreading awareness of these tools. Another 20% found out through their teachers or lecturers, showing that educators also contribute to promoting such tools. Meanwhile, 16.7% became aware of AI grammar checkers through social media or other online platforms. This indicates that informal networks play a larger role than formal

instruction in introducing students to AI-based writing aids.

Table. 6 How long have you been using AI grammar checkers?

		How Long			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3-6 months	11	36.7	36.7	36.7
	6 months-1 year	10	33.3	33.3	70.0
	Less than 3 months	7	23.3	23.3	93.3
	More than 1 year	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Most participants have been using AI grammar checkers for a relatively short period. A significant portion (36.7%) have used them for 3–6 months, followed closely by 33.3% who have been using them for 6 months to 1 year. Meanwhile, 23.3% of respondents have only used these tools for less than 3 months, suggesting many users are still relatively new. Only a small number (6.7%) have experience using AI grammar checkers for more than a year, indicating that these tools are still gaining traction among users.

B. Results of the Questionnaire on Learners' Perceptions Toward AI Grammar Checkers in Grammar Learning

This section presents the results related to students' perceptions of using AI grammar checkers in learning English grammar. The data were collected using a five-point Likert scale ranging from 1 (Strongly agree) to 5 (Strongly disagree). The statements aimed to measure students' attitudes toward the usefulness, reliability, and impact of AI tools on their grammar learning.

The results are presented using descriptive statistics, including frequencies, percentages, mean scores, and standard deviations for each item. The frequencies and percentages show the distribution of responses across the scale, while the mean and standard deviation provide insight into the general

tendency and variation in learners' perceptions. These statistical results offer a clearer understanding of how students view the role and effectiveness of AI grammar checkers in supporting their grammar development.

Table. 7 AI grammar checkers help me identify my grammar mistakes.

		Q1			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	18	60.0	60.0	60.0
	Agree	12	40.0	40.0	100.0
	Total	30	100.0	100.0	

For the statement “AI grammar checkers help me identify my grammar mistakes”, all students gave a positive response. About 60% of them (18 students) strongly agreed, and the other 40% (12 students) agreed. This means that every student felt that AI grammar tools are helpful in finding their grammar mistakes. It shows that these tools are seen as useful in supporting their writing and learning process.

Table 8. I understand the corrections given by AI grammar tools

		Q2			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	16.7	16.7	16.7
	Agree	15	50.0	50.0	66.7
	Neutral	9	30.0	30.0	96.7
	Disagree	1	3.3	3.3	100.0
Total		30	100.0	100.0	

For this statement, most students showed a positive response. Half of them (50% or 15 students) agreed, and 16.7% (5 students) strongly agreed. This suggests that many students feel they can understand the corrections provided by AI grammar checkers. However, 30% (9 students) chose neutral, and one student (3.3%) disagreed. These results show that while most learners understand the corrections, some still feel unsure or confused about them.

Table 9. AI grammar checkers improve the quality of my writing

		Q3			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	3	10.0	10.0	10.0
	Agree	20	66.7	66.7	76.7
	Neutral	2	6.7	6.7	83.3
	Disagree	5	16.7	16.7	100.0
	Total	30	100.0	100.0	

For this item, the majority of students showed agreement. About 66.7% (20 students) agreed, while 10% (3 students) strongly agreed. This shows that many learners believe AI grammar checkers help improve their writing quality. However, 6.7% (2 students) gave a neutral response, and 16.7% (5 students) disagreed. Although most students see AI grammar tools as helpful, a few are still unsure or do not feel any improvement in their writing.

Table 10. Using AI tools makes grammar learning more enjoyable.

		Q4			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	1	3.3	3.3	3.3
	Agree	10	33.3	33.3	36.7
	Neutral	5	16.7	16.7	53.3
	Disagree	13	43.3	43.3	96.7
	Strongly Disagree	1	3.3	3.3	100.0
Total	30	100.0	100.0		

For this statement, students gave mixed responses. About 33.3% (10 students) agreed and 3.3% (1 student) strongly agreed that using AI tools made grammar learning more enjoyable. However, 16.7% (5 students) were neutral, and a larger portion, 43.3% (13 students), disagreed. Another 3.3% (1 student) strongly disagreed. This shows that while some students enjoy using AI grammar tools, many do not find them very fun or engaging for grammar learning. It suggests that enjoyment may depend on how the tools are used or the students' personal preferences.

Table 11. I feel more confident in grammar after using AI grammar checkers.

		Q5			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	16.7	16.7	16.7
	Agree	11	36.7	36.7	53.3
	Neutral	4	13.3	13.3	66.7
	Disagree	8	26.7	26.7	93.3
	Strongly Disagree	2	6.7	6.7	100.0
Total	30	100.0	100.0		

Student responses to this statement were quite varied. A total of 36.7% (11 students) agreed and 16.7% (5 students) strongly agreed that using AI grammar checkers made them feel more confident in their grammar. Meanwhile, 13.3% (4 students) were neutral, indicating uncertainty. On the other hand, 26.7% (8 students) disagreed and 6.7% (2 students) strongly disagreed. These results show that although many students feel more confident after using these tools, some still have doubts about their impact on their grammar confidence.

Table 12. AI grammar feedback helps me learn from my mistakes.

		Q6			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	16.7	16.7	16.7
	Agree	21	70.0	70.0	86.7
	Neutral	3	10.0	10.0	96.7
	Disagree	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

Most students gave a positive response to this statement. About 70% (21 students) agreed, while 16.7% (5 students) strongly agreed that feedback from AI grammar tools helps them learn from their mistakes. Meanwhile, 10% (3 students) chose neutral, and only 3.3% (1 student) disagreed. These results suggest that most students find AI grammar feedback useful for improving their understanding and avoiding repeated errors in the future.

Table 13. I prefer using AI tools over asking someone else for grammar correction.

Q7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	3	10.0	10.0	10.0
	Agree	1	3.3	3.3	13.3
	Neutral	3	10.0	10.0	23.3
	Disagree	12	40.0	40.0	63.3
	Strongly Disagree	11	36.7	36.7	100.0
	Total	30	100.0	100.0	

Student opinions were mixed, but more leaned toward disagreement. A total of 40% (12 students) disagreed and 36.7% (11 students) strongly disagreed, suggesting that many students still prefer getting help from others rather than relying only on AI tools. Meanwhile, 10% (3 students) strongly agreed, 3.3% (1 student) agreed, and another 10% (3 students) chose neutral. This indicates that while a few students are comfortable depending on AI tools, many still value human feedback more for grammar correction.

Table 14. Sometimes I do not fully understand why the AI suggests certain corrections.

Q8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	16.7	16.7	16.7
	Agree	13	43.3	43.3	60.0
	Neutral	5	16.7	16.7	76.7
	Disagree	7	23.3	23.3	100.0
		Total	30	100.0	100.0

Student responses showed that many sometimes struggle to understand AI grammar suggestions. About 43.3% (13 students) agreed with the statement, and 16.7% (5 students) strongly agreed. This means around 60% of the participants have faced confusion when using AI tools. Meanwhile, 16.7% (5 students) responded neutrally, and 23.3% (7 students) disagreed, showing they usually understand the corrections. These results suggest that while AI tools are helpful, not all students fully grasp the reasons behind the suggested corrections, which could affect how effectively they learn from the feedback.

Table 15. I feel that I am becoming too dependent on AI grammar tools.

Q9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	13	43.3	43.3	43.3
	Agree	12	40.0	40.0	83.3
	Neutral	1	3.3	3.3	86.7
	Disagree	2	6.7	6.7	93.3
	Strongly Disagree	2	6.7	6.7	100.0
		Total	30	100.0	100.0

The responses to this statement indicate that many students are starting to feel a strong reliance on AI grammar tools. A large majority, 43.3% (13 students) strongly agreed and 40% (12 students) agreed, admitted to feeling dependent on these tools. This suggests that while AI tools are helpful, they might be encouraging overreliance. Meanwhile, only 3.3% (1 student) remained neutral, and a small portion disagreed (6.7% or 2 students) or strongly disagreed (6.7% or 2 students). These results show that although most students benefit from AI support, some may need to be cautious not to depend on it too much, especially in developing their own grammar skills independently.

Table 16. I am concerned about the accuracy of AI grammar suggestions.

Q10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	4	13.3	13.3	13.3
	Agree	13	43.3	43.3	56.7
	Neutral	4	13.3	13.3	70.0
	Disagree	8	26.7	26.7	96.7
	Strongly Disagree	1	3.3	3.3	100.0
		Total	30	100.0	100.0

The responses to this statement show mixed feelings among students. About 43.3% (13 students) agreed and 13.3% (4 students) strongly agreed, meaning that more than half of the participants expressed concern about the accuracy of AI grammar suggestions. Meanwhile, 13.3% (4 students) gave a neutral response, showing some uncertainty. On the other hand, 26.7% (8 students) disagreed, and 3.3% (1 student) strongly disagreed,

indicating that some students trust the AI tools. Overall, the data suggest that while many students find AI grammar tools helpful, they still have concerns about whether the corrections given are always accurate or reliable.

Table 17. I believe AI grammar tools can support grammar learning, but not replace teachers.

		Q11			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	9	30.0	30.0	30.0
	Agree	12	40.0	40.0	70.0
	Neutral	6	20.0	20.0	90.0
	Disagree	3	10.0	10.0	100.0
	Total	30	100.0	100.0	

The responses to this statement were mostly positive. A total of 40% (12 students) agreed and 30% (9 students) strongly agreed, suggesting that most students see AI grammar tools as helpful in learning but not as a replacement for teachers. Meanwhile, 20% (6 students) gave a neutral response, showing that some are still unsure. Only 10% (3 students) disagreed. These findings indicate that while students appreciate the support that AI tools provide, they still value the role of teachers in their grammar learning process.

Table 18. Overall, I find AI grammar checkers helpful for improving my English grammar.

		Q12			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	9	30.0	30.0	30.0
	Agree	17	56.7	56.7	86.7
	Disagree	4	13.3	13.3	100.0
	Total	30	100.0	100.0	

The responses to this statement were generally positive. A total of 56.7% (17 students) agreed, and 30% (9 students) strongly agreed that AI grammar checkers help them improve their English grammar. This shows that most students see the tools as useful in supporting their grammar learning. Meanwhile, only 13.3% (4 students) disagreed, indicating that just a few students did

not find the tools helpful. These results suggest that AI grammar checkers are widely accepted and considered effective by most learners.

C. Descriptive Statistics on Learners' Perceptions toward AI Grammar Checkers in Grammar Learning

Learners responded to twelve statements related to their experiences and opinions on using AI grammar checkers in grammar learning. Each item was rated using a five-point Likert scale, where 1 indicated Strongly Agree and 5 indicated Strongly Disagree. To identify general response tendencies and variation, the data were analyzed using mean and standard deviation.

In this scale, lower mean scores represent stronger agreement with the statement, while higher mean scores suggest disagreement. The standard deviation reflects the consistency of responses, a lower SD indicates more agreement among participants, while a higher SD suggests more varied opinions. The results are presented in the following table.

Descriptive Statistics			
	N	Mean	Std. Deviation
Q1	30	1.40	.498
Q2	30	2.20	.761
Q3	30	2.30	.877
Q4	30	3.10	1.029
Q5	30	2.70	1.236
Q6	30	2.00	.643
Q7	30	3.90	1.242
Q8	30	2.47	1.042
Q9	30	1.93	1.172
Q10	30	2.63	1.129
Q11	30	2.10	.960
Q12	30	1.97	.928
Valid N (listwise)	30		

results in Table 19, learners' perceptions of AI grammar checkers in grammar learning were analyzed through the mean and standard deviation (SD) of each item (Q1–Q12).

Q1: AI grammar checkers help me identify my grammar mistakes. The mean was 1.40, indicating strong agreement. With a very low SD

(.498), responses were highly consistent, showing that nearly all students agreed AI helps them recognize grammar mistakes effectively.

Q2: I understand the corrections given by AI grammar tools. With a mean of 2.20, students generally agreed, though not strongly. The SD (.761) suggests that while most students could follow AI corrections, a few may have had difficulty understanding them.

Q3: AI grammar checkers improve the quality of my writing. The mean score of 2.30 reflects agreement, though the SD of .877 shows a bit more variation. Most students felt their writing quality improved, but not all shared this confidence.

Q4: Using AI tools makes grammar learning more enjoyable. With a mean of 3.10, students were neutral to slightly disagreeing. The relatively high SD (1.029) reveals that learners had mixed feelings, suggesting that AI tools may not make grammar learning enjoyable for everyone.

Q5: I feel more confident in grammar after using AI grammar checkers. This item had a mean of 2.70, showing a neutral tendency. The higher SD (1.236) indicates that responses were spread out, some students felt more confident, while others remained unsure or disagreed.

Q6: AI grammar feedback helps me learn from my mistakes. A mean of 2.00 signals general agreement, and the low SD (.643) reflects consistent perceptions. Students mostly believe AI feedback is helpful for learning through correction.

Q7: I prefer using AI tools over asking someone else for grammar correction. With a high mean of 3.90, students disagreed with this statement, suggesting a preference for human input over AI tools. The high SD (1.242) shows varied responses, but the general trend leaned away from depending solely on AI.

Q8: Sometimes I do not fully understand why the AI suggests certain corrections. The mean was 2.47, indicating mild agreement. The SD of 1.042 suggests that some students are confused by AI feedback, though not all experience this issue.

Q9: I feel that I am becoming too dependent on AI grammar tools. This item had a mean of 1.93, suggesting that students generally agreed with feeling dependent. The SD of 1.172 shows a range of responses, with some recognizing reliance and others not.

Q10: I am concerned about the accuracy of AI grammar suggestions. With a mean of 2.63, students showed slight agreement with concerns about AI accuracy. The SD (1.129) suggests diverse opinions, some trusted the AI, while others were skeptical.

Q11: I believe AI grammar tools can support grammar learning, but not replace teachers. The mean of 2.10 reflects agreement, and a moderately low SD (.960) shows that most students consistently felt AI is a helpful supplement but not a replacement for teachers.

Q12: Overall, I find AI grammar checkers helpful for improving my English grammar. The mean was 1.97, indicating strong agreement. A relatively low SD (.928) reveals a clear and consistent belief that AI tools are useful for grammar improvement.

In this section, the lowest mean was on Q1 (1.40), meaning students strongly agree that AI grammar checkers help them identify mistakes. The highest mean appeared on Q7 (3.90), showing that most students still prefer asking someone else rather than using AI for corrections.

Standard deviation values vary, with lowest SDs on Q1 and Q6, indicating strong agreement and little variation, and highest SDs on

Q5 and Q7, showing that some items triggered more disagreement or mixed responses.

DISCUSSION

The findings of this study provide meaningful insights into how students from Universitas Cokroaminoto Palopo use and perceive AI grammar checkers in their English grammar learning. The results reflect not only high engagement with these tools but also varied perspectives on their effectiveness, limitations, and role within the learning process.

In terms of usage, more than half of the participants reported that they used AI grammar checkers often or very often. Among the tools mentioned, Grammarly and QuillBot emerged as the most frequently used, while ChatGPT also gained popularity as a grammar resource, particularly due to its interactive nature. Most students reported using these tools during the writing process, rather than before or after, which indicates that AI is now integrated into their real-time learning habits. The most common purposes for using these tools included completing homework, editing academic assignments, and improving writing quality. Interestingly, a large portion of students discovered AI grammar checkers through friends, showing that peer influence plays a strong role in spreading the use of digital learning tools. This aligns with [17], who suggested that social networks can promote digital tool adoption among language learners.

Regarding students' perceptions, most of them agreed that AI grammar tools are useful in helping them identify their mistakes (Q1, $M = 1.40$), improve their understanding through corrections (Q6, $M = 2.00$), and enhance their overall grammar performance (Q12, $M = 1.97$).

These positive results support previous research by [18] and [19], who found that instant AI feedback encourages reflection and self-correction. Moreover, the ability to use these tools independently, without waiting for teacher feedback, appears to empower students and build their confidence in grammar usage, as also noted by [20].

However, the study also identified several challenges. Many students admitted to feeling dependent on AI grammar checkers (Q9, $M = 1.93$), suggesting that although the tools are helpful, they might be overused to the point where students become less motivated to learn grammar independently. Concerns about the accuracy of AI suggestions were also expressed (Q10, $M = 2.63$). Although most students claimed to understand the corrections (Q2, $M = 2.20$), some reported confusion (Q8, $M = 2.47$), especially when the AI's feedback lacked explanation or failed to consider sentence context. This reflects the limitations discussed by [21] and [22], who found that AI systems, while fast and consistent, can sometimes miss nuanced grammatical issues and provide unclear suggestions.

One of the more notable findings is that students do not prefer AI tools over human correction (Q7, $M = 3.90$). Despite their frequent use of AI, participants still expressed a clear preference for feedback from teachers or peers. This highlights the continuing importance of human interaction in grammar learning. While AI grammar checkers offer immediate corrections, they cannot replace the guidance, explanations, and encouragement that human teachers provide. These results confirm previous research by [23], who reported that the most effective grammar

improvement occurred when AI tools were used alongside teacher support, not as a replacement.

In addition, students' enjoyment in using AI grammar tools for learning grammar received mixed responses (Q4, M = 3.10). This shows that although AI may improve performance, it does not always make the learning process more enjoyable or motivating for every student. Individual learning preferences, comfort with technology, and the design of the tools themselves may affect how much enjoyment students derive from using AI in their studies.

The findings reveal that AI grammar checkers are perceived as valuable learning tools by most students. They help reduce grammatical errors, improve writing quality, and encourage independent learning. However, students are also aware of their limitations and continue to value the role of human instruction. These results suggest that AI tools are most effective when used as a complement to classroom instruction, not a substitute. Teachers and institutions may benefit from providing students with guidance on how to use AI tools critically and reflectively, so they can take advantage of the benefits while also developing strong grammar skills on their own.

CONCLUSION

This study aimed to explore how students use AI grammar checkers and what they think about these tools in supporting their English grammar learning. Based on the findings from 30 participants, it can be concluded that AI grammar checkers have become a useful part of many students' writing and grammar learning process.

In terms of usage, students reported frequent use of tools such as Grammarly, QuillBot, and ChatGPT, especially when completing

academic assignments and personal writing tasks. These tools were often used during the writing process to check grammar in real time. Most students learned about these tools from peers, indicating that social influence plays a role in promoting digital learning strategies.

Regarding students' perceptions, the majority agreed that AI grammar checkers are helpful in identifying mistakes, providing feedback, and improving their grammar performance. However, several students also raised concerns, such as dependence on the tools, occasional confusion with suggestions, and uncertainty about the accuracy of AI feedback. While students appreciated the convenience and support offered by AI, they did not view these tools as replacements for human teachers. Instead, they preferred a balanced approach where AI grammar checkers complement traditional instruction.

Overall, the study concludes that AI grammar tools are valuable for grammar learning, but students need to use them wisely and critically. With proper guidance, these tools can enhance grammar understanding, support self-correction, and build learner independence, especially when combined with teacher support and reflection.

Recommendations

Future research may explore the use of AI grammar checkers with a larger and more diverse group of students to gain broader insights into their impact on grammar learning. Studies could also examine the long-term effects of using AI tools on students' grammar accuracy and writing performance. Additionally, researchers are encouraged to combine quantitative and qualitative methods, such as interviews or classroom observations, to better understand how students

interact with AI feedback and how it influences their learning behavior over time.

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