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THE EFFECT OF CHATGPT-MEDIATED LEARNING ON EFL STUDENTS' WRITING PERFORMANCE

Nurmamatova Shakhzoda Umrbek qizi

Student at Narpay foreign languages faculty

SamSIFL, Samarkand

Abstract. The integration of artificial intelligence into foreign language education has created new opportunities for improving students' writing skills. Among emerging technologies, ChatGPT has attracted considerable attention because it can provide immediate feedback, generate examples, explain grammatical structures, suggest vocabulary, and support the revision of written texts. However, its educational value depends on how effectively students integrate AI-generated feedback into their own learning processes. The present study examines the potential effects of ChatGPT-mediated learning on English as a Foreign Language (EFL) students' writing performance. A qualitative literature-based research design is employed to analyze theoretical perspectives and previous studies concerning artificial intelligence, computer-assisted language learning, automated writing feedback, and second language writing development. Particular attention is given to grammatical accuracy, lexical appropriateness, coherence, cohesion, organization, and writing fluency. The analysis suggests that ChatGPT-mediated learning can support writing development by providing individualized feedback, facilitating vocabulary development, helping learners identify language errors, and encouraging repeated revision. Nevertheless, excessive dependence on AI-generated texts may reduce independent thinking, limit students' opportunities to develop self-editing skills, and create concerns regarding academic integrity and the reliability of AI-generated information. The study emphasizes the importance of teacher guidance, critical evaluation of AI suggestions, and responsible integration of ChatGPT into writing instruction. It concludes that

ChatGPT can serve as a supplementary educational resource when students actively participate in planning, drafting, evaluating, and revising their own academic texts.

Key words: ChatGPT, artificial intelligence, EFL students, writing performance, AI-mediated learning, academic writing, automated feedback, grammatical accuracy, vocabulary development, English language teaching.

INTRODUCTION

Writing is one of the most demanding skills in English language learning because it requires learners to coordinate linguistic knowledge, cognitive processes, and communicative strategies. Successful writing involves more than producing grammatically correct sentences. Students must organize their ideas, select appropriate vocabulary, construct coherent paragraphs, develop arguments, and communicate their intended meanings clearly.

For students learning English as a Foreign Language, these requirements can create considerable difficulties. EFL learners may experience problems with grammatical accuracy, sentence structure, vocabulary selection, paragraph organization, and the development of coherent arguments. In many educational contexts, students also have limited opportunities to receive individualized feedback and revise their writing repeatedly.

Traditional writing instruction often relies on teacher feedback, classroom exercises, and written assignments. Although these approaches remain essential, teachers may not always have sufficient time to provide detailed comments on every aspect of each student's writing. As a result, learners may have to wait before receiving corrections or may not fully understand the reasons behind particular mistakes. Recent developments in artificial intelligence have introduced new possibilities for addressing these challenges. ChatGPT, developed by OpenAI, is an AI-based conversational system that can generate text, answer questions, explain language structures, and respond to user instructions. In language education, it can function as an interactive

learning assistant that provides explanations and suggestions during different stages of the writing process.

ChatGPT-mediated learning refers to an instructional approach in which students use ChatGPT to support their learning activities while remaining actively responsible for their own academic work. In writing instruction, this may involve generating ideas, planning essays, checking grammar, improving vocabulary, examining paragraph organization, and revising drafts.

The potential educational value of ChatGPT is closely connected with the development of learner-centered and technology-supported approaches to language teaching. Warschauer and Healey (1998) explain that computer-assisted language learning has developed from basic computer exercises into more interactive approaches that support communication and language production.

Similarly, Chapelle (2001) emphasizes the importance of evaluating technology-supported language learning according to its contribution to meaningful language acquisition rather than simply its technological features.

ChatGPT extends these possibilities by allowing students to interact with an AI system through natural language instructions. Unlike traditional grammar-checking tools, it can provide explanations, offer alternative expressions, and respond to follow-up questions. For example, an EFL student who writes the sentence "People is becoming more interested in technology" may ask ChatGPT to identify the grammatical problem and explain the correction. The system may explain subject–verb agreement and suggest the corrected form, "People are becoming more interested in technology."This type of interaction can support students' understanding of grammatical rules rather than merely presenting the correct answer.

ChatGPT can also support vocabulary development. Students may request synonyms, explanations of academic expressions, examples of collocations, and

distinctions between formal and informal vocabulary. Such assistance may help learners expand their lexical resources and select expressions more appropriately.

Another important potential benefit concerns writing coherence and organization. Students can ask ChatGPT to examine paragraph structure, identify unclear connections between ideas, and suggest ways to improve transitions. For example, learners may receive suggestions concerning the use of expressions such as "however," "furthermore," "in contrast," and "consequently." When students critically evaluate these suggestions, they may develop greater awareness of textual organization and academic discourse.

The relationship between feedback and writing development has been widely discussed in second language acquisition research. Hyland and Hyland (2006) emphasize that feedback plays an important role in second language writing because it helps learners recognize problems and make informed revisions.

Hattie and Timperley (2007) also explain that effective feedback can support learning by providing information about current performance, learning objectives, and the steps needed for improvement.

In this context, ChatGPT may provide additional opportunities for feedback and revision. Students can request explanations at different levels of difficulty, compare alternative sentences, and ask follow-up questions without waiting for the next classroom session. However, the use of generative AI in education also creates important challenges. ChatGPT-generated information is not always accurate, and its language suggestions may sometimes be inappropriate for the intended context. Students who accept all AI-generated corrections without evaluation may develop excessive dependence on the technology. There are also concerns related to academic integrity, authorship, originality, and the development of independent writing skills. If students use AI to generate complete assignments without meaningful personal involvement, the educational value of writing practice may be reduced.

For this reason, ChatGPT should be considered a supplementary educational resource rather than a replacement for teachers or students' independent intellectual efforts. For Uzbek university students studying English, ChatGPT-mediated learning may offer additional opportunities to practice writing outside the classroom. Students can use the system to explore grammatical explanations, develop academic vocabulary, and receive suggestions for revising their texts.

Nevertheless, its effectiveness depends on students' digital literacy, English proficiency, ability to formulate appropriate prompts, and capacity to evaluate AI-generated feedback.

The purpose of the present study is to examine the potential effects of ChatGPT-mediated learning on EFL students' writing performance. Particular attention is given to grammatical accuracy, lexical development, coherence, cohesion, writing organization, and learner autonomy.

The study also explores the pedagogical advantages and limitations of integrating ChatGPT into university-level English writing courses.

METHODS

The present study adopts a qualitative literature-based research design to examine the relationship between ChatGPT-mediated learning and EFL students' writing performance. The research approach is based on the analysis and synthesis of theoretical publications and previous studies concerning artificial intelligence in education, computer-assisted language learning, automated writing evaluation, feedback, and second language writing development.

The theoretical framework draws on the contributions of Warschauer and Healey (1998), Chapelle (2001), Hyland and Hyland (2006), Hattie and Timperley (2007), and other researchers whose work addresses technology-supported language learning and feedback. The analysis focuses on the educational functions of ChatGPT that are particularly relevant to writing development. These include grammatical explanation,

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vocabulary suggestions, sentence reformulation, paragraph organization, idea generation, and revision support.

The potential effects of ChatGPT-mediated learning are examined in relation to important dimensions of writing performance, including grammatical accuracy, lexical appropriateness, coherence, cohesion, organization, and overall communicative effectiveness.

Particular attention is given to the relationship between AI feedback and learner engagement. The study considers whether students actively evaluate suggestions, understand corrections, and apply newly acquired knowledge to subsequent writing tasks.

The analysis also considers the role of teacher guidance, digital literacy, academic integrity, and responsible AI use in the educational process.

Previous research was synthesized thematically to identify common benefits, challenges, and pedagogical considerations associated with AI-supported writing instruction. The study also considers the potential relevance of these findings to Uzbek university students studying English as a Foreign Language, particularly in educational environments where students may have limited access to individualized writing support. Since the present study is based on previously published literature rather than a newly conducted classroom experiment, it does not report original participant data, experimental scores, or statistical improvements. The results are therefore presented as a theoretical and pedagogical synthesis rather than as the findings of an original empirical intervention.

RESULTS

The analysis of theoretical literature and previous research identifies several important ways in which ChatGPT-mediated learning may contribute to the development of EFL students' writing performance. One of the most frequently

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discussed potential advantages of ChatGPT-mediated writing instruction is its ability to identify grammatical problems and provide explanations.

EFL students commonly experience difficulties with subject–verb agreement, verb tense selection, articles, prepositions, word order, and sentence construction.

ChatGPT can examine student-generated sentences and suggest possible corrections. More importantly, students can request explanations of why a particular grammatical form is inappropriate. For example, a learner may write, "She go to university every day." ChatGPT can suggest "She goes to university every day" and explain the use of the third-person singular form in the present simple tense.

Such interaction may help learners understand grammatical rules through immediate examples. However, the educational value of grammatical feedback depends on students' ability to examine and understand the corrections. Simply copying corrected sentences may not result in lasting improvement.

Therefore, students should be encouraged to compare their original sentences with revised versions and identify the underlying grammatical principles.

Vocabulary Development and Lexical Appropriateness

Another potential contribution of ChatGPT-mediated learning concerns vocabulary development. Academic writing requires learners to use vocabulary that is precise, appropriate, and suitable for the intended genre. Students may know the general meaning of a word but remain uncertain about its academic use, collocations, register, or contextual restrictions. ChatGPT can provide synonyms, explain differences between similar expressions, and generate examples showing how vocabulary items function in academic sentences. For instance, students may ask for alternatives to frequently repeated words such as "important," "good," or "bad." The system may suggest expressions such as "significant," "beneficial," "effective," or "problematic," depending on the intended meaning. It can also explain why some expressions are more appropriate in formal academic writing than in everyday conversation. This may help

students expand their lexical resources and avoid unnecessary repetition. Nevertheless, learners should verify whether suggested expressions accurately communicate their intended meanings. More advanced vocabulary does not automatically make a text more effective.

Improvement in Coherence and Cohesion

The analysis also suggests that ChatGPT may support the development of coherence and cohesion in academic writing. Coherence concerns the logical organization of ideas, whereas cohesion involves linguistic connections between sentences and paragraphs. Students sometimes produce paragraphs containing relevant information but insufficient logical connections. Their arguments may appear disconnected, repetitive, or difficult to follow. ChatGPT can provide suggestions concerning paragraph organization, transitions, topic sentences, and the relationships between supporting arguments. For example, students may ask the system to examine whether a paragraph presents its ideas in a logical sequence or whether additional explanations are needed to connect two arguments.

The system may also suggest transitions such as "in addition," "however," "as a result," and "in contrast."When learners evaluate these recommendations and apply appropriate changes, they may develop greater awareness of academic text organization.

Support for Idea Generation and Planning

Another important potential benefit is assistance during the planning stage of writing. Many EFL students experience difficulties beginning an essay because they are uncertain about how to develop a topic or organize their ideas.

ChatGPT can help students explore different perspectives, generate possible arguments, and construct preliminary outlines. For example, when preparing an essay about environmental protection, students may ask the system to suggest possible

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discussion areas related to environmental responsibility, renewable energy, and public awareness.

These suggestions can serve as starting points for independent thinking.

However, students should critically evaluate generated ideas and select those that are relevant to their assignment and supported by reliable evidence.

AI-generated suggestions should not replace independent research or the development of original arguments.

Development of Revision Skills

Writing is a process that normally involves planning, drafting, revising, and editing. ChatGPT may support this process by helping students identify unclear sentences, unnecessary repetition, grammatical errors, and weaknesses in paragraph organization. Students can submit a draft and request feedback on a particular aspect of writing, such as coherence or academic vocabulary.

This targeted approach may help learners concentrate on specific weaknesses rather than attempting to improve every aspect of a text simultaneously.

Repeated interaction can also encourage students to revise their work more frequently. However, revision should remain a learning activity rather than a process of simply accepting AI-generated versions. Students should retain responsibility for deciding which changes improve the meaning and quality of their texts.

Increased Learner Engagement and Motivation

ChatGPT-mediated learning may also increase students' engagement with writing activities. Traditional classroom writing tasks sometimes provide limited opportunities for individual interaction because teachers must divide their attention among many students. ChatGPT can provide additional opportunities for students to ask questions, request explanations, and explore alternative expressions independently. This flexibility may encourage students to spend more time examining their writing and correcting language problems.

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Students who feel uncomfortable asking questions during classroom lessons may also find it easier to request explanations through an AI-based system.

Nevertheless, motivation and engagement depend on the learning environment and the way technology is integrated into instruction.

Challenges Associated with Excessive AI Dependence

Despite its potential advantages, ChatGPT-mediated learning also presents several challenges. One major concern is the possibility that students may become dependent on AI-generated corrections and complete texts. If learners regularly ask ChatGPT to write entire essays, they may lose opportunities to practice independent idea development, sentence construction, and argumentation. Another concern is the reliability of generated information. ChatGPT may produce incorrect explanations, inaccurate references, or statements that sound convincing but lack sufficient evidence. Students therefore need to develop critical evaluation skills and verify important information through reliable academic sources.

Academic integrity is another important issue. Educational institutions need clear policies concerning acceptable AI assistance, authorship, and disclosure.

The analysis suggests that ChatGPT is most educationally valuable when it supports students' own writing processes rather than replacing them.

DISCUSSION

The findings of the literature-based analysis suggest that ChatGPT-mediated learning can provide meaningful support for EFL students' writing development when it is integrated into a structured and teacher-guided instructional approach.

One of the central arguments is that immediate and individualized feedback can create additional opportunities for language learning. This perspective is consistent with Hyland and Hyland (2006), who emphasize the importance of feedback in second language writing development. Traditional teacher feedback remains essential, but AI-based systems may complement classroom instruction by providing additional

explanations and opportunities for revision. Hattie and Timperley (2007) similarly explain that feedback is most useful when it helps learners understand their current performance and identify appropriate steps for improvement. ChatGPT may support this process by responding to specific questions and providing alternative explanations. However, feedback is only educationally effective when learners understand and apply it. If students simply copy corrections, they may improve an individual assignment without developing the knowledge required to produce better texts independently. Therefore, teachers should encourage students to explain why they accept particular corrections and how these corrections relate to previously learned language rules. Another important issue concerns the development of learner autonomy. ChatGPT can provide students with opportunities to work independently, explore language problems, and revise texts outside the classroom.

Nevertheless, autonomy should not be confused with unrestricted dependence on technology. Genuine learner autonomy involves the ability to identify learning needs, make informed decisions, evaluate information, and take responsibility for learning outcomes. Students should therefore be encouraged to use ChatGPT as a source of support while maintaining control over their writing decisions.

The findings also highlight the importance of critical AI literacy.

Students need to understand that ChatGPT generates responses based on patterns in data and that its answers may contain errors or inappropriate suggestions. This is particularly important when students use AI for academic research, where factual accuracy and reliable referencing are essential. Teachers can develop critical AI literacy by asking students to compare AI-generated suggestions with reliable academic sources and explain why certain recommendations should or should not be accepted. For Uzbek EFL students, ChatGPT may provide useful opportunities to practice English writing beyond the classroom. It can help explain grammatical structures, clarify academic vocabulary, and provide examples of different writing styles. However, the quality of

interaction depends partly on students' ability to formulate clear instructions. Students who provide specific prompts about their writing goals may receive more relevant assistance than those who simply request a complete essay. For example, asking ChatGPT to identify grammatical errors without rewriting the entire paragraph may encourage active learning more effectively than requesting a fully corrected version. Another important issue is the role of teachers. AI technology should not replace teachers because writing instruction involves more than correcting language errors. Teachers provide disciplinary knowledge, evaluate argument quality, explain assignment requirements, and support students' intellectual development. The most productive approach is therefore a combination of teacher guidance, independent writing practice, peer interaction, and responsible AI assistance. Overall, the findings suggest that ChatGPT-mediated learning has the potential to support several dimensions of writing performance. However, its effectiveness depends on instructional design, learner engagement, critical evaluation, and appropriate academic policies.

PEDAGOGICAL IMPLICATIONS

The findings have several implications for English language teaching in Uzbek higher education institutions. Teachers should introduce ChatGPT as a supplementary writing resource and clearly explain the educational purposes for which it may be used. Students can use the system during brainstorming, planning, drafting, grammar checking, vocabulary development, and revision. However, each activity should require meaningful student participation. Teachers should encourage students to request explanations rather than simply ask for corrected texts. This approach may help learners understand grammatical and lexical problems. Writing assignments can also include reflection activities in which students explain which AI suggestions they accepted, rejected, or modified and why. Peer review should remain an important part of writing instruction because interaction with classmates develops the ability to evaluate arguments and communicate feedback. Teachers should also establish clear

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expectations concerning academic honesty, citation practices, and the disclosure of AI assistance where required by institutional policy.

Finally, assessment should focus on students' actual writing abilities, including their capacity to plan, develop arguments, revise drafts, and explain their linguistic choices independently.

LIMITATIONS OF THE STUDY

The present study has several limitations. First, it is based on theoretical literature and previous research rather than an original classroom experiment involving Uzbek EFL students. Second, writing performance is a multidimensional construct that includes grammatical accuracy, vocabulary, coherence, cohesion, organization, and communicative effectiveness. The potential contribution of ChatGPT to one dimension does not necessarily indicate equivalent improvement in all other dimensions. Third, the quality of AI-generated feedback may vary according to the prompt, the complexity of the language problem, and the context of the writing task. Another limitation concerns differences in learners' English proficiency, digital literacy, and previous experience with AI technologies. Future empirical research should investigate the effects of ChatGPT-mediated learning through classroom experiments involving Uzbek university students. Such studies could compare students who receive structured ChatGPT-assisted instruction with those following conventional writing instruction. Writing pre-tests and post-tests, delayed assessments, analytical writing rubrics, questionnaires, and interviews could provide information about changes in writing performance and learner attitudes. Further research could also examine whether guided AI feedback is more effective than unrestricted AI use in developing independent writing skills.

CONCLUSION

The present study examined the potential effects of ChatGPT-mediated learning on EFL students' writing performance through an analysis of theoretical perspectives

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and previous research. The analysis suggests that ChatGPT can provide valuable support for writing development by offering individualized feedback, explaining grammatical problems, suggesting vocabulary, improving textual organization, and supporting revision. Its potential contribution extends to grammatical accuracy, lexical appropriateness, coherence, cohesion, and learner engagement. However, the educational value of ChatGPT depends on the way students use the technology. Excessive dependence on AI-generated texts may reduce independent writing practice and create difficulties related to academic integrity and critical thinking. For Uzbek university students, ChatGPT-mediated learning may provide additional opportunities to practice English writing and receive explanations outside the classroom. Nevertheless, these opportunities should be combined with teacher guidance, independent learning, and critical evaluation of AI-generated information.

In conclusion, ChatGPT should be regarded as a supplementary educational tool rather than a replacement for teachers or students' intellectual efforts. When integrated responsibly into EFL writing instruction, it may contribute to more effective feedback, meaningful revision, and the development of academic writing competence. Further empirical research is needed to establish its measurable impact on Uzbek students' writing performance.

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