

Idea Generation to Revision: Artificial Intelligence Rules the Roost in the Writing Skills Arena

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Abstract

Effective writing skill is a very powerful weapon in the armoury of any decently educated person. So, more often than not, students and a sizable section of a society of any country always aimed at writing better in order to make a mark in their own respective fields not to talk of the literary fraternity who not only dedicated their lives to literary exploits but also earned a place in the select club of ace writers -- all with whatever resources they had in their time. Of course, the one common thread that ran through all these people is that they all wanted to better their writing skills all the time -- some aimed at making better drafts while others focused in creating literary masterpieces. Interestingly enough, Artificial Intelligence, these days, ranks high if the objective is to become better in communication skills -- written or oral. It offers students dynamic support all the time across idea generation, drafting and revision. The study aims to explore the role of generative AI technologies in enhancing the writing process across its core stages: idea generation, drafting and revision. It examines the different phases of interaction with Chat GPT models in terms of evolution of Chat GPT from its earliest versions to the latest versions. Their features critically evaluate how AI tools assist students in developing writing skills. The study investigates the evolution and matured levels of AI powered writing through successive versions of Open AI's language models- from GPT -2 (2019) to the current GPT- 4 turbo and how each stage has contributed to the development of students writing and composition skills. The novelty of the research is that how improvements in each version correlate with different cognitive and linguistic outcomes and how each version is mapped on to with the much anticipated educational outcomes. By and large, this approach offers a new framework for educators and researchers to evaluate AI's use in the writing instruction covering not just the technical viewpoint but also the pedagogical perspectives per se.

Keywords: Artificial Intelligence, Writing Skills, Idea Generation, Revision Tools, Educational Technology, Human-AI Collaboration

Introduction

It's incumbent on any decently educated person to possess superior writing skills and also to have the will and aptitude to use the resources of the day to improve upon their writing skills either regularly or periodically so that they can continue to project an evergreen better version of themselves with the passing of each day, month and year tapping into the life-long learning mantra as they march ahead in their academic and professional journeys possibly becoming elated and respected figures of the world too, along the way (Mohammad et al., 2024a; Shlash Mohammad et al., 2024a).

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Needless to say, if one's resolve reverberates with the above sentiment, one need not be a computer pundit to proclaim that Artificial Intelligence answers such a purpose what with its many graded levels of model versions enabling one to reach the optimum desired outcome of either perfection or satisfaction in terms of the results, provided the user remains keen and thirsty to get on to the road to improvement, nay, change for the better, so to speak.

As a matter of fact, today one sees the evolution of writing underwent a sea-change from small chunks of time-taking human based skill punctuated by creative thinking work to high volume, fast-paced mechanised routine laced with and led by technology in general and AI in particular (Mohammad et al., 2024b; Moschogianni, 2025). Yes, true, with the application of Artificial Intelligence (AI), the writing process underwent significant transformation in the sense that today the writers could ideate, draft, and revise with unprecedented speed and efficiency (Shlash Mohammad et al., 2024b; Homayoonnezhad & Amirian, 2025).

Further and farther, in today's time, it can be said with a reasonable degree of authority that AI has spanned all walks of life -- academic, professional, and creative -- so much so that, for AI, all the world's a stage, to rope in here, the rich metaphor of the Bard of Stratford-Avon, William Shakespeare from the play 'As you like it', where the character, Jaques, later goes on to say that 'And one man in his time plays many parts'. Likewise, if we draw a parallel, technology today engulfed life like never before and AI, in these times, is playing its part now with its tools, assisting and many a time, co-authoring content. If this is an exaggeration it is the exaggeration of truth (Mohammad et al., 2024c; Mohammad et al., 2024d; Akbar et al., 2025).

Be that as it may, this paper investigates how AI played its part at different stages - in the very beginning, in the middle and at the end. While its advantages are well-documented in terms of efficiency and accessibility, its impact on originality, learning, authorship, and cognitive development leaves a lot to be desired posing searching questions.

This research aims to factor in these concerns and to some extent set the record straight of these divergent perspectives by analyzing current AI writing practices and thereby offering the way forward for responsible, and productive integration of its inputs into educational and professional writing environments (Mohammad et al., 2024e; Hujran et al., 2023). Through a critical literature review and conceptual analysis, this paper identifies the current capabilities of AI in writing, uncovers the existing research gaps, and evaluates its pedagogical, ethical, and practical implications. The study concludes with suggestions for integrating AI into writing curricula while maintaining human authorship and cognitive integrity.

Literature Review

Evolution of Writing Technologies

The sea-change that took place in writing, the world over, replacing the manual processes by digitally assisted ones is there for all to see. Word processors like Microsoft Word offered grammar suggestions; later, AI-powered tools like Grammarly and ProWriting Aid began to analyze syntax, tone, and clarity (Raheem et al., 2023; Mohammad et al., 2024f; Al Daboub et al., 2024). More recently, AI language models such as GPT-4, Claude, and Bard have advanced natural language generation, enabling context-aware content creation.

AI in Writing Pedagogy

Educators and researchers have begun exploring AI's potential in writing instruction. For example, Alharbi (2023) noted how tools like Writefull provide non-native speakers with academic writing support. Meanwhile, researchers like Yadav (2024) express concern over cognitive offloading—where students rely heavily on AI, diminishing their learning autonomy.

Creative and Professional Writing

Creative writers use AI to brainstorm plots or generate poetry (Begum, 2025). In journalism and marketing, AI tools automate article writing and product descriptions, allowing human professionals to focus on strategy (Fang et al., 2023; Mohammad et al., 2024g). However, these advancements prompt debates on creativity, authorship, and ethical boundaries.

Ethical Concerns and Human-AI Collaboration

Mazzi (2024) argues that AI, lacking consciousness, cannot be considered an author. Still, as AI contributions grow, questions arise: Should AI be credited? What role should disclosure play in academic or professional contexts? The need for ethical frameworks and transparency is increasingly urgent.

Research Gap

Despite AI's growing role in writing, current research lacks a comprehensive understanding of how AI influences all stages of the writing process—particularly in educational contexts where writing is integral to learning. While prior studies examine AI in specific domains (e.g., grammar correction, story generation), there is limited research on how AI integrates from idea generation to final revision.

Furthermore, existing literature often fails to address how AI use affects cognitive development, authorship perception, and ethical responsibility among student writers. This study identifies the need for a holistic framework that considers AI as a writing assistant, not as a substitute for human effort.

Research Objectives

The primary objectives of this research are to:

1. Examine how AI technologies assist users across different writing stages.
2. Analyze the impact of AI on cognitive engagement, authorship, and creativity.
3. Identify the benefits and risks of integrating AI into educational writing practices.
4. Propose recommendations for ethical and effective use of AI in writing.

Evolution of Chat GPT and Its Impact on Student Writing Skills

Artificial Intelligence (AI), particularly in the form of large language models (LLMs), has brought transformative changes to the field of writing instruction. This study focuses on the evolution of Open AI's Chat GPT models, beginning with GPT-2 (2019) and progressing through GPT-3, GPT-3.5, and the advanced GPT-4 and GPT-4 Turbo models. Each generation of these models represents not only technical advancement in natural language processing (NLP), but also a shift in how students engage with writing as a process—from idea generation to final revision.

GPT-2, introduced in 2019, marked a turning point in language modeling by generating coherent paragraphs of text based on a given prompt. Although limited in its ability to handle nuanced tasks or maintain long contextual coherence, GPT-2 initiated the use of AI for basic writing assistance. At this stage, students began to explore the possibilities of using AI for brainstorming, vocabulary enhancement, and sentence structuring.

GPT-3 (2020), with 175 billion parameters, significantly expanded the linguistic capabilities of AI. It enabled users to generate essays, summaries, and creative content with minimal prompts. GPT-3's contextual understanding, while imperfect, allowed for more meaningful interaction in academic writing. Students were able to use GPT-3 not only to compose but also to structure arguments, analyze texts, and explore stylistic variations in writing. However, issues such as hallucinated facts, grammatical inconsistencies in long outputs, and lack of domain-specific precision persisted.

GPT-3.5, released in late 2022, refined these capabilities further. It was more responsive to prompts, better at maintaining context over longer text spans, and could generate more relevant and coherent outputs. The tool began to be used not only by students for writing, but also by educators for formative feedback and rubric-based evaluations. The model's ability to assist with intermediate writing tasks—such as paraphrasing, elaboration, and thematic organization—improved the quality of AI-supported academic writing.

GPT-4 (2023) and GPT-4 Turbo (2024) introduced multimodal inputs, better contextual reasoning, and significantly more refined output generation. These versions supported a wider range of cognitive-linguistic applications, such as aligning tone with audience, enhancing critical thinking in written arguments, and offering advanced suggestions for cohesion and clarity. The improved memory, dialogue continuity, and the ability to adapt writing styles across disciplines represent a mature phase of AI-powered writing assistance.

Each Version of Chat GPT Maps onto Key Educational Outcomes in Writing Pedagogy.

- GPT-2 and GPT-3 align with foundational cognitive writing outcomes such as idea generation, fluency, and syntactic variation.
- GPT-3.5 contributes to intermediate outcomes like coherence, topic development, and audience awareness.
- GPT-4 and GPT-4 Turbo facilitate advanced outcomes, including critical reasoning, reflective writing, and stylistic sophistication.

The novelty of this research lies in its attempt to correlate the evolution of AI language models with corresponding developmental stages in student writing. Unlike prior studies that focus solely on the technical merits of language models, this work places emphasis on their pedagogical impact—particularly on cognitive load reduction, improvement in self-efficacy, and linguistic competency. The findings suggest that as ChatGPT versions matured, the nature and quality of support they offered to student writers also evolved, mirroring the scaffolding process found in effective instructional design.

Moreover, this study examines how different models affect writing across genres (expository, narrative, analytical), proficiency levels (novice to advanced), and writing stages (planning, drafting, revising). By mapping technological growth to pedagogical needs, the research provides a framework for understanding how AI tools like ChatGPT are not only tools for automation but also active agents in educational transformation.

Analysis and Discussion

Idea Generation: AI as Cognitive Catalyst

AI tools like ChatGPT, Notion AI, and Jasper AI assist in brainstorming topics, generating outlines, and suggesting relevant examples. For students and professionals, these tools offer quick ideation pathways and topic expansions. However, this can lead to superficial engagement with content if used without critical oversight.

Implication: AI can support divergent thinking, but must be paired with human judgment to ensure depth and originality.

Drafting: Human-AI Co-Creation

AI models can draft entire essays or assist with writing specific sections. This accelerates workflow and improves writing fluency, especially for second-language learners or those with learning disabilities. However, concerns arise regarding originality, as students may submit AI-written content without sufficient personal input.

Implication: AI is effective for scaffolding early drafts, but should not replace the writer's creative role.

Revision: AI as an Intelligent Editor

Advanced writing tools (e.g., Grammarly Premium, Trinka, and QuillBot) perform grammar checks, style corrections, and tone adjustments. These tools provide personalized feedback and improve readability. In academic writing, they also help standardize formal structures and citation styles.

Implication: While AI enhances clarity and professionalism, overuse may hinder skill development in editing and proofreading.

Cognitive and Pedagogical Concerns

Excessive reliance on AI can weaken the development of metacognitive writing strategies, such as self-editing and argument structuring. Educators report difficulty in evaluating true student performance when AI is used covertly (Yadav, 2024; Mohammad et al., 2024h).

Solution: Curriculum reforms are needed to include AI literacy, teaching students when and how to ethically use AI writing tools.

Ethical Dimensions and Authorship

AI-generated content blurs the line between tool and co-author. Academic policies are still evolving, and inconsistent AI use can lead to plagiarism or unfair grading. Some journals now require disclosure of AI use during manuscript submission.

Recommendation: Institutions must define clear guidelines on AI-assisted writing, including disclosure, originality checks, and acceptable use cases.

Conclusion and Suggestions

Conclusion

'Commit yourself to a life of continuous self improvement' is said in some self development programs. The same is equally good for becoming effective writers.

In this paper, we have seen the utility value of AI in enhancing the writing process across its core stages: idea generation, drafting and revision. The existing literature was reviewed, concerns and implications of using AI were looked at and gap analysis was done.

On the basis of all these above, it is quite evident that AI is no longer a superficial aid but the mainstay of how educated people think, draft and refine their ideas. In fact, from idea generation to final product of the written content, AI steals the show right royally by streamlining the cognitive processes and enhancing the output quality. However, this brilliance must have checks and balances for its ethical use, skill-building and human oversight.

This study calls for effective deployment of AI wherever it is appropriate as it empowers writers to be faster and more efficient but it cautions one to use it judiciously so that the intellectual rigour, originality and creativity is not compromised in the garb of AI ; the authenticity should not be undermined for getting the speed and for churning out volumes. It should not be a case of ends justifies the means. Instead, synergising AI capabilities with human intuition, critical thinking and ethical responsibility must get the better of. Then writers, with their skills refined by AI, will be the products to watch for and a force to reckon with, changing for the better.

Suggestions

- Integrate AI literacy into academic curricula to teach students responsible use.
- Develop institutional guidelines for AI use in assessments and writing submissions.
- Encourage co-creative learning models where AI is used to assist, not replace, original writing.
- Use AI tools as formative feedback systems rather than summative evaluators.
- Promote research on AI's long-term cognitive impact, especially in language education.

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