Writing skills can be improved using AI tools: An Analysis

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Abstract

At the college level, there are courses that teach 'Technical Writing' to engineering students at the undergraduate level. Typically, the writing component in the curriculum presents a significant challenge for undergraduate students as they work toward graduation. However, with the introduction of Artificial Intelligence tools for writing, students find it somewhat easier to produce written content for their courses.

Artificial Intelligence (AI) writing tools are sophisticated applications that harness artificial intelligence to enhance the writing process across various domains. These tools utilize advanced algorithms to automate the writing process, enabling users to create high-quality text with greater efficiency. Designed to cater to a broad audience, including students, professionals, and researchers, AI writing tools ensure the production of high-quality, coherent, and engaging texts while promoting adherence to stylistic and formatting guidelines. By automating repetitive writing tasks and facilitating creative exploration, these tools not only improve writing efficiency but also empower users to elevate their writing skills and output quality. As AI technology continues to evolve, these writing tools play a crucial role in transforming traditional writing practices, fostering creativity, and improving overall writing proficiency.

In today's academic landscape, there is a wide range of AI-powered writing assistance tools available for use when working on reports or essays. Some commonly used tools include ChatGPT, Jasper AI, Grammarly, Copy.ai, Liner, Buffer's AI Assistant, Writer, Sudowrite, Type, and SEOWind. The presence of AI tools in education is rapidly increasing, and it is essential for educators to acknowledge this trend. This paper outlines the various features of these writing tools available in the market and discusses how they can be beneficial for both students and teachers.

In this paper, a comparison table is provided to highlight the distinctive features of various widely used "AI Writing Tools" in academia and industry. Additionally, the paper discusses the advantages and disadvantages of the different "AI Writing Tools" currently available in the market. The information is presented in a tabular format.

Introduction

The world is experiencing a convergence of powerful transformative forces. Digital technologies and advancements in artificial intelligence are reshaping markets, economies, and societies. The rapid evolution of information and communication technology has revolutionized education, work, and daily life, playing a vital role in reshaping the educational landscape, enhancing teaching and learning, and ensuring the delivery of high-quality education. The impact of technology on teaching and learning is heavily influenced by the pivotal role of teachers as decision-makers in education. However, unforeseen events such as the global disruption caused by the COVID-19 pandemic have often thwarted teachers' autonomy, particularly in the western world, where educators were compelled to swiftly transition to online teaching to ensure uninterrupted learning for students at all levels (Teo T, 2009).

The usefulness of AI technology for English as a Foreign Language (EFL) teachers can be appreciated by non-English speaking countries. In the world of teaching English as a Foreign Language (EFL), embracing technology opens a world of authentic English learning materials for both teachers and students. This is particularly crucial in countries where English is not the native language. Furthermore, integrating technology enhances students' intercultural awareness, language learning efficiency, and overall effectiveness. The consensus among EFL teachers is clear: technology integration is a game-changer. However, for this integration to be successful, EFL teachers must possess the necessary knowledge and skills. To cater to the needs of tech-savvy digital native students who thrive on using technology for learning, EFL teachers must wholeheartedly embrace and integrate technology into their teaching methods. It's all about having a positive attitude towards technology (Huang, 2022).

Since the rise of online education, managing learning and assessment has become more challenging. Students have increasingly turned to online resources for help with studying course subjects and performing well in exams. AI tools have become invaluable for tasks such as essay writing and report writing. There are numerous AI tools available to assist both students and professors with their specific needs.

The recent advancements in artificial intelligence (AI) have brought about a significant transformation in the process of writing, editing, and language learning. Tools for automatic writing evaluation (AWE) have evolved beyond basic spell-check and grammar correction to provide comprehensive assistance in identifying and revising writing issues. Additionally, synchronous corrective feedback is now available in standalone tools or integrated into word processors, further enhancing the writing and editing process (Godwin, 2022).
In today's digital age, where content is king, the demand for high-quality writing has increased significantly. There are numerous AI tools available to assist in writing essays and reports, whether they are technical or literary. Businesses are in need of compelling marketing copy, and students strive for polished essays, making effective communication more crucial than ever. AI writing tools have emerged as transformative technologies, reshaping the way we approach writing and content creation.

The development of AI writing tools started with simple grammar and spell checkers, mainly used to fix language errors. As natural language processing (NLP) and machine learning progressed, these tools became advanced platforms that could comprehend context, tone, and style. Today's AI writing tools can produce text, provide style recommendations, and even generate original content customized for particular audiences.

AI Writing Tools Functionalities

Many AI writing tools offer real-time grammar and punctuation corrections, as well as suggestions for improving clarity and style, helping users create polished and professional writing. Platforms like Jasper and Writesonic can generate entire articles, blog posts, or marketing copy based on user inputs, utilizing vast datasets to create relevant content aligned

with the user's goals. Some writing tools, such as INK Editor, provide SEO features to help users optimize their content for search engines, including keyword suggestions, readability assessments, and guidance on structuring content for maximum visibility. QuillBot and similar tools offer paraphrasing capabilities, allowing users to rephrase sentences or summarize lengthy texts to enhance clarity and brevity. Tools like Sudowrite offer brainstorming prompts, character development suggestions, and plot ideas for fiction writers, to make the creative process more dynamic and engaging. Additionally, many AI writing tools integrate with collaborative platforms, enabling teams to work together seamlessly, share feedback, and track revisions in real time.

AI Writing Tools Benefits

AI tools offer an incredible opportunity to slash the time spent on writing and editing by taking over repetitive tasks. This empowers writers to channel their energy into high-level thinking and unleash their creativity, resulting in a significant boost in efficiency. Moreover, AI can step in as a dynamic brainstorming partner, injecting fresh ideas and unique perspectives that writers might not have explored. This paves the way for more inventive and captivating content, fueling creativity to new heights. Furthermore, AI writing tools open the doors to top-notch writing assistance for all, breaking down barriers for individuals grappling with language proficiency or writing skills, enabling them to elevate their communication. In the business world, maintaining a consistent brand voice across diverse content types is paramount. Enter AI tools, the guardians of coherence and brand alignment, ensuring that messaging remains steadfastly harmonized with brand identity. Last but not least, AI writing tools double up as valuable educational resources, furnishing users with suggestions and corrections to refine their writing skills over time.

AI Writing Tools Challenges and limitations

AI-generated content can certainly be striking, but it's essential to recognize that it may lack the sophisticated depth of human writing in certain instances. There are valid concerns that AI tools could churn out text that feels generic or routine, ultimately leading to a decrease in quality. Writers may inadvertently rely too heavily on AI tools, which could potentially impact their development as skilled communicators. Relying solely on AI can lead to a decline in critical thinking and creativity. It is important to carefully consider the ethical implications of using AI-generated content, particularly in academic and professional settings, where the boundary between AI assistance and plagiarism could become less clear. Additionally, the potential misuse of personal information and data security concerns related to AI writing tools should be thoroughly examined. It's worth noting that AI tools may encounter challenges in understanding complex contexts, cultural references, and emotional subtleties, potentially leading to misinterpretations in the generated content.

The "AI Writing Tools" used for the analysis are listed in Table 1 along with the descriptions, pros, and cons.

Pros and Cons of Using Different AI Writing Tools

Understanding the benefits and drawbacks of various writing tools is crucial for making an informed choice. This knowledge empowers individuals to select the most suitable writing tool for their needs, ultimately enhancing their writing experience. The pros and cons of each tool are clearly outlined in Table 1. Table 1 was created after reviewing the writing tools commonly used in academia and the industry. It illustrates the various capabilities of different AI tools, allowing users to benefit from using them for writing essays or reports. Upon reviewing the data in Table 1, it becomes evident that these AI tools are utilized for writing various forms of content, such as blogs, posts, advertisements, essays, or reports.

Features of different AI Writing Tools

Each writing tool must clearly explain its potential features to help users make the right choice for their writing needs. Table 2 was generated after evaluating the functional aspects of AI writing tools. The table includes various features such as "Plagiarism checker," "Sentence Expander," and "Write with AI." Among the tools assessed, ChatGPT, Jasper, Grammarly, Copy.ai, Buffer's AI Assistant, SEOWind, Writesonic, Rytr, Essay Service AI, and Quill Bot stood out as they share more than 10 features in common. These tools offer a wide range of features suitable for students and faculty in higher education. Other writing tools are available, but they do not offer as many features relevant to the needs of students and faculty in higher education.

AI Writing Tools for Undergraduate Students

Based on the data from Table 1 and Table 2, it's clear that certain AI writing tools, such as ChatGPT, Grammarly, Rytr, EssayService AI, Collegeessay, MyPerfectWords, and EssayBot, are notably more useful for students than others.

AI Writing Tools for Faculty and Research Students

Weighing the data from Table 1 and Table 2, it's undeniable that certain AI writing tools, such as Liner, Paperpal, QuillBot, PerfectEssayWriterAI, MyEssayWriter AI, and EssayBot, are significantly more beneficial for faculty and research students than others.

Table 1 Pros and Cons of using different AI Writing Tools

AI WRITING TOOLS COMPARISON			
Writing Tool	**Description**	**Pros**	**Cons**
ChatGPT	A conversational AI by OpenAI that generates human-like text based on prompts	Highly versatile, interactive, great for brainstorming	May produce inaccurate information, requires editing
Jasper	AI writing assistant designed for marketing and content creation	Templates for various content types, user-friendly	Can be expensive, limited creative flexibility compared to humans
Grammarly	An AI-powered writing assistant focused on grammar, punctuation, and style improvements	Excellent grammar checker, writing enhancement suggestions	Limited creative input, focuses mainly on corrections
Copy.ai	AI tool that helps create marketing copy, blog posts, and social media content quickly.	Fast content generation, user-friendly interface	Quality may vary, can lack depth in complex topics
Liner	Provides highlighting and annotation tools for research, along with AI writing features	Great for research, organizes information effectively	Limited writing capabilities compared to others
Buffer's AI Assistant	Offers AI-generated post suggestions for social media platforms	Time-saving for social media managers, ease of use	Mostly focused on social media, less versatile for other content
Writer	AI writing tool focused on creating consistent brand messaging across platforms.	Ensures brand consistency, customizable settings.	May not cater well to all industries; requires setup.
Sudowrite	An AI designed to help authors overcome writer's block and enhance storytelling	Great for fiction writers, creativity-boosting features	Not suitable for all types of writing, can be niche-focused
Type	Focuses on generating web content using structured frameworks	Structure guidance, SEO-friendly outputs	Limited stylistic flexibility; may feel formulaic
SEOWind	An SEO-focused AI writer that optimizes content for search engines	SEO optimization ensures higher visibility	May prioritize SEO over creativity, can be overly technical
Paperpal	An AI tool assisting academic writing and research papers	Tailored for academic use, citation assistance	Limited for general writing, geared towards scholarly work
Writesonic	AI content generator for marketing copy, ads, and blogs	Versatile for different formats, fast output	Quality may vary, needs careful review
Rytr	AI writing assistant that helps create high-quality content efficiently	Affordable pricing, easy to use	Limited templates, quality can fluctuate
EssayServiceAI	Focused on generating academic essays and assignments	Useful for students, tailored for academic requirements	Ethical concerns regarding academic integrity
Midjourney	Primarily an image generation AI but used for creating visual content descriptions	Unique capabilities for visual storytelling	Not a traditional writing tool; focuses on images
Synthesia	Generates videos from text using AI avatars, useful for visual storytelling	Engaging content format, easy to use	Primarily video-focused, not a direct writing tool
Eleven Labs	Voice synthesis tool that creates realistic voiceovers from text	High-quality voice generation for various applications	Limited to audio, not a full writing solution
Collegeessay	Assists students in crafting college application essays	Specific focus on college admissions, structured guidance	Niche usage, may lack broader writing capabilities
Google AI	Offers various AI tools, including natural language processing for content generation	Versatile applications, reliability of Google services	Less tailored for writing specifically, broad functionality
QuillBot	Paraphrasing tool that helps in rewriting and summarizing texts	Great for rephrasing, enhances writing fluidity	Limited in original content creation; dependent on input
Perfect Essay Writer AI	Focused on helping students write essays more effectively with AI assistance	Specific to academic writing, user-friendly	Similar concerns as other academic-focused tools
MyEssayWriter AI	AI tool that helps generate essays and academic papers	Tailored for students, fast essay generation	Vulnerability to academic dishonesty issues
MyPerfectWords	A tool desgned to help users create essays, resumes, and other written content with tailored guidance and templates	User friendly interface, offers various writing templates, provides tips for better wrting	May generate generic content, limited free features, subscription cost for premium tools
EssayBot	AI based writing assistant that helps users formulate essays by generating content based on propts and keywords	Quick content generation, can offer multipled perspectives on topics, helps with brainstorming ideas	Quality of output may vary, can lead to plagiarism if not checked, limited customization options

Table 2 Different features of different AI Writing Tools

Feature	ChatGPT	Jasper	Grammarly	Copy.ai	Liner	Buffer's AI Assistant	Writer	Sudowrite	Type	SEOWind	Paperpal	Writesonic
Language Models	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓
Plagiarism Checker	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓
SEO*	✓	✓	✗	✓	✓	✓	✗	✗	✓	✓	✓	✓
Browser Extensions	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗
Templates	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓
Image Generation	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Customizations	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓
Rewrite Text	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓
Create Outline	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✓
Ask a Research Question	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✓
AI Review	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✓
Write with AI	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓
Make Academic	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✓
Content Rephrase	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓
Sentence Expander	✓	✓	✓	✓	✗	✓	✓	✗	✗	✓	✗	✓

Table 2 Different features of different AI Writing Tools continued…………

Feature	Rytr	EssayService AI	Midjourney	Synthesia	Eleven Labs	College Essay	Google AI	QuillBot	Perfect Essay Writer AI	My EssayWriter AI	MyPerfect Word	Essay Bot
Language Models	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗
Plagiarism Checker	✗	✗	✗	✗	✗	✗	✗	✓	✗	✓	✓	✓
SEO*	✗	✓	✗	✗	✗	✗	✓	✓	✗	✓	✗	✗
Browser Extensions	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗
Templates	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗
Image Generation	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
Customizations	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
Rewrite Text	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
Create Outline	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
Ask a Research Question	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
AI Review	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
Write with AI	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
Make Academic	✓	✓	✗	✗	✗	✓	✗	✓	✓	✓	✗	✗
Content Rephrase	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
Sentence Expander	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗

AI writing tools were summarized by analyzing the information shown in Tables 1 and 2. When choosing an AI writing tool, there are some specific features that one may prioritize. The following shows a list of features that one may want to focus on when choosing the right AI writing tool:

- **User-Friendliness**: The interface should be intuitive and easy to navigate, making it accessible for users of all skill levels.
- **Customization Options**: The ability to tailor the writing style, tone, and other parameters to fit your specific needs or preferences is crucial.
- **Content Quality**: Look for tools that generate coherent, high-quality, and relevant content that meets academic or professional standards.
- **Plagiarism Detection**: A built-in plagiarism checker can help ensure that the generated content is original and properly cited.
- **Research Capabilities**: The ability to integrate research and data from various sources can enhance the quality of the output.
- **Grammar and Style Checks**: Advanced grammar and writing style checking features can help refine the output further.
- **Collaboration Features**: If working in a team, features that allow for collaboration and sharing can be beneficial.
- **Feedback Mechanism**: Tools that provide feedback on the writing process can help users learn and improve their skills over time.
- **Support and Resources**: Access to helpful tutorials, customer support, or additional resources can make the tool more valuable.
- **Cost-Effectiveness**: Evaluate whether the pricing structure offers good value for the features provided, considering free trials or subscription models.

These features depend on the specific needs of the user that help them choose the right AI writing tool for their work.

Conclusions

AI writing tools are a significant leap forward in content creation, offering powerful functionalities that enhance writing efficiency, creativity, and accessibility. Users must approach these tools critically, recognizing their limitations and ethical implications. It's crucial to carefully consider the ethical aspects of using AI tools before students dive in. Providing students with a suggested template for utilizing AI tools and informing them about which tools are permissible and which are not is essential for creating a responsible and ethical learning environment. As the writing landscape evolves, the interplay between human creativity and AI assistance will shape the future of communication, presenting both exciting opportunities and challenges. Thoughtfully embracing this technology will be key to harnessing its potential while preserving the artistry of the written word.

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