

Exploring the Impact of AI Tools on the Development of Writing Skills Among Students

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Abstract. *This article analyzes the impact of artificial intelligence (AI) tools on the development of students' writing skills in modern educational settings. The study focuses on key aspects such as grammar accuracy, lexical diversity, coherence, and critical thinking. A mixed-methods approach was applied, including surveys, text analysis, and a review of existing literature.*

The findings show that AI tools significantly improve writing performance by providing instant feedback, correcting errors, and offering vocabulary suggestions. They also help reduce learners' anxiety and support idea generation. However, excessive reliance on AI may negatively affect students' independence, creativity, and critical thinking abilities.

The study concludes that AI can be an effective support tool in writing development if used responsibly. A balanced approach is essential to ensure that AI enhances learning without replacing students' own cognitive efforts.

Key words: *artificial intelligence, writing skills, students, learning, digital technologies.*

Introduction

In the age of technology and information, it is no surprise that AI is getting popular and has become an integral part of academic students' life. Tools that check for grammar mistakes, give feedback automatically are being used excessively by students to improve the learning process. Among the many areas that are being affected by AI, writing has gained significant attention worldwide [1,2,3]. As it is among fundamental academic skills it is essential to analyze the ways these technologies have an impact on its development. AI-driven tools have numerous benefits for student writers. They assist by giving suggestions on areas of improvement like grammar, vocabulary, coherence and cohesion as well as clarity, making it easier for students to make progress in these areas [4,5]. But there are some qualities they may have adverse effect on such as creativity, independence and so on. Because of the rapid progress of AI in educational fields, examining its effects is of huge importance. This article explores the influence of AI-generated tools on the development of writing skills among students including benefits and possible challenges [6,7]. By examining recent studies and researches, it aims to help to understand the role of AI in writing in depth.

Materials and Methods

This study looks at how AI-driven tools influence students' writing performance in both negative and positive sides. For this research a mix of methods was used to analyze it. The main materials for this study were audio and video recordings taken from students of all ages. These recordings were transcribed into text to make it easier to study the use of AI-driven tools in different types of writing,

and the aim they are being used for. To gather more information, online questionnaires and surveys were given to language learners to understand their attitudes toward them, the participants of different age and language levels were questioned to get a variety of views. A review of existing research on the impacts of AI in written communication was also used to guide the study. The study also analyzed the impact by comparing student with different language backgrounds (different first language). The research used several methods. Firstly, a detailed analysis of usage of AI in general was done to find out what is it being used for. The study also looked at how AI-driven tools help to improve writing skills. Next, the research compared the use of AI in different ages and levels of language (intermediate, advanced) and monitored how these factors affected it.

The research was categorized into types based on writing skill components, different AI tools, benefits and challenges. Each type was analyzed to see whether AI had helped to improve writing or caused in decline. Finally, statistical analysis was used to find out people’s opinion on the matter.

Through these methods, the study provides a clearer understanding of the influence of AI in written communication and how it has both merits and demerits.

Result and Discussion

Firstly, it is important to know which writing skills are commonly affected by AI.

Table 1. Key Components of Writing Skills[8]

Writing skill components	Description
Grammar accuracy	Correct use of grammatical elements such as tenses, articles and so on
Lexical variety	Word choice and the usage of words in different contexts
Sentence structure	Logical flow or organization of sentences in paragraphs
Coherence and cohesion	Usage of linking words to create smooth transitions

This table presents the main components of writing skills, including grammar accuracy, lexical variety, sentence structure, and coherence, which are essential for effective written communication.

Next, it is significant to know what are some of the most used AI-generated tools in writing-related sphere.

Table 2. Types and Functions of AI Tools in Writing[9]

Types of AI tools	Main functions	Example use in writing
Grammar checkers	To find grammar-related mistakes and correct them	Erasing any mistakes in writing assignments
Automated feedback systems	Give suggestions on areas of improvement	Can show your weak points
AI text generators	Provides with ideas on particular topics	Helpful for beginners in writing

Plagiarism detectors	Checks for copyright infringements	Useful to keep originality
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This table outlines the main types of AI tools used in writing, their core functions, and their practical applications in improving writing performance.

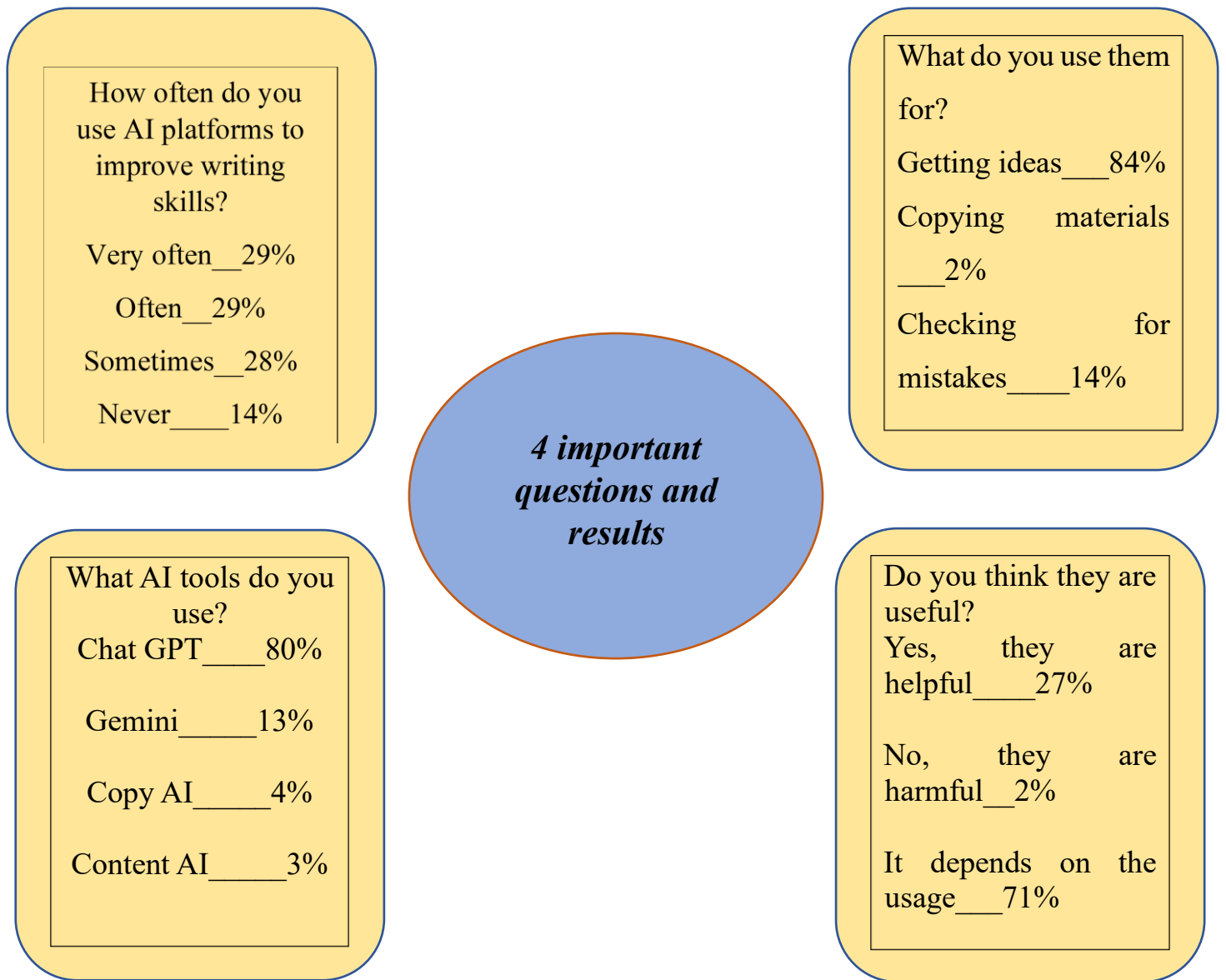
As mentioned earlier, AI-driven tools can be either useful or harmful. Here is a clear view of some of their advantages and drawbacks.

Table 3. Advantages and Disadvantages of AI Tools in Writing[10]

Pros	Cons
They help to reduce grammatical mistakes	Cause in too much dependence
Encourages working on oneself by giving feedbacks	May bring to loss of critical thinking
Lowers anxiety by providing with necessary suggestions	Could be the reason for increased plagiarism

This table presents the key benefits and potential drawbacks of AI tools in writing, highlighting their role in improving writing performance as well as the risks of overdependence and reduced critical thinking.

Figure 1. AI Tools Usage and Their Impact on Students' Writing Skills[11]



This figure presents the results of a survey on students' use of AI tools for writing, including frequency of use, types of tools, purposes of usage, and perceived usefulness.

The survey presented in the image highlights the following conclusions about the impact of AI-driven tools in written communication.

Frequency of use: A significant portion of people use AI in their daily lives. Around 58% of respondents utilize it either very often (29%) or often (29%), while 14% of them never use it [12,13,14].

Types of used tools: ChatGPT is the most popular platforms among respondents (80%), followed by Gemini (13%), CopyAI (4%), and Kontent AI (3%).

Purpose of usage: A majority (84%) thinks AI is the best source for getting ideas. However, 14% of people use it for checking their mistakes, while 2% copy materials from it.

A fifth of people feel that AI damages intellectual property of humans, whereas 71% of respondents think it is up to us. According to 27% individuals find it useful [15].

This suggests that AI-generated tools play a significant role in finding mistakes and drawing conclusions from them, whilst providing various ideas about particular topics.

Conclusion

In conclusion, this article studied the influence of Artificial Intelligence tools on the development of writing skills of students. It can be seen that these kinds of platforms can play a positive role in enhancing the writing performance, specifically with grammar mistakes, logical flow, lexical base and colorful ideas. Student can get instant feedback from AI which helps them improve their performances and draw conclusion from their past errors, leading to growth in their confidence about their language skills. However, it is also visible from the article that it comes with some problems. One of them is related to addiction of using AI tools, which may cause the brain to think independently. Furthermore, some just copy information given by AI without actually understanding it and in some cases even committing plagiarism. Overall, AI-generated tools can result in improvement in writing field if used with full mind and responsibility or under the monitor of elderly as a supportive helper rather than just a resource for copying.

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