

Analysis of the Usage Behavior of AI-Assisted Tools in the Writing of Foreign Language Major Students: Taking Understanding Contemporary China as an Example

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Abstract: With the rapid development of artificial intelligence technology, AI-assisted tools have gradually become important tools for students to improve their writing skills and efficiency in foreign language writing. This study analyzed the behavior of foreign language major students using AI tools to explore the types of tools, application scenarios, advantages, challenges, as well as students' attitudes and dependence on AI tools. Research has found that AI tools can effectively enhance students' writing quality, especially in grammar correction, translation support, and writing structure optimization. However, over-reliance on AI tools may restrict students' independent thinking and creative abilities, and affect the development of their autonomous writing. To maximize the effectiveness of AI tools, students need to balance the relationship between tool assistance and independent writing, and make reasonable use of the advantages of the tools.

Keywords: AI-assisted tools; Foreign language writing; Writing quality; Student behavior; Writing habits; Dependency

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1. Introduction

With the rapid development of information technology, the application of AI-assisted tools in the field of education has gradually deepened, especially in foreign language writing, becoming a powerful assistant for students to improve their writing skills. AI tools can not only help students complete basic writing tasks more efficiently, such as grammar checking and translation, but also provide personalized writing suggestions to optimize sentence structure and expression methods. However, as the application of AI tools in writing becomes increasingly widespread and students' reliance on them deepens, whether this will affect the independence and creativity of their writing abilities has become a focus of academic attention. This article aims to analyze the behavior of foreign language major students in using AI tools, explore the advantages and challenges of AI tools, and propose how to balance the relationship between tool assistance and students' independent writing, thereby providing references for educators and students.

2. An Overview of AI-assisted Tools in the Writing of Foreign Language Major students

2.1. The definition and types of AI-assisted tools

AI-assisted tools are based on artificial intelligence technology, especially natural language processing technology, and are designed to help students improve their writing efficiency and quality. For students majoring in foreign languages, these tools can provide services such as grammar checks, language suggestions, and translation support during the writing process, thereby helping students reduce language errors and improve the accuracy of their expressions^[1]. Common types of AI-assisted tools include grammar checking tools, translation tools, automatic writing generation tools, and writing suggestion tools. Grammar checking tools, such as Grammarly, can automatically identify and correct spelling and grammar errors, helping students improve the accuracy of language in their writing. Translation tools, such as Google Translate and DeepL, can perform cross-language conversion quickly and support students in understanding and converting foreign language texts. Automatic writing generation tools, such as the GPT series, can generate article content based on prompts, helping students overcome writing obstacles. The writing suggestion tool provides optimization suggestions by analyzing aspects such as sentence structure and vocabulary usage, enhancing the fluency and expressiveness of the language in writing. These AI tools can significantly enhance the writing skills and efficiency of foreign language major students, and also help them better adapt to the technology-driven learning methods in modern education.

2.2. The application scenarios of tools in foreign language writing

The application scenarios of AI-assisted tools in foreign language writing mainly cover various stages before, during and after writing, helping students improve their language proficiency and writing quality^[2]. First of all, before writing, AI tools can assist students in understanding the topic and collecting materials. For instance, translation tools help students understand complex vocabulary and sentences in foreign language materials, while corpus tools can provide writing examples or reference materials in related fields, assisting students in accumulating writing materials. Secondly, during the writing process, the application of grammar checking tools and writing suggestion tools is particularly important. Grammar checking tools can detect and correct spelling and grammar errors in real time, reduce students' low-level mistakes, and improve the accuracy of writing. The writing suggestion tool analyzes students' writing content and provides suggestions for structural optimization and expression improvement, helping students form a clearer and more fluent logical structure in their writing. Finally, during the revision stage after writing, the functions of AI tools should not be overlooked either. Through automatically generated feedback, students can quickly identify and correct deficiencies in their writing, such as optimization suggestions in aspects like vocabulary diversity and sentence structure richness. These tools not only enhance students' writing efficiency but also, to a certain extent, boost their autonomy and confidence in writing, promoting an overall improvement in their writing skills.

2.3. The Advantages and Challenges of AI-assisted Tools

AI-assisted tools have obvious advantages in foreign language writing, but they also face some challenges. First of all, the main advantage of AI tools lies in enhancing writing efficiency and accuracy. They can correct spelling, grammar, punctuation and other errors in real time, helping students reduce low-level mistakes and enhance the standardization of their writing. In addition, AI tools can offer personalized writing suggestions and provide feedback on students' specific problems, such as sentence structure diversity and logical structure optimization, which helps students gradually improve their writing skills. AI tools can also support cross-language translation and understanding, which is particularly important for non-native speakers in foreign language writing. Through these tools, students can quickly understand and express complex ideas, reduce language barriers, and enhance their confidence in writing^[3].

However, AI tools also face some challenges. Firstly, their understanding of context and cultural background is limited, and they may not be able to accurately capture some subtle differences in language, leading to deviations in translation and suggestions. Secondly, over-reliance on AI tools may restrict students' ability to think independently

and write on their own, affecting their creativity and the development of their thinking. In addition, the accuracy and intelligence levels of AI tools vary greatly. Some tools still need continuous improvement and optimization to better meet the needs of foreign language writing. Therefore, how to balance the auxiliary role of AI tools and the cultivation of students' independent writing ability has become a major challenge in current AI-assisted writing.

2.4. The usage limitations and improvement directions of AI tools

Although AI-assisted tools have many advantages in foreign language writing, their use also has some limitations, which affect their comprehensive application in teaching and learning. Firstly, the limitations of AI tools in understanding language and cultural contexts are quite obvious. Most AI tools rely on existing language models. Although they can detect and correct basic errors such as grammar and spelling, they are prone to misunderstandings when dealing with texts in complex contexts or with profound cultural backgrounds. For instance, certain language expressions may have multiple meanings or rely on specific cultural backgrounds. AI tools have difficulty accurately capturing these subtle differences, which may lead to incorrect language suggestions or translations^[4]. This is particularly prominent in foreign language writing, as foreign language students often have a relatively weak grasp of cultural contexts. Secondly, excessive reliance on AI tools may affect students' writing independence and thinking development. When students use these tools, they may overly rely on the suggestions provided by the tools, resulting in their language expression ability and writing thinking not being fully exercised. This kind of dependence, especially at the beginner stage, may inhibit students' ability to independently discover and solve problems, thereby affecting their creativity and critical thinking. Furthermore, current AI tools still fall short in providing assistance with certain high-level language skills. For instance, complex logical reasoning, the expression of abstract thinking, and the optimization of argumentative structures are often areas that AI tools find difficult to handle fully. Although AI can offer basic suggestions at the sentence and paragraph levels, it is unable to effectively assist students in more in-depth thinking and the construction of complex structures. To overcome these limitations, the improvement directions of AI tools can be approached from the following aspects. First of all, enhancing the AI tools' ability to understand culture and context is an important direction. By introducing more cross-cultural corpora and context analysis techniques, AI tools can better understand and generate language content suitable for specific contexts, thereby avoiding misunderstandings and translation biases. Secondly, AI tools need to enhance their personalized learning capabilities. By analyzing students' writing habits and common mistakes, AI tools can provide tailor-made feedback to help students continuously improve in specific areas and writing styles, rather than merely offering general grammar correction suggestions. In addition, AI tools can also encourage students to gradually reduce their reliance during the use of the tools by setting phased tasks, thereby promoting the improvement of their independent writing ability. Finally, future AI writing assistance tools should pay more attention to support at the thinking and structural levels. For instance, by introducing more logical reasoning and writing strategy analysis functions, AI tools can provide students with more in-depth suggestions and guidance when they are conceiving and organizing articles. This improvement will enable AI tools to go beyond grammatical checks and become effective assistants for students in advanced writing^[5].

3. Analysis of the Usage Behavior of AI Tools in the Writing of Foreign Language Major Students

3.1. Usage frequency and habits

In the writing process of foreign language major students, there are obvious differences in the frequency and habits of using AI-assisted tools. Most students frequently use grammar checking and translation tools, such as Grammarly and Google Translate, in their daily writing tasks. These tools help students correct grammar and spelling mistakes, and improve the accuracy and fluency of their writing. For basic writing tasks, students generally rely on AI tools to quickly complete checks and revisions. However, in more complex academic or creative writing, the frequency of using AI tools is relatively low. Students tend to rely on their own writing skills and thinking to create content, and only resort to tools for

assistance when encountering difficulties.

In addition, there are also differences in students' usage habits. Some students are accustomed to using tools to check after each paragraph is completed, while others only use AI tools when they encounter difficult-to-solve language problems. The differences in usage habits are closely related to students' writing experience, familiarity with tools and the characteristics of the subject. Overall, the use of AI tools not only enhances students' writing efficiency but also boosts their confidence in writing to a certain extent. However, there is also a risk of over-reliance, which may affect students' independent writing ability^[6].

3.2. The influence of tool usage on writing quality

The use of AI tools has a significant impact on the writing quality of foreign language major students, mainly reflected in grammar, language fluency and structural optimization, etc. Firstly, the role of AI tools in grammar checking and spelling correction is particularly prominent. They can effectively reduce common fundamental mistakes made by students in writing, such as spelling errors, inaccurate grammar, and improper use of punctuation, thereby enhancing the accuracy and standardization of the articles. Secondly, the writing suggestion tool provides optimization suggestions on sentence structure, vocabulary selection and expression methods by analyzing students' texts, which helps to improve the fluency of language and the diversity of expression in writing^[7]. This enables students to avoid repeatedly using simple sentence patterns and vocabulary during the writing process, enhancing the expressiveness and appeal of the article. However, while AI tools enhance the quality of writing, they also have certain limitations. Although they can help students optimize language problems at the surface level, they offer relatively less assistance in higher-level creative thinking, argumentative structure and logical rigor. Therefore, although AI tools can improve students' writing quality, it is still necessary for students to maintain a certain degree of independent thinking and originality with the assistance of the tools to ensure an overall improvement in writing quality.

3.3. Students' attitudes and acceptance of AI tools

Students' attitudes and acceptance of AI tools show significant differences in foreign language writing, which are influenced by personal experiences, technical familiarity, and understanding of the tool's functions. Overall, many students hold a positive attitude towards AI tools, especially in terms of grammar checking and translation tools^[8]. Most students believe that these tools can significantly enhance writing efficiency, reduce fundamental mistakes, and improve the accuracy and fluency of writing^[9]. For foreign language learners, AI tools are not only writing assistance tools but also provide them with an auxiliary platform for language learning, helping them better understand the syntax and vocabulary usage of foreign languages. However, there are also some students who are cautious about the use of AI tools, especially for some complex writing suggestion tools or generative tools, fearing that the feedback they provide may not fully conform to writing norms or personal style. This group of students is more inclined to rely on their own writing skills rather than completely depend on the advice provided by tools. In addition, some students are worried that over-reliance on AI tools will weaken their writing skills and lead to rigid thinking. Therefore, students' acceptance of AI tools not only depends on the functions and ease of use of the tools, but also on their awareness of their potential impact and their emphasis on their ability to write independently.

3.4. The degree of students' reliance on and independence from AI tools

There is a certain contradiction between students' reliance on AI tools and their independence. On the one hand, the role of AI tools in enhancing writing efficiency, reducing grammatical errors and optimizing expression has led students to develop a strong dependence on them. Especially with the assistance of grammar checking, spelling correction and translation tools, many students habitually rely on these tools in their daily writing and even constantly use them at every stage of their writing. This dependence helps students save time and improve the accuracy of their writing, but it may also lead them to overly rely on tools when encountering writing difficulties, while neglecting their ability to think independently

and solve problems^[10]. On the other hand, over-reliance on AI tools may weaken students' writing independence, especially when they frequently depend on tools to complete simple correction tasks, their language expression ability and creative thinking do not receive sufficient exercise. Long-term reliance on AI tools may cause students' independent writing skills to deteriorate, and they may lack the ability to think independently and innovate. Therefore, when using AI tools, students need to find a balance point, make reasonable use of the advantages of the tools, and at the same time maintain a certain space for independent writing and thinking to avoid over-reliance on the tools and ensure the all-round development of their writing skills.

4. Conclusion

The application of AI-assisted tools in the writing of foreign language major students has significantly enhanced their writing efficiency and quality. Tools such as grammar checks, translation support, and writing suggestions help students reduce language errors and improve the accuracy and fluency of their language expression. However, there are also some challenges in the use of AI tools, especially when overly dependent on them, students' writing independence and creativity may be affected. To maximize the benefits of AI tools, students should make reasonable use of the tools to optimize their writing rather than relying solely on the suggestions they provide. Educators should guide students to maintain autonomy when using AI tools and enhance the cultivation of critical thinking and original writing skills. Future research can further explore the in-depth application of AI tools in foreign language writing and explore how to better integrate AI technology with education and teaching to promote the development of students' comprehensive writing abilities.

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