AI Writing Tools and Media Literacy: Exploring ChatGPT as a Scaffold for ESL Learners' Writing Skills in Higher Education

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Abstract

The rapid advancement of Artificial Intelligence (AI) writing tools has changed the aspect of language learning, introducing new ways for learner support while simultaneously diminished the originality and creativity of students. This study examines the pedagogical potential of ChatGPT as a scaffolding tool for enhancing the writing competence of English as a Second Language (ESL) learners in Pakistani higher education. Guided by Vygotsky's socio-constructivist framework, an experimental qualitative approach was employed with 21 undergraduate students enrolled in an academic writing course. Pre-test and post-test writing tasks were analyzed to compare unaided writing with AI-assisted writing. Findings reveal that ChatGPT significantly enhanced learners' narrative coherence, structural organization, linguistic fluency, and overall text quality. However, the excessive reliance on AI diminished students' creativity, originality, cultural expression, and personal voice. These results highlight the dual role of AI: as both an enabler of academic writing literacy and a potential threat to independent, critical, and creative thinking. The paper argues that AI literacy should be integrated into pedagogy, enabling learners to use AI tools critically and responsibly. By positioning ChatGPT within the broader discourse of media, information and digital literacy, the study contributes to ongoing debates on the ethical, pedagogical, and cultural implications of generative AI in higher education.

Keywords: artificial intelligence (AI), Chatgpt, media and information literacy, digital pedagogy, esl writing, scaffolding, creativity and originality, higher education.

1. Introduction

A basic element of language proficiency is writing skill, especially among English as a Second Language (ESL) learners. It covers a number of different linguistic attributes such as coherence, cohesion, lexicon, grammar, and accuracy. The writing skills of students not only depend on linguistic knowledge, but also on the capability to develop Ideas, structure, and creative thoughts. The support of more knowledgeable peer or teacher and interactive writing activities have a positive impact on the learners writing skills development. Nevertheless, conventional advice and feedback take a lot of time and may delay the writing development of students. As technology, especially Artificial Intelligence (AI), grows, a learner can be motivated and improve his/her writing skills (Liu et al., 2022; Khan, 2025).

The emergence of Artificial Intelligence (AI)-driven writing technologies, including ChatGPT, has had an immense influence on writing advancement among English language learners and represents a promising answer to certain writing obstacles, such as time constraints. Also, being a collaborative and interactive platform, ChatGPT enables students to compose their academic texts

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at their own pace and get assistance with writing in a timely manner (Hoang, Hoang, 2022; Lee et al., 2016; Rahimi, Fathi, 2022; Such, 2021). ChatGPT can be used by students to write better by giving feedback and providing recommendations that prevent lexical and grammatical errors, improve the text's structure and organization, and support revision functions independently. The use of ChatGPT allows learners to enhance their writing skills, and it coincides with the social constructivist theory proposed by Vygotsky, according to which scaffolding is essential to language learning through the assistance of more knowledgeable individual (McLeod, 2025; Song, 2023; Khan, 2025).

Even though there are benefits to the use of ChatGPT, it may also bring about some disadvantages to the ESL students in their writing proficiency. The excessive use of AI tools could prevent the independence, originality, and critical thinking of learners. Although the social constructivism theory introduced by Vygotsky emphasizes the significance of scaffolding in mastering a language, it also indicates that excess reliance on the support and encouragement of highly skilled people may affect the creativity and self-reliance of the students. Therefore, the strengths and weaknesses of applying ChatGPT to the process of writing skills development of ESL learners need to be critically discussed. In Pakistan, it is found that students often delay or avoid writing due to a fear of failure, which leads to weak performance (Rashid, Sajid, 2023). AI scaffolds alleviate this fear by giving students confidence to start. However, this support can deter students from any serious revision and reflection (Zhao, 2023). To achieve sustainable learning, AI should be viewed as a beginning, and not as a substitute for the writing process. AI can be an interim tool that teachers in Pakistan might use to increase confidence, but students should still edit and revise on their own.

Existing research explored the effectiveness of ChatGPT in improving grammatical accuracy and structural coherence in learners' writing. Moreover, fewer studies have examined the impact of ChatGPT on higher education students, particularly in the context of creative writing, and how they interact with such. Nevertheless, the research on the possible disadvantage of over-reliance on AI is limited. This paper will examine this concept by observing and analyzing the writing of the students.

Creating such a gap will provide a detailed picture of AI tools in writing development. The purpose of the current study is to investigate how ChatGPT can affect the writing performance of ESL students in higher education who are already undertaking research writing courses. The research aims to address the following questions:

– How does ChatGPT impact students' writing creativity?

– Does the use of ChatGPT enhance or hinder learners' creativity and independence of writing?

– How does ChatGPT mediate and influence students' writing processes in terms of accuracy, creativity, organization, and overall performance?

The Zone of Proximal Development (ZPD) by Vygotsky offers a well-developed theoretical framework when it comes to the role of AI in writing. Students learn better when they are guided than when they do so themselves (Vygotsky, 1978). AI tools serve as digital scaffolds through giving clues, outlines, and stylistic hints that boost the abilities of students (Sajid, 2024; Shabani et al., 2010).

The present study has practical implications for curriculum developers, educators, and policymakers involved in ESL teaching, especially when it comes to the need to incorporate technology in the process of enhancing writing. This research contributes to designing pedagogical strategies that minimize the potential drawbacks of ChatGPT and facilitate students ' writing improvement. This study seeks to provide practical implications for integrating AI tools into writing improvement. Focusing on ChatGPT and its role in the writing process will help educators strike a balance between AI-assisted learning tools and teaching methods that promote learner independence and originality. This study will contribute to the improvement of the quality and efficiency of ESL learners' writing by encouraging a more thoughtful and informed way of using AI.

2. Materials and methods

The authors have used experimental qualitative techniques, including pre-test designs and post-test designs, to see what effect AI tools or ChatGPT have on creative writing. Carswell and Poth, in their research, mention that qualitative approaches enable researchers to engage with participants over a longer period, providing deeper insights into their perceptions (Creswell, Poth, 2016).

The writing sample data were collected from 21 tertiary-level students enrolled in a writing course, using purposive sampling based on their prior experience in creative writing tasks and their ability to engage meaningfully with AI tools such as ChatGPT.

The data collection was conducted in two phases to study the effects of the AI-associated tool ChatGPT on the performance of students in writing in detail. The pre-test, where the participants were told to complete a creative writing task on a given topic without AI tools, was done during the first phase. Subsequently, in the post-test, participants were asked to write another prompt on a similar theme, but this time they were instructed to use the AI tool ChatGPT as a writing aid.

Data were analyzed using thematic analysis, following the six-phase approach proposed by two researchers in their study (Braun, Clarke, 2006). The analytic approach enables researchers to systematically identify, organize, and interpret patterns of meaning in the qualitative datasets, while allowing flexibility to address research objectives and questions.

Ethics were strictly observed to guard the rights of the participants. The aim, method and consequences of the study were made known to all the subjects. They had signed a signed informed consent before involvement, stating information about the research, confidentiality, validity, and possible consequences. All personal data was removed off records in order to maintain confidentiality and anonymity.

3. Discussion

The creative writing in the digital era is flourishing on experimental, doubtful, and innovative writing (Clark et al., 2015). Their edited book addresses the way digital technologies make writers have a possibility to experiment with the forms of expression and provoke the conventional understanding of authorship and novelty. In this regard, free writing written without the help of AI frequently reflects a strong cultural identity and a personal voice, letting the writers show their individuality using such means as vernacular language, localized references, and experience. This confirms the warning message regarding the standardization of style and the elimination of cultural differences, as AI is trained on common Western corpora (Bender et al., 2021). Besides the issues of linguistic accuracy and creativity, researchers have also pointed out the cultural aspects of AI-aided writing. It is discovered that although AI-generated text can assist second language writers through offering them templates of fluent and coherent English, it can also increase the prevalence of dominant discourses and subdue the voices of local people (Warschauer et al., 2023). They noted that learners face the risk of losing their individual cultural orientations when they over-depend on AI because the models tend to adopt Western-centric standards that are reflected in training data. It is on this basis that teachers have been urged to instruct students to use AI with critical thinking in order to make sure that AI is applied as an aid but not as a substitute for their cultural and personal expression.

The results may be compared with those of the previous study involving Pakistani students in their perceptions of AI in academic writing. They found that, although students appreciated the role of AI in enhancing productivity and accuracy in their languages, they also had concerns about losing their personal and cultural voice in their texts. It implies that even though the implementation of AI can be integrated as a scaffold, the kinds of tasks in which students show originality in their work should be prioritized by the instructors, and the students should be provided with the motivation to maintain reference points, personal or cultural, in the process of AI support. Comparing the pretest and post-test texts, it was observed that the poorly grammatical untested texts were full of raw material and highly emotional content, and contained sentences like, I do not trust those bitches ever again in my life. This aesthetic style implies bravery and adventurousness, and, accordingly, the qualities are required to develop literary talent in the digital era (Clark et al., 2015).

In comparison, the writing with the help of AI generated complex metaphors, among which, but not limited to, a mirror of hope and wisdom, allowed you to raise aesthetic enjoyment, but reproduced traditional stylistic patterns. The outcome is consistent that AI writing systems have the potential to support students in developing their thoughts and enhancing the organization of their work (Johnston, 2024). Nevertheless, other limitations of the study were also mentioned, such as decreased chances of students taking part in creative experimentation and autonomous problem-solving when writing. Such results are aligned with recent empirical research, and they prove that even though AI can help generate ideas and make them clear, it can unintentionally limit innovative thinking and expression in academic writing. The study on generative AI-assisted

writing revealed that AI tools assisted the students in the cognitive processes of digital multimodal writing by scaffolding the coherence, fluency, and idea development. Nevertheless, they also gave a warning that, unless pedagogical integration is done with care, students would become too dependent on AI, which can destroy creativity and critical interaction with writing exercises (Liu et al., 2023).

Similarly, another study investigated the interaction between teachers and automated feedback among L2 writing students (Zhang, Hyland, 2018). They said that computer-assisted feedback gave no more valuable feedback than teacher input because of the immediate feedback that gave detailed information concerning grammar and structure, rather than the valuable feedback concerning content, voice and argument. Their results indicate that automated systems are capable of increasing accuracy and fluency, although human feedback is needed to promote the development of higher-order writing in full. This implies that although AI assistance may improve the quality of technical writing, it should be coupled with the possibilities of students experimenting and expressing themselves without any interference. This is of concern to recent studies in Pakistan.

The study investigated the experiences that university students have had with ChatGPT in relation to its use as a writing assistant and discovered that students valued how it helped them enhance their grammar, vocabulary, and sentence structure (Bibi, Atta, 2024). They, however, also added that overdependence on AI tools could threaten to make their writing less original and less cultural. This is in line with the larger discussion that, although AI could be used to frame the technical skills of students in the writing process, a teacher should promote the use of personal voice and cultural context because homogenized and machine-like text is undesirable.

Teachers should design writing tasks that respect AI assistance and leave room for actual exploration, so that students do not become too reliant on machine-generated metaphors or formulas. This is the fact that a recent research was conducted to investigate the application of AI tools in EFL writing classes (Nhan et al., 2025). They discovered that AI provided instant and personalized feedback and taught students to be more independent writers. Nonetheless, participants also mentioned the problem of over-dependence on AI and the lack of cultural peculiarities, as well as the inability of AI to assist in the expression of creativity. The authors conclude that although AI tools have the potential to develop writing, they should be used with great caution to ensure that originality and contextual awareness are maintained with the help of a teacher.

Based on the concept of the Zone of Proximal Development, students were supported by ChatGPT as a scaffold, facilitating their work on a higher structural level than they would have without the support (Vygotsky, 1978). Nevertheless, these findings are consistent with those who discovered that although AI tools are capable of aiding a student to broaden his or her thinking capacity and enhance the structure of the text, excessive use of these tools could hinder the acquisition of self organizational abilities (Wang, 2025).

The results align with the recent empirical research, which proves that although AI is helpful in generating ideas, as well as making them more lucid, it can also limit creative thinking and individualistic writing in academic texts, unintentionally. In the case of Pakistani higher education, it means that AI can also be employed as a means of teaching to bring structure and coherence to it, but also gradually grow in order to make sure that students learn to organize themselves independently. The teachers might require students to break down AI-recommended structures and proceed to jigsaw them in their own language, which validates active learning instead of passive appropriation.

The other massive area of development was linguistic fluency. Marking mistakes in the pre-test samples included never lose hope or you now achieve. The accuracy in the language use in tense, vocabulary, and phrasing in the posttest writings was higher, and the language is sophisticated with refined expressions like be optimistic and strong no matter what. The paper investigates how AI writing tools can affect the writing performance of students by providing content analysis of essays with the help of AI (Farhan, 2025).

The results reveal that even though AI tools can be useful in improving the mechanics of writing, that is, grammar and syntax, excessive dependence can lead to the stifling of creativity and independent editing skills. The article underlines the value of implementing AI in a manner that encourages individual learning and critical interaction as opposed to corrective feedback. This is not a novel finding in the case of ESL learners who tend to be reluctant to write in Pakistan because of the fear of making language errors (Rashid, Sajid, 2023).

The anxiety diminishes with AI scaffolding, which allows the expression to flow more easily (Wahid, 2023). Though long-term dependency will not allow students to critically engage with grammar, it will not allow them to learn language in greater depth. Therefore, on the one hand, AI provides fluency in the short term; however, it should be integrated with pensive activities, which can help students to learn through errors instead of just accepting them. The duality of AI, as improving technical competence and diminishing originality, has a great impact on ESL learning. ChatGPT can be beneficial on the one hand, as it enhances the structure, coherence, and fluency. Conversely, it can also stifle creativity, identity, and taking risks. This is in line with the study in which researchers warn that boundaries of academic integrity and authorship can be easily lost when students heavily rely on AI (Cotton et al., 2024).

In the case of Pakistani higher education, the interventions of AI are to be cautiously and proportionately integrated. Students need to be invited to employ AI as a preliminary reinforcement tool by teachers, and originality should be promoted through tasks that require cultural allusions, personal accounts, and risky creative efforts. It might be necessary to incorporate AI literacy modules so that the developers of the curriculum train students on how to use AI in a responsible way in order to make sure that they do not blindly follow the AI suggestions (Yilmaz, Keser, 2022). A policy that outlines the ethical application of AI should be instituted by policymakers, especially the Higher Education Commission (HEC), to allow cultural authenticity to thrive while fostering innovation. To conclude, it is important to say that AI applications like ChatGPT have a great impact on ESL writing, both positive and negative. The results of the study are an extension of the literature because they indicate that although AI improves coherence, structure, and fluency, it can also adversely affect originality and cultural voice, particularly in Pakistani settings. Such findings will demand a middle-ground between pedagogy and policy: AI must become a scaffold, not a replacement for human creativity and ingenuity. By creating critical awareness and cultural sensitivity, both teachers and schools can ensure that the integration of AI will improve and not worsen the writing of students.

4. Results

The analysis of pre-test and post-test writing samples identified five key themes that reveal notable differences. These themes show the variations in writing patterns between unaided natural writing and AI-assisted writing. In the pre-test, unaided writing was often characterized by uneven structure, language heavily influenced by personal experiences, and a lack of originality in ideas and choices, along with frequent technical and organizational issues. On the other hand, the use of ChatGPT, an AI tool, enhanced and simplified some of the important features of writing, such as coherence, grammatical correctness, organization, and vocabulary, in the post-test. Although they have such benefits, the use of AI can decrease autonomy, innovation, and uniqueness of personal experience and thoughts. These differences were analyzed based on five key dimensions: Originality and Personal Voice, creativity, narrative coherence, structural quality, and linguistic fluency.

One of the most noticeable contrasts between unaided natural writing and AI-aided writing was the originality and personal voice. The pre-test responses display strong individuality of ideas and choices in elements of culture, self-experiences, and colloquial language. The participants have incorporated personal and cultural aspects in their writing, such as "Coke Studio songs", "what Phuppo thinks", and "...chalo Allah malik ha", creating authenticity and recognizable personal voices. These aspects point to the distinct cultural sense and emotional immediacy despite grammatical mistakes, structure, and vocabulary. Conversely, in the post-test, a neutral and free voice was noted. Whereas the uniqueness and originality of voices were compromised, AI compensated for it by standardizing structure and phrasing. A machine-assisted system substituted cultural expressions with neutral and generic terms, e.g., the statement "what Phuppo thinks" was replaced with a sentence that said the opinion of others, or the use of a form of language that was not informal. These results indicate a trade-off, where writing without aids is more original and more expressive in personal and cultural identity, yet is not that professional and structured. Conversely, AI-assisted writing was more professional and balanced, but it sacrificed individuality, cultural richness, and self-expression.

Secondly, creativity is one of the most striking contrasts between natural and AI-assisted writing. In the pre-test's responses, the creative expression and ideas were raw and unconventional. Participants expressed their strong feelings with bold, emotional, and somewhat vague language, such as "I don't trust those bitches ever again in my life" or "make me a genius

from all." Even though these statements do not seem to be polished in terms of their structure and language, they seem to demonstrate emotional intensity and originality. The posttest samples are more refined, and metaphorical expressions are used along with the more structured format, i. e. mirrors of hope and wisdom, reassurance that the hard times are going to end. AI helps students express their creative ideas in a more organized and interesting manner. Nevertheless, it limits the chance to risk and experiment, which are the crucial elements of genius creative writing. In such a way, it will need the students' guide to achieve a balance between AI assistance and their creativity, and not to be over-standardized.

The most significant improvement with AI assistance in the post-test was in the logical flow of ideas and narrative coherence. In the pre-test responses, there were repeated elements and sudden transitions, which disrupted the flow and coherence between ideas. for example, one participant wrote "Then I'll make sure to mention all those past events... Then I'll make sure that I don't trust those bitches ever again... Then I'll be the one giving myself some hope...," where the repeated use of "then I'll make sure" creates a circular pattern rather than showing progress. On the contrary, the writing after the test demonstrated an accurate logical progression and flow of thought. As an example, one of the interviewees ended by saying, "Above all, I would like to know that it all worked out and I was the kind of person I could be proud of, which clearly shows the relationship and continuity between the reflection and the final statement. Additionally, another participant used a rhetorical question, "Did we stay kind even when things got tough?" which not only reflects on the past but also transitions to future resilience. These examples from the samples illustrate how, with the help of AI assistance, participants were able to improve narrative coherence, reinforced by the refined use of transitional ideas, paragraphs, and phrases. The refinement of narrative coherence demonstrates how AI assistance helps students enhance their ability to organize ideas through smoother transitions and a more cohesive thematic structure.

Another central theme in writing was the overall structural quality of writing responses, which is closely related to narrative coherence. Structural weaknesses to be observed in the pre-test feedback included inconsistent paragraphing, abrupt change of topic, inappropriate groups of ideas, and rhythm irregularity. There was a tendency for participants to mix irrelevant ideas within one sentence and one paragraph without expounding on the idea and without clear transitions. Here are some examples, as one wrote: Make me soft, sweet, lovely nature with all. And set the right direction for economic growth. The participant in the next sentence had the unrelated aspirations category and did not elaborate much; thus, the structure is disjointed, making comprehension difficult. On the contrary, the quality of structural responses in the posttest is better. The paragraphs were clearly defined and each focused on a single idea before moving to the next. An example of this is one respondent who stated that she or he wanted to derive a sense of meaning out of their struggles, expanded on the points of resilience, and closed up the discussion with a conclusion of self-pride. The transitions, clarity of topic sentences, structured rhythm, and closing statements were used in a balanced manner and made the writing look complete and harmonious. These elements show that AI helps students master structural conventions by offering suggestions for sentence cohesion and paragraph organization.

Lastly, the linguistic fluency level was greatly enhanced with the help of an AI tool, as the analysis showed. The writing samples of the pre-test had common grammatical errors, tense use, poor choice of vocabulary, spelling errors, and disruption of the flow of ideas. In an example, statements like never lose hope, you now achieve and " the condition is good or worse are some examples. Such errors tend to divert the message even though the words are genuine. Conversely, the post-test samples were more improved with fewer errors and a more natural syntactic rhythm. There was also constant and appropriate tense use, and the selection of vocabulary was more precise and wider. An example is that a pre-test sentence, such as stay positive in every condition was replaced by the more sophisticated and fuller one remain hopeful and resilient regardless of the circumstance. Similarly, the blunt message never lose hope was substituted with a more advanced phrase, e.g., to have resilience in the light of uncertainty. These advancements indicate that the AI tool offers remedial feedback, so that students can concentrate on their ideas as opposed to being slowed down by language mistakes. AI not only improved the language proficiency, but also contributed to the maturity of thoughts and voice of the students.

Overall, the comparison between natural, unaided writing and AI-assisted writing highlights the trade-off between authenticity and professional refinement. The AI assistant tool ChatGPT improved the coherence, structure, cohesion, linguistic fluency, and overall polish of the text.

It also generalizes cultural performance, emotional immediacy, and personal voice to attain world acceptance that was a principal characteristic of unaided writing. The findings suggest that AI tools (including ChatGPT) could be used to a certain extent as a scaffold to improve technical writing. But they are also threats to originality, creativity, and cultural identity, and are creating issues of excess dependence and how individuality may be lost. Also, their impact may influence the individual voice of a writer, his/her boldness, imagination, and self-esteem.

5. Conclusion

This study explored the impact of ChatGPT on ESL students' creative and academic writing within the context of higher education in Pakistan. The results demonstrate that while AI assistance improves fluency, organization, and accuracy, it also diminishes originality, individuality, and cultural voice. These findings extend existing scholarship by situating AI writing tools within the field of media and information literacy, emphasizing the need for critical AI literacy among students and educators. To prevent overreliance, AI should be positioned as a scaffold rather than a substitute for creativity and independent thought. Future research should expand the dataset and explore diverse writing genres to generalize findings more broadly. For policy and pedagogy, the study recommends integrating AI literacy into curricula and training educators to balance AI-assisted learning with critical reflection and cultural sensitivity. By embedding responsible AI use into the broader media literacy framework, institutions can ensure that generative AI contributes to writing development without undermining originality and academic integrity.

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