

INFLUENCE OF AI-ASSISTED MESSAGING ON STUDENTS' LANGUAGE SIMPLIFICATION AND DEPENDENCE

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Abstract

This research analyses the effects of communication applications based on artificial intelligence on students' writing behaviors, the simplification of the language, and reliance on technological means of communication. Predictive text tools, grammar assistants, chatbots, and other similar applications based on artificial intelligence are actively employed in both academic and social communication due to their high efficiency. The research follows a quantitative research paradigm. Data were gathered via an online survey completed by 46 participants using convenience sampling. The results of the research show that AI applications tend to facilitate the use of a simple vocabulary, short sentences, and concise language. Students like AI for its time-saving and grammar-improving features, but overuse could reduce confidence in independent writing and creativity. However, most respondents still check AI-generated content before using it, indicating a balanced level of dependency. The study concludes that AI tools should be treated as aids, not replacements, for independent writing and critical thinking.

Keywords: Artificial Intelligence, Communication, Language Simplification, Writing Skills, AI Dependency.

1. Introduction

AI is integrated into many areas of modern communication, as it can significantly affect students in their academic work and social lives, since they use communication tools digitally most of the time. AI-powered communication tools like predictive texts, spell-checkers, chatbots and AI-supported messaging applications have been developed to make communication faster, more efficient, and of better quality of written output, helping users to compose messages, correct grammatical mistakes, and streamline their communication with each other. As such, AI is part of students' day-to-day messaging and writing. The extensive application of AI-supported messaging has had given a substantial impact on the way students interact in communication environments. Since it can shorten and simplify their texts and ease the process, it is argued that students might also adopt simpler vocabulary, syntax, and writing

style for communication with AI. Although it can benefit communication in being fast and convenient, there are researchers and teachers who believe that the students' ability for language development, creativity and independent writing skills might be compromised in the long run. On the other hand, there are certain aspects of AI tools that have greatly attracted students to make constant use of these tools, namely an increase in productivity, better accuracy of grammar and spelling, ability to responding with full text. As such, continuous use of AI-supported communication will make students less confident in writing and dependent on such automated systems.

This study explores the effects of AI-supported messaging on students' tendency towards language simplification and their dependence on AI-supported communication tools, so as to understand how it affects students' communication, writing habits, and even their judgment of their own writing ability by evaluating its pros and cons.

1.1 Research Questions

This study addresses the following research questions:

1. How do AI-based communication tools influence students' language simplification habits in digital communication?
2. To what extent do students rely on AI-assisted messaging tools for writing and communication purposes?
3. What are students' perceptions regarding the benefits and drawbacks of AI-assisted communication tools on their writing skills and communication quality?
4. How does the frequent use of AI-assisted messaging affect students' confidence in independent writing and communication?

2. Literature Review

The rapid advancement of Artificial Intelligence (AI) has significantly transformed communication practices and academic writing in higher education (Hussain et al., 2025; Khan et al., 2025). AI-based tools such as ChatGPT, Grammarly, Duolingo, and DeepL are increasingly utilized to provide instant feedback, personalized learning experiences, and real-time linguistic corrections (Huang, 2025; Sadia et al., 2025; Waris et al., 2025). These technologies simulate authentic communication scenarios and support learners in improving their language proficiency; however, they also introduce notable changes in how students process, construct, and express language (Shahid et al., 2024; Shah & Altaf, 2025). One of the most prominent impacts of AI tools is their role in shaping language simplification habits. Research indicates that AI systems exert a regulatory influence on language, encouraging linguistic standardization and uniformity (Huang, 2025; Zafar & Mansoor, 2026). At the lexical level, these tools promote the use of high-frequency, core academic vocabulary while reducing reliance on specialized or context-dependent terminology (Huang, 2025; Hussain et al., 2025). Syntactically, AI-assisted writing often favors formulaic sentence structures and passive constructions, leading to more predictable and standardized discourse patterns (Huang, 2025; Zafar & Mansoor, 2026). Additionally, simplification tools designed to enhance readability may discourage students from engaging with complex texts and challenging vocabulary, thereby fostering a tendency to avoid cognitive effort. In some cases, excessive reliance on AI results in the development of mechanical or "robotic" communication styles that lack natural variation and creativity (Shah & Altaf, 2025; Waris et al., 2025; Shahid et al., 2024). Despite these concerns, AI tools offer significant cognitive and linguistic benefits, particularly in reducing reliance on learners' first language (L1). Studies suggest that AI-assisted scaffolding helps students move away from word-for-word mental translation and instead encourages direct thinking in the target language (Sutrah et al., 2025; Andleeb et al., 2025). Through repeated interaction with AI systems, learners develop what is described as "linguistic muscle memory," enabling more fluent and autonomous communication (Andleeb et al., 2025; Sadia et al., 2025). However, this shift is accompanied by adaptive communication strategies,

where advanced users intentionally simplify their language to align with AI processing capabilities, often avoiding idiomatic expressions and culturally nuanced language (Huang, 2025).

At the same time, the literature raises concerns about growing student dependence on AI technologies. While these tools enhance grammatical accuracy and efficiency, they may also contribute to the erosion of critical thinking skills when used as shortcuts rather than learning aids (Hussain et al., 2025; Waris et al., 2025). Evidence suggests that excessive reliance on AI can negatively affect discourse cohesion and the logical organization of ideas, as students become less engaged in the process of constructing arguments independently (Shah & Altaf, 2025). Furthermore, psycholinguistic studies indicate that increased familiarity with AI tools often leads to greater dependence, potentially weakening students' independent language processing abilities over time (Andleeb et al., 2025). Concerns regarding academic integrity are also prominent, as the ease of generating human-like text raises issues related to authorship, originality, and the phenomenon commonly referred to as "AI-giarism" (Zafar & Mansoor, 2026; Khan et al., 2025).

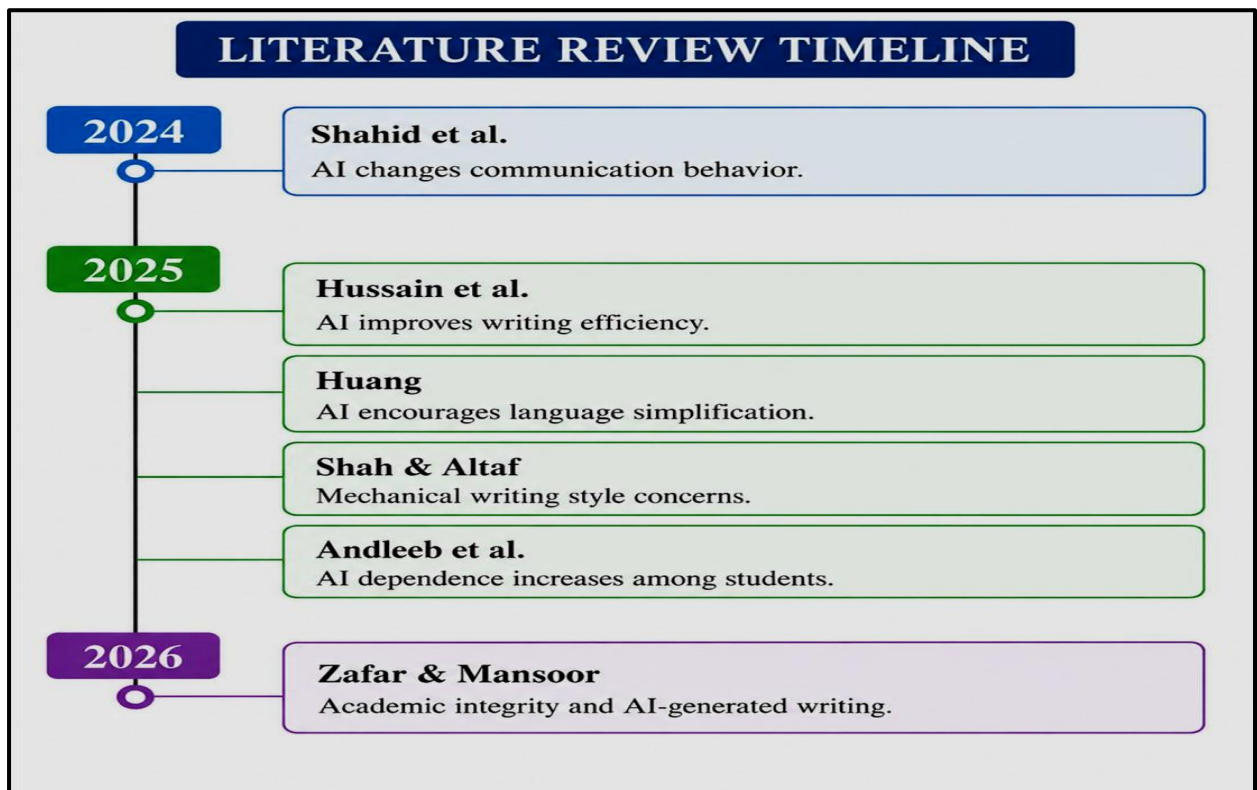


Figure 1: Chronological Development of AI communication research

In conclusion, existing research highlights the dual role of AI-based communication tools as both facilitators and potential constraints in language learning. While they effectively reduce L1 interference and improve grammatical precision, they also encourage language simplification habits that may limit long-term academic independence (Sutrah et al., 2025; Sadia et al., 2025; Waris et al., 2025; Shah & Altaf, 2025). Consequently, scholars advocate for a balanced, blended approach in which AI tools are used for surface-level support, while human instruction remains essential for developing critical thinking, cultural awareness, and advanced discourse skills (Khan et al., 2025; Zafar & Mansoor, 2026).

Table 1: Summary of Literature Review

Authors	Focus Area	Main Findings	Research Gap
Hussain et al. (2025)	AI Communication	AI improves writing Efficiency	No focus on simplification habits
Huang (2025)	Language Simplification	AI Standardizes language use	Limited student-centered research
Shah & Altaf (2025)	Writing Behavior	AI Creates mechanical writing	No dependency analysis
Andleeb et al. (2025)	AI Dependence	Increased dependence over time	Lack of communication Framework
Zafar & Mansoor (2026)	Academic Integrity	AI – generated writing concerns	Limited focus on student behavior

2.1 Theoretical Framework

This study is based on the Technology Acceptance Model (TAM). TAM explains how people accept and use technology. Fred Davis developed the model in 1989. It suggests that a person's acceptance and continued use of technology depend on how useful they find it and how easy it is to use. In this study, students agree to use AI-assisted messaging tools like ChatGPT, Grammarly, smart reply systems, predictive text, and other forms of AI communication when they believe these tools will help them improve writing efficiency, speed up communication, and correct grammatical errors. Additionally, students find AI-assisted messaging tools easy to use when they have friendly interfaces, automatic suggestions, predictive responses, and other forms of instant writing help that don't require much effort from them. Students increasingly choose to use AI-assisted communication tools in both academic settings and other areas of their lives due to their positive views on these technologies. TAM also suggests that frequent use of AI-generated communication can change students' writing habits and communication behaviors, leading to language simplification.

In this study, language simplification means that students use shorter sentences, simpler words, reduce language complexity, adopt informal writing styles, and express themselves more concisely. There is a chance that frequent use of AI-generated communication may result in students being less engaged in critical independent writing and less involved in language construction that requires originality. Dependence on AI communication systems for generating responses, organizing ideas, checking grammar and spelling, and composing messages can lead to a reliance on AI communication. This dependence may affect students' writing confidence, creativity, originality, and their ability to engage in independent communication in academic and social settings. Therefore, the study explores the relationship between technology acceptance, frequent use of AI-assisted communication, language simplification, and reliance on AI communication systems among students.

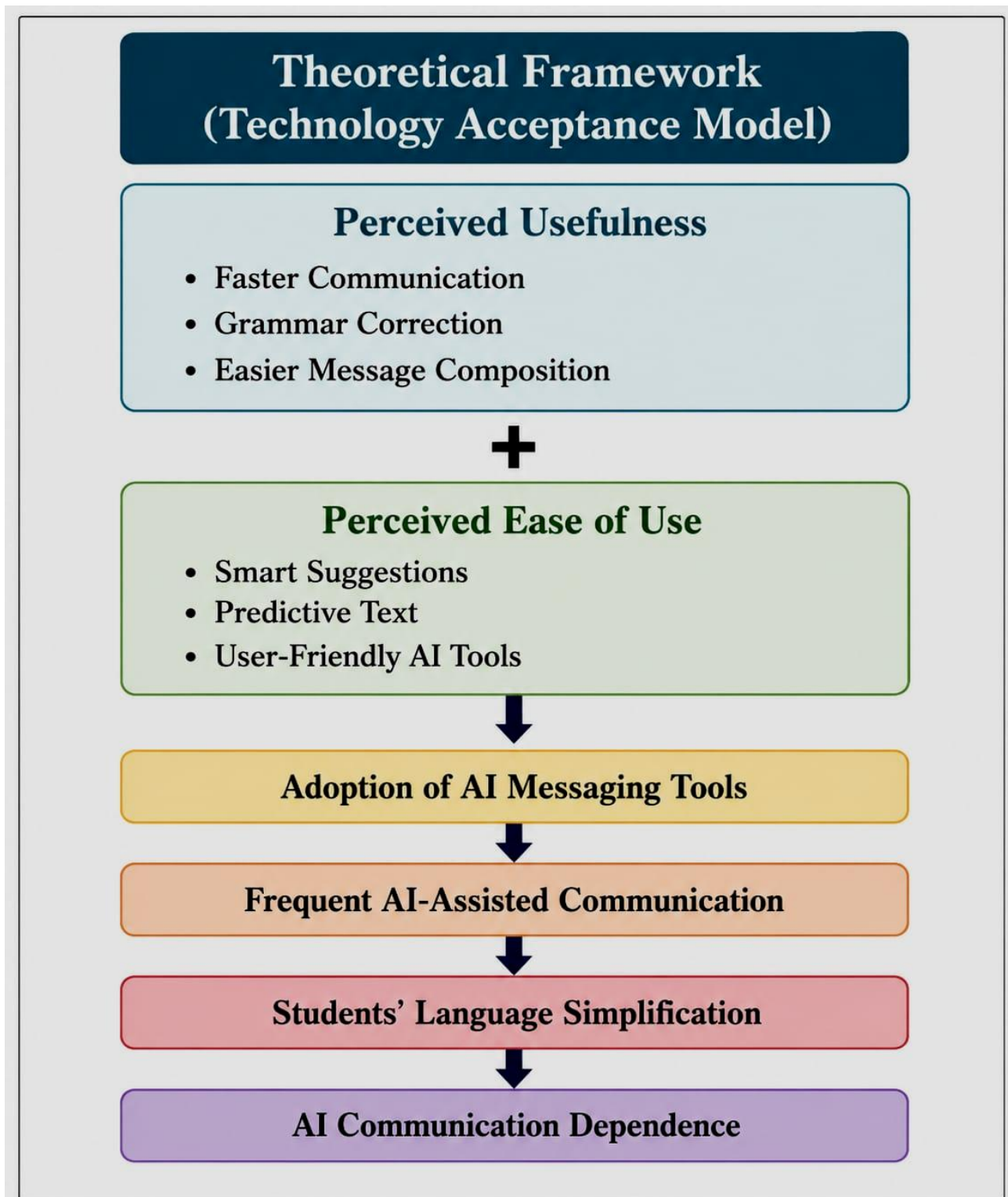


Figure 2: Theoretical framework based on technology acceptance theory

3. Research Methodology

3.1 Research Design

This study uses a quantitative research approach. It analyzes numerical data to explore the research questions. A quantitative method is suitable for measuring how often, to what extent, and in what ways students use AI tools and simplify language.

3.2 Participants and Sample

The study uses convenience sampling, which means participants are selected based on their availability, accessibility, and willingness to take part. The sample includes 46 student respondents from undergraduate, graduate, and postgraduate levels. The online questionnaire was shared through digital media channels, collecting responses from readily available participants. This approach was chosen for its cost-effectiveness, time efficiency, and ease of use.

3.3 Instruments

Researchers gathered primary data using a structured online questionnaire. The instrument included Likert-scale items that targeted three areas: (1) AI interpersonal communication usage, (2) language simplification habits, and (3) AI dependency. The questionnaire was conducted through an internet survey platform to ensure broad and easy access.

3.4 Data Collection Procedure

The procedure for data collection followed these steps. First, we designed and reviewed the questionnaire for clarity and relevance to the research questions. Second, we shared the survey link through digital media platforms with potential respondents. Third, we collected responses over a set period. Fourth, completed responses were exported and prepared for analysis. We ensured voluntary participation throughout, maintaining the confidentiality and anonymity of respondents.

4. Data Analysis

Researches coded, categorized, and analyzed the collected data using SPSS Statistics. Descriptive statistical methods, including frequencies, percentages, means, and standard deviations, helped summarize respondent characteristics and survey responses. We presented results in tables and charts for easier interpretation. We also considered inferential analysis, such as t-tests and regression, to examine relationships between variables. Additionally, we used thematic interpretation of response distributions to identify patterns across the three areas. This section shares the survey results based on responses from 46 participants. The data are organized by the three areas measured: AI interpersonal communication, language simplification, and AI dependency.

4.1 Participants Demographics

Table 2: Gender Distribution

Category	Count	Percent (%)
Male	21	45.7
Female	25	54.3
Rather not say	0	0.0

Table 3: Age Group

Age Group	Count	Percent
18 22	29	63.1
23 27	16	34.8
28 or above	1	2.2

Table 4: Current level of education

Level of Education	Count	Percent
Undergraduate	32	69.6
Graduate	10	21.7
Post Graduate	4	8.7

Table 5: AI Communication Tool Usage

AI Tool Usage	Count	Percent
Frequently	26	56.5
Occasionally	11	23.9
Never	9	19.6

There are forty-six responses to the survey results. Data indicate that most participants use these technologies to enhance the quality of their messages and reduce time spent on the writing process. In particular, almost everyone uses these tools to correct grammar and to generate complete answers to academic and social needs. Whereas many respondents are comfortable with software rephrasing or simplifying their thoughts, there is greater reluctance to the total replacement of original writing with automated text. All in all, the charts indicate a strong trend toward using AI as a supportive instrument rather than a full replacement for personal expression.

Table 6. Survey statements

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequently Use AI Tool For Messaging.	*	13%	30.4%	47.8%	*
Use AI for multiple purposes (Social/Academic).	*	*	28.3%	50%	19.6%
Feel Comfortable Writing messages with AI.	*	10.9%	34.8%	39.1%	13%
Rely on AI for grammar and spelling.	*	6.5%	30.4%	52.2%	10.9%
Use AI to generate complete responses.	*	6.5%	30.4%	47.8%	13%
Use AI to rephrase or simplify messages.	*	13%	37%	39.1%	10.9%
AI tools save timewhen composing messages.	*	6.5%	28.3%	50%	15.2%
AI tools improve communication quality.	*	*	28.3%	43.5%	23.9%
Use AI suggestions without modification.	*	19.6%	34.8%	34.8%	8.7%
Prefer AI tools over writing manually.	6.5%	30.4%	37%	19.6%	6.5%

The survey results analyzed the impact of artificial intelligence on human communication. It focused in particular on the tendency for language simplification. The majority of the 46 participants say they deliberately use basic vocabulary and shorten their thoughts when interacting with AI or preparing prompts for AI. The data indicates these tools are fueling a move toward more concise, to-the-point communication, with more than half of respondents using technology to distil complex ideas. Although many users feel that their own writing style has become more elementary over time, there is still a split in opinion as to whether or not their use of academic or formal language has truly diminished. The overall charts show that humans

have a strong tendency to change their language habits to better suit the functional demands of digital assistants.

Table 7. Survey statements (b)

Survey Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I prefer using simple vocabulary when communicating with AI tools	0%	8.7%	19.6%	58.7%	13%
2. My sentences have become shorter due to AI assisted messages	~2.2%	13%	41.3%	34.8%	8.7%
3. I avoid complex words when using AI generated text	0%	10.9%	28.3%	52.2%	8.7%
4. I simplify my ideas before entering them into AI tools	~2.1%	10.9%	28.3%	47.8%	10.9%
5. AI tools encourage me to use concise and direct language	6.5%	~2.2%	32.6%	50%	8.7%
6. My use of formal or academic language has decreased	6.5%	26.1%	30.4%	28.3%	8.7%
7. My writing style has become more basic over time	0%	8.7%	37%	45.7%	8.7%
8. I depend on AI to simplify complex ideas	6.5%	~2.3%	30.4%	54.3%	6.5%

These seven data visualizations indicate how a group of 46 people feel about their reliance on artificial intelligence for written communication. Although many participants say that they feel dependent on AI to interact effectively and that they trust machine-generated text more than their own, most say they are capable of composing messages without digital assistance. The survey reveals a substantial lack of confidence in independent writing, with many confessing these technologies could be eroding their natural abilities. Yet, in spite of these concerns, most users do pay attention to review AI outputs prior to applying them, indicating a measured approach to utility and oversight. The charts overall indicate a complex psychological attachment to these tools.

Table 8. Survey statements (c)

Survey Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel dependent on AI tools for effective communication.	2.1%	17.4%	37%	37%	6.5%
2. It is difficult for me to write messages without AI assistance.	8.7%	43.5%	26.1%	17.4%	4.3%
3. I trust AI-generated responses more than my own writing.	6.5%	21.7%	32.6%	32.6%	6.5%
4. I feel less confident writing without AI tools.	6.5%	26.1%	41.3%	23.9%	2.2%

5. I double-check AI-generated messages before sending them.	2.2%	17.4%	26.1%	47.8%	6.5%
6. AI tools are reducing my personal writing skills.	0%	15.2%	39.1%	37%	8.7%
7. I would continue using AI tools even if not required.	6.5%	32.6%	32.6%	21.7%	6.5%

The survey results from 46 respondents show that AI communication tools are widely used in social contexts. Most participants like these tools because they improve communication save time and help with writing. 69.6% Of respondents use AI for many communication purposes. They also believe that AI improves communication quality (67.4%) and increases productivity (65.2%). Furthermore, 63.1% of participants use AI to correct grammar and spelling. 60.8% Use it to generate complete responses.

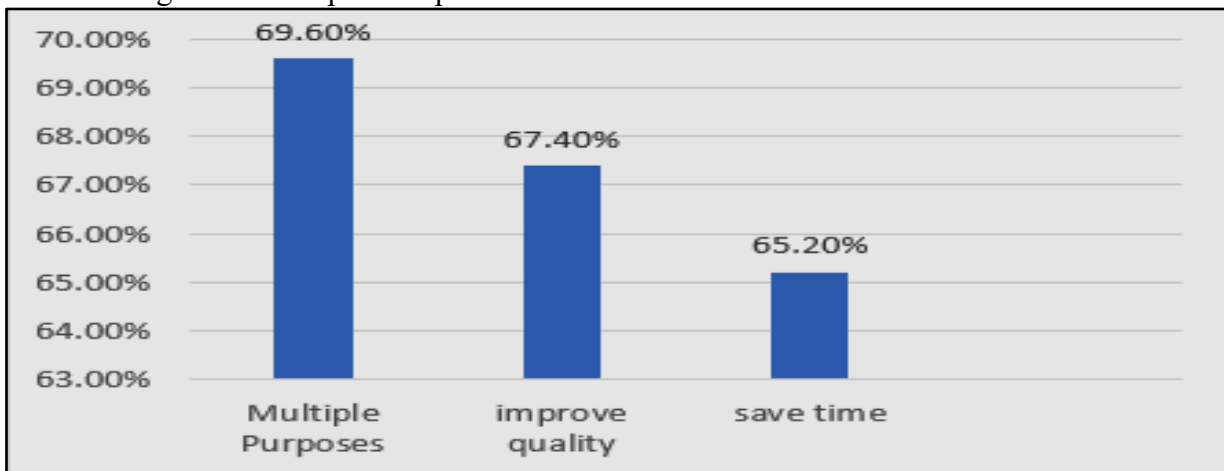


Figure 3: AI Utility and Productivity

The findings also show that people tend to use AI language. A majority of respondents (71.7%) prefer using simple vocabulary with AI tools. Also 58.7% think that AI encourages language simplification. In addition, 54.4% of participants reported that their writing style has become more basic over time due to AI usage. They also said that AI-assisted communication results in shorter sentences (43.5%). These findings suggest that AI tools influence users to communicate in ways.

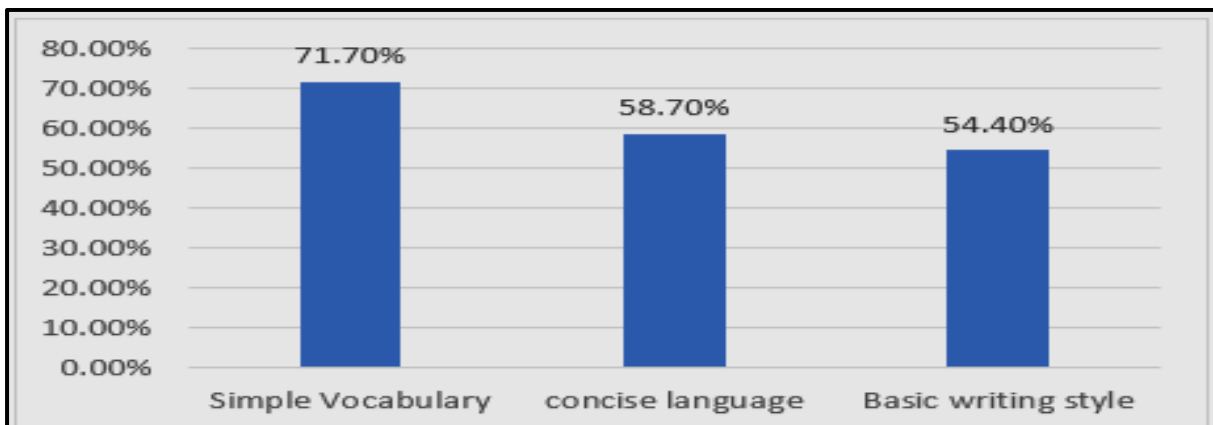


Figure 4: Language Simplification Effects

Regarding dependency on AI the results show that students generally use it in balance. More than half of the respondents (54.3%) reported that they double-check AI-generated messages before sending them. 26.1% Found it hard to write messages without AI assistance. Also 30.4% felt confident writing without these tools. Although 45.7% expressed concern that AI may be reducing their writing skills most respondents did not show complete dependence on AI systems.

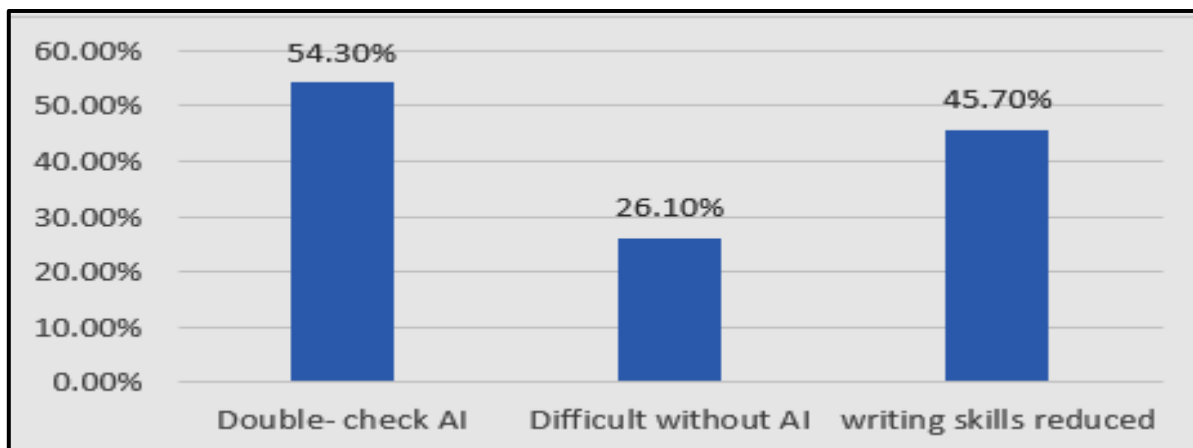


Figure 5:AI Dependency Indicators

Descriptive statistical analysis also supports these findings. High mean scores were recorded for statements related to the usefulness of AI tools, communication quality and time-saving benefits. Moderate mean scores were observed for grammar correction, response generation and simplification of ideas. Mean scores were found for statements related to dependence on AI. This indicates that most students still have confidence in their writing abilities. Overall, the findings suggest that AI communication tools provide multiple benefits. They also encourage language simplification and raise concerns, about long-term writing development.

5. Discussion

The findings of this study show that AI-assisted communication tools have become an important part of students' academic and social communication. Most respondents reported using AI tools for various communication purposes and saw them as helpful for improving communication quality and saving time. These findings back up earlier studies that suggest AI technologies boost productivity, provide language support, and help learners communicate effectively (Hussain et al., 2025; Sadia et al., 2025). A significant finding is the trend toward language simplification among students who frequently use AI-assisted communication tools. Most respondents said they prefer using simple words, clear expressions, and shorter sentences when interacting with AI systems. This is consistent with Huang (2025), who argued that AI technologies promote standard language use and the use of common vocabulary. Similarly, Shah and Altaf (2025) noted that AI-assisted writing often leads to predictable language patterns, which may gradually decrease the complexity of students' communication.

The study also shows that AI tools affect students' writing styles. More than half of the respondents agreed that their writing has become simpler over time due to regular interaction with AI systems. This indicates that while AI improves efficiency, it might also encourage the development of basic writing habits. Such findings support Waris et al. (2025), who pointed out that relying too much on AI-generated text can lead to mechanical communication styles and less creativity. Another important aspect of the study is students' reliance on AI-assisted communication. Although respondents often used AI tools for grammar checking, spelling help, and generating responses, most participants reported that they still review AI-generated content before using it. This shows that students do not completely depend on AI systems and

continue to use their judgment. This finding contrasts with worries that AI might entirely take over human writing efforts. It suggests that students generally use AI as a helpful tool rather than a replacement for communication.

However, concerns about the long-term impact of AI on writing skills are still apparent. Many respondents believed that AI tools might harm their personal writing skills and confidence in independent writing. This finding aligns with the views of Andleeb et al. (2025) and Waris et al. (2025), who warned that relying too much on AI might weaken critical thinking, creativity, and independent language use. If students increasingly depend on automated systems to write messages, they may become less involved in the thinking processes needed for effective writing and communication. Overall, the discussion highlights the mixed nature of AI-assisted communication tools. On one hand, they offer significant benefits by improving communication quality, accuracy, and efficiency. On the other hand, they promote language simplification and may create challenges for developing independent writing skills. Therefore, the findings support earlier researchers' recommendation that AI should be used carefully, serving as learning aid while maintaining students' creativity, critical thinking, and language skills.

6. Conclusion

This study looked at how AI-assisted messaging tools affect students' habits of simplifying language and their reliance on these tools. The findings show that AI tools have become a significant part of students' online communication. They provide clear benefits, such as improved writing efficiency, correct grammar, and better time management. However, frequent use of AI is linked to a trend towards simpler vocabulary, shorter sentences, and less complex language. Students have not fully relied on AI. Most still check and edit AI-generated content. Concerns about a decline in writing confidence and critical thinking skills are serious and need attention from educators and policymakers. For teachers, these results suggest a need to create writing tasks that clearly require students to write independently without AI help. Activities should also focus on helping students understand how AI affects their language use. For students, it's important to see AI as a helpful tool for drafting, not as a replacement for their own writing skills. For policymakers, institutions should develop guidelines for using AI tools in academic writing, establishing clear rules for responsible usage and academic honesty. Future research should use larger, randomly selected samples from different academic institutions to improve representativeness. Longitudinal studies would help researchers observe changes in writing quality and reliance on AI over time. Qualitative methods, like interviews or think-aloud protocols, would provide deeper insights into how students think while using AI for communication. Comparing studies from various cultural and linguistic backgrounds would also add valuable perspectives to this expanding area of research.

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