

## Artificial Intelligence In Higher Education: Strategies For Fostering Creativity In Writing Instruction

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### Abstract

*Artificial Intelligence based writing Assistant (AWAs) are software tools powered by natural language processing (NLP) that offer functionalities like grammar and plagiarism checks, vocabulary suggestions, and sentence structure improvement. While AWAs hold promises for enhancing writing instruction, concerns exist regarding their potential impact on creativity and critical thinking. This qualitative study examines the use and perception of Artificial Intelligence (AI) writing assistants (AWAs) among educators and students in public and private universities of Karachi, Pakistan. To shed light on these issues, a purposive sampling approach recruited ten participants: five educators currently teaching writing courses at public or private Karachi universities and five students enrolled in writing courses where AWAs are utilized (Creswell & Creswell, 2018). Semi-structured interviews were conducted to delve into participants' experiences with AWAs in the writing classroom, perceived effects on creativity and critical thinking, observed changes in teaching or learning practices due to AWAs (educators only), and challenges and opportunities associated with integrating. Interviews were audio-recorded with permission, transcribed verbatim, and analyzed thematically to identify recurring patterns and diverse perspectives. Data collection continued until data saturation was achieved (Fuschia & Strauss, 2017). Trustworthiness and ethical considerations were addressed through member checking, researcher reflexivity, and informed consent procedures. This research contributes to the ongoing conversation about AWAs in writing instruction by examining their use within the specific context of Karachi universities. Findings, presented in a future publication, will offer valuable insights for educators seeking to navigate the potential benefits and drawbacks of AWAs, fostering both technical proficiency and creativity in student writing.*

**Keywords:** AI writing Assistants, Creativity, Writing Instruction, Higher Education, pedagogy.

### Introduction

The ever-evolving technological landscape is continuously reshaping higher education. Artificial Intelligence (AI) integration is one of the most intriguing advancements, with

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writing instruction emerging as a particularly fertile ground for exploration (Ebner, 2020). AI writing assistants, powered by natural language processing algorithms, offer a range of functionalities to support both students and educators (Wu et al., 2023). These tools can provide grammar and plagiarism checks, suggest sentence structure improvements, and even offer vocabulary enrichment opportunities.

This literature review explores the potential of AI writing assistants to enhance creativity in writing instruction for higher education (Imran & Lashari, 2023). While proponents highlight their ability to free students from technical concerns, allowing them to focus on creative aspects (Aitchison & McDowall, 2017), concerns exist regarding potential drawbacks, such as stifling creativity and introducing bias (Wu et al., 2023; Selwyn, 2020). Traditionally, writing instruction often emphasized technical mechanics over imaginative expression (Smith & Smith, 2020). This focus on grammar and syntax could overshadow the development of higher order thinking skills necessary for creative and critical writing (Moore, 2011). However, proponents argue that AI writing assistants can transform writing pedagogy by providing real-time feedback and suggestions for grammar and sentence structure (Dong & Kennedy, 2019), while also fostering creativity through features like alternative phrasing and word choice (Morrison et al., 2021). This aligns with the Cognitive Process Theory of Writing (Flower & Hayes, 1981), which emphasizes various cognitive processes in writing, such as planning, generating ideas, and revising. AI assistants can potentially facilitate these processes by automating grammar and mechanics checks, freeing students to focus on the more creative aspects of writing, like formulating original arguments and refining their voice (Aitchison & McDowall, 2017; Lashari & Umrani, 2023).

Furthermore, socio-cultural theories provide insights into the potential benefits of AI writing assistants. Vygotsky's Zone of Proximal Development (ZPD) (Vygotsky, 1978) emphasizes the importance of collaboration and scaffolding in learning (Lashari et al., 2023b). AI assistants can function as collaborative partners, engaging students in meaningful writing tasks and providing targeted support within their ZPD (Johnson et al., 2022). For example, an AI assistant could suggest alternative sentence structures or vocabulary choices while still allowing students to make the final decisions, fostering independent learning within their developing skillset (Lashari et al., 2023c; Lashari & Umrani, 2023). Therefore, this review examines strategies for educators to leverage AI writing assistants effectively (Lashari & Umrani, 2023). The focus will be on maximizing benefits while mitigating drawbacks through targeted integration, fostering critical thinking skills, and promoting responsible AI use (Imran & Lashari, 2023). The goal is to create a dynamic learning environment that empowers students to become confident and creative writers.

#### significance of the study

This research explores the potential of AI writing assistants to enhance creativity in writing instruction for higher education. By demonstrating how these tools can support both technical proficiency and imaginative expression, the study aims to inform educators on integrating AI into their curriculum and transform writing pedagogy. The development of a framework for implementation will provide practical guidance for institutions adopting this technology. Furthermore, the research bridges the gap between theoretical frameworks of learning and practical application of AI assistants. While acknowledging potential concerns about over-reliance on AI and homogenization of writing styles, the study proposes a balanced approach that integrates AI tools while promoting critical thinking and student autonomy. This comprehensive investigation can improve student learning experiences in writing instruction.

## Objectives of the Study

The primary objective of this research is to investigate the effectiveness of integrating AI writing assistants in stimulating creativity within higher education writing courses. Specifically, the study aims to achieve the following objectives:

1. To assess the impact of AI tools on student creativity in writing instruction.
2. To evaluate the effectiveness of AI assistants in improving writing mechanics and facilitating creative expression.
3. To develop a framework for integrating AI writing assistants into writing instruction, thereby providing guidance for educators and educational institutions.

## 2. Literature review

The growing presence of Artificial Intelligence (AI) in education has sparked interest in its potential to enhance writing instruction, particularly in higher education. This literature review explores the intersection of AI writing assistants and creativity in this context (Lashari & Imran, 2023; Lashari et al., 2023b). Traditionally, writing instruction often prioritizes technical mechanics over imaginative expression (Smith & Smith, 2020). However, scholars like Smith and Smith (2020) argue that AI writing assistants hold promise for transforming writing pedagogy. These tools can provide real-time feedback and suggestions, supporting students in both grammar and sentence structure (Dong & Kennedy, 2019; Lashari & Umrani, 2023) while also fostering creativity through features like alternative phrasing and word choice (Morrison et al., 2021). This aligns with the Cognitive Process Theory of Writing (Flower & Hayes, 1981), which emphasizes the various cognitive processes involved in writing, including planning, drafting, revising, and editing. AI assistants can facilitate these processes, potentially freeing students to focus on creative expression. Socio-cultural theories of learning, such as Vygotsky's Zone of Proximal Development (Vygotsky, 1978), highlight the importance of social interaction and collaborative learning environments. AI writing assistants can function as collaborative partners, engaging students in meaningful writing tasks and providing scaffolding for their development (Johnson et al., 2022). By leveraging AI technologies, educators can create dynamic learning environments that promote active engagement and peer collaboration. Empirical studies have begun to explore the impact of AI writing assistants on student writing. Dong and Kennedy's (2019) research found that students using Grammarly demonstrated improved writing mechanics. Similarly, Morrison et al. (2021) observed that AI assistants can stimulate creativity by prompting students to explore diverse writing styles. However, further research is needed to understand the long-term effects of AI integration on student creativity and writing proficiency. While AI writing assistants offer exciting possibilities, concerns exist regarding potential over-reliance and homogenization of writing styles (Fleischer & Hardcastle, 2023). Scholars advocate for a balanced approach that integrates AI tools while promoting critical thinking and experimentation (Fleischer & Hardcastle, 2023). By combining AI technologies with creative writing exercises and collaborative activities, educators can create dynamic learning environments that foster both technical proficiency and imaginative expression. This review highlights the potential of AI writing assistants to enhance creativity in writing instruction for higher education. By providing real-time feedback, fostering exploration of diverse writing styles, and promoting collaboration, these tools can offer valuable support for students and educators alike. However, further research is needed to explore the long-term impact and ensure a balanced approach that prioritizes student autonomy and critical thinking alongside the benefits of AI integration.

This research employed a qualitative approach to explore the potential of AI writing assistants in fostering creativity within writing instruction for higher education (Creswell & Creswell, 2018). Ten participants, consisting of five educators currently teaching writing courses and five post-graduate students enrolled in such courses, were interviewed using a pre-developed thematic interview guide (Braun & Clarke, 2006). Thematic areas focused on participants' experiences with AI writing assistants, their perceived impact on creativity in writing, and any observed changes in teaching or learning practices (educators only). Interviews were audio-recorded with participant permission and subsequently analyzed using thematic analysis to identify recurring themes and diverse perspectives across the data (Braun & Clarke, 2006). Data collection continued until data saturation was achieved, ensuring a comprehensive understanding of the participants' experiences (Fuschia & Strauss, 2017). To ensure trustworthiness and address ethical considerations, member checking was employed to confirm transcript accuracy with participants (Lincoln & Guba, 1985). Additionally, the researchers maintained a reflexive journal to document their own assumptions and biases throughout the research process. Informed consent was obtained from all participants, and confidentiality and anonymity were maintained throughout the study. While the qualitative nature of the research limits generalizability to a wider population, this study provided valuable insights into the complex relationship between AI writing assistants and creativity in higher education writing instruction. Artificial Intelligence (AI) is increasingly permeating various aspects of our lives, including education. In higher education, AI is being used in diverse ways, one prominent application being AI writing assistants. AI writing assistants encompass a range of tools designed to aid students and educators in the writing process. These tools utilize natural language processing algorithms to offer suggestions, corrections, and feedback on written work. Common examples include Grammarly, Turnitin, and Hemingway Editor. Studies have explored educators' and students' perceptions of AI writing assistants in higher education. For instance, Smith and Jones (2019) conducted a survey among university faculty members, revealing that while some educators perceive AI writing assistants as valuable aids in improving students' writing skills, others express concerns about their potential to stifle creativity and critical thinking. The impact of AI writing assistants on creativity in writing instruction has been a subject of debate (Imran & Lashari, 2023; Lashari & Umrani, 2023). While some researchers argue that these tools may restrict students' creative expression by prioritizing correctness over originality (Johnson et al., 2020), others suggest that AI can enhance creativity by providing students with immediate feedback and freeing up time for more innovative tasks (Brown & Miller, 2018). Research has also investigated the changes in teaching practices resulting from the integration of AI writing assistants. Chen et al. (2021) conducted interviews with writing instructors and found that many have adapted their pedagogical approaches to incorporate AI tools, such as emphasizing the importance of critical thinking alongside AI use and providing guidance on responsible AI utilization. Despite the potential benefits, integrating AI writing assistants into higher education is not without challenges. These include concerns about data privacy, the need for effective training for both educators and students and ensuring that AI tools do not undermine the development of essential writing skills (Garcia & Smith, 2020). To address these challenges, scholars have proposed recommendations such as fostering open discussions about responsible AI use, developing assessment strategies that prioritize creativity, and providing support for educators in integrating AI tools effectively (Robinson et al., 2019). The integration of AI writing assistants in higher education presents both opportunities and challenges for creativity in writing instruction. While these tools have the potential to enhance students' writing skills and efficiency, careful consideration is needed to ensure that they do not overshadow the importance of creativity and critical thinking. By

addressing concerns and implementing targeted strategies, educators can harness the potential of AI writing assistants to enrich writing instruction in higher education.

### **Method & Procedure**

This qualitative study investigated the potential of AI writing assistants (AWAs) to foster creativity in writing instruction for higher education. The research aimed to gain in-depth understanding from educators and students directly involved with AWAs (Creswell & Creswell, 2018). This qualitative study sought to understand how educators and students experience AI writing assistants (AWAs) in writing instruction and their impact on creativity.

This research focuses on a specific population selected from public and private sector universities of Karachi includes educators currently teaching writing courses at the post-secondary level. This targeted population selection allows for a deep dive into the specific context of AI writing assistants and creativity in higher education writing instruction. Ten participants, five educators from various Karachi universities and five students currently using AWAs in their writing courses, were interviewed in-depth. A pre-developed interview guide ensured consistency while allowing flexibility to explore diverse perspectives on how AWAs are used in the classroom, how they affect creativity and critical thinking, and any changes observed in teaching or learning practices due to AWAs (for educators). Interviews were recorded and transcribed for thematic analysis, a method to identify recurring patterns and insights across the data. This approach ensured a comprehensive understanding of participants' experiences and fostered a deeper exploration of the potential benefits and drawbacks of AWAs for writing instruction within the specific context of Karachi universities.

This research utilized a semi-structured interview guide as the primary instrument for data collection (Braun & Clarke, 2006). This approach balanced flexibility for in-depth exploration with consistency across interviews. The guide, developed through literature review and pilot testing (Creswell & Creswell, 2018; Flick, 2014), covered participants' experiences with AI writing assistants, their perceived impact on creativity, and any observed changes in teaching practices (educators only). While potential limitations like interviewer bias and social desirability were acknowledged (Merriam, 2009), the semi-structured format facilitated rich data collection on participants' unique perspectives within the research themes.

The study employed a qualitative approach to explore the relationship between AI writing assistants and creativity in higher education writing instruction. Ten participants (educators and post-graduate students) were interviewed using a pre-developed thematic interview guide. Thematic areas focused on participants' experiences with AI writing tools, their perceived impact on creativity in writing (students) or pedagogical practices related to creativity (educators), and any observed changes in teaching practices due to AI writing assistants. Data collection continued until saturation was achieved, ensuring a comprehensive understanding of the participants' experiences. Thematic analysis will be used to identify recurring themes and patterns within the collected interview data. Ethical considerations of informed consent, confidentiality, and anonymity were upheld throughout the research process. While the qualitative nature of the study limits generalizability to a wider population, it offers valuable insights into the complex dynamics of AI writing assistants and creativity in writing instruction.

The data was analyzed using qualitative research, Thematic analysis of the interview data revealed three key themes related to AI writing assistants and creativity in writing instruction:

### **AI Writing Assistants and Creativity in Writing Instruction**

Tab. 1

Theme	Description	Explanation
Educator Adaptations in Teaching Methods	Educators modify instruction to leverage AI tools.	* AI exercises focus on specific tasks like grammar checks. * AI-generated feedback prompts discussions on critical evaluation and developing writing styles.
Student Approaches to Writing Influenced by AI Tools	Positive and negative experiences reported by students.	* Positive: Grammar checks, clarity improvements. * Negative: Overreliance, hindering critical thinking and creative expression.
Challenges Associated with Integrating AI Writing Assistants	Concerns highlighted by participants.	* Potential plagiarism concerns. * Need for clear guidelines on responsible AI use. * Homogenization of writing styles due to overreliance on AI suggestions.

This table summarizes the three key themes identified from the data analysis in the research on AI writing assistants and creativity in writing instruction.

The table helps visualize the relationship between the themes and provides a clear understanding of how AI writing assistants are perceived to influence both educators and students in the context of writing instruction and creativity.

### **Educator Adaptations in Teaching Methods**

Educators modify their teaching methods to leverage the functionalities of AI writing assistants. Educators described several ways they adapted their teaching to integrate AI tools. Some participants incorporated AI writing assistant exercises directly into their curriculum. These exercises often focused on specific tasks like identifying and correcting grammatical errors.

One educator, Dr. Salma (English Literature), explained, "We use Grammarly checks as in-class exercises to identify common comma splices and subject-verb agreement issues. This frees up class time for more nuanced discussions about style and creative expression."

Other educators reported using AI-generated feedback as discussion prompts to encourage students to critically evaluate suggestions and develop their own writing styles.

Professor Farida (Education) noted, "Students often receive feedback from Turnitin about sentence clarity. We use this as a springboard for discussions on active voice versus passive voice and how sentence structure can impact the reader's engagement." These adaptations demonstrate how educators can leverage AI tools for targeted tasks while still fostering critical thinking and creativity in writing instruction.

### **Student Approaches to Writing Influenced by AI Tools**

Students expressed a range of experiences with AI writing assistants, highlighting both positive and negative aspects. Some students found AI writing assistants to be helpful resources.

Sarah, a graduate student in Communications, shared, "Grammarly helps me catch typos and awkward phrasing before submitting assignments. It gives me more confidence in the technical aspects of my writing."

Similarly, Farhan, a student in Engineering, shared, "The vocabulary suggestions from Turnitin helped me find more precise language to express complex technical concepts." These experiences highlight how AI tools can assist students in developing strong technical mechanics and clarity in their writing.

However, other students expressed concerns about overreliance on AI writing assistants. They felt the tools could hinder independent critical thinking and creative expression. Tabina, a student in Philosophy, stated, "Sometimes I rely too heavily on Grammarly's suggestions without really thinking about why a sentence needs changing. It's important to develop my own critical eye for effective writing."

Similarly, Kehkashan, a student in Art History, expressed, "I worry that if everyone uses the same AI tools, writing styles will become homogenized and lose individuality."

These concerns highlight the potential drawbacks of overreliance on AI and the importance of fostering critical thinking and independent voice alongside technical proficiency.

### **Challenges Associated with Integrating AI Writing Assistants**

Participants highlighted several challenges associated with integrating AI writing assistants into writing instruction. One concern raised by both educators and students was the potential for plagiarism.

Dr. Farha Naz (Biology) noted, "we need to have clear discussions about responsible AI use and how to properly paraphrase and cite sources to avoid plagiarism accusations." Students also echoed this concern.

Maleha, a student in Political Science, stated, "It's important to understand the difference between using AI for suggestions and simply copying and pasting its recommendations."

These concerns point to the need for clear guidelines about responsible AI use and robust plagiarism detection strategies alongside AI integration.

Another challenge identified by participants was the potential for homogenization of writing styles if students become overly reliant on AI suggestions for phrasing and word choice.

Professor Hamida Zafar (Education) commented, while AI can be helpful for grammar and mechanics, it shouldn't dictate a student's voice or creativity. We need to encourage students to experiment with different writing styles and develop their own unique expression"

This concern underscores the importance of finding a balance between leveraging AI for technical support and fostering creativity and individuality in student writing.

### **Discussion**

The findings revealed a complex interplay between AI writing assistants, creativity, and writing instruction. Educators can leverage AI tools by strategically integrating them into lessons to address specific writing tasks like mechanics checks. This can free up valuable class time for deeper discussions on creativity and critical thinking skills. Open conversations about responsible AI use and the importance of student voice are crucial.

The educators' theme of adaptation aligns with Vygotsky's Zone of Proximal Development (1978), where AI tools can act as collaborative partners, providing scaffolding for students' writing development alongside opportunities for independent exploration. However, concerns raised by students and educators echo those presented in the literature review (Fleischer & Hardcastle, 2023) regarding overdependence and potential homogenization of writing styles. These findings

emphasize the need for a balanced approach that acknowledges the benefits of AI assistants while nurturing creativity and critical thinking in writing instruction.

### **Conclusion**

This research contributes to the ongoing conversation regarding AI writing assistants and creativity in writing instruction. The findings suggest that AI tools hold promise for enhancing specific aspects of writing, such as grammar and clarity. However, educators must carefully consider the potential downsides and employ AI strategically within a pedagogical framework that prioritizes creativity and critical thinking. This includes fostering open discussions about responsible AI use, developing assessment strategies that value student voice and originality, and encouraging experimentation with diverse writing styles. Future research with larger, diverse samples and longitudinal studies exploring long-term effects can offer a more comprehensive understanding of AI writing assistants' impact on writing instruction and student learning outcomes.

### **Recommendations**

To maximize the benefits of AI writing assistants while mitigating risks, educators should adopt a multi-faceted approach. This includes using AI strategically for targeted skill development, promoting critical thinking through discussions and analysis of AI-generated text, and fostering responsible AI use by discussing potential biases and emphasizing originality. Additionally, educator training, assessment strategies that value creativity, and collaboration with developers are crucial to ensure AI supports, not replaces, the learning process, creating a dynamic environment that fosters both technical proficiency and imaginative expression in student writing.

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