

Transformative Experiences: Zoho's AI Writing Solutions

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Abstract— The swift and incessant advancement of technology has influenced learning in various aspects. Technology and English language education are highly related to each other. As writing is difficult, complex, and challenging for an English language learner than speaking, the integration of traditional learning approaches and technology is crucial in improving the participants' writing performances. This paper explores the benefits of Zoho's AI-based Writing tool. The participants were randomly selected from a private university in Odisha. Zoho's smart writing assistant checks the content and offers suggestions to improve grammar, punctuation, spelling, and writing style. The respondents are divided into two target groups using the same instructions, with the exception that one group could use Zoho and the other could write in the traditional way. The results of this study revealed that Zoho could be utilized for improving the writing performance of the learners.

Index Terms — AI, Writing, Technology, Zoho

I. INTRODUCTION

The rapid and continuous progress of technology has significantly impacted various facets of learning, with a profound connection existing between technology and English language education. Writing, being notably intricate and challenging for English language learners in comparison to speaking, necessitates the integration of conventional teaching methods with technology. This paper utilizes Zoho's AI-based Writing tool, a technology that holds the potential to enhance writing skills. The study involves participants selected randomly from a private university in Odisha, representing a diverse pool of learners. Zoho's intelligent writing assistant plays a pivotal role by not only checking the content for errors but also providing valuable suggestions to enhance grammar, punctuation, spelling, and writing style. To assess its effectiveness, participants were divided into two distinct groups, each receiving identical instructions, with the only difference being that one group utilized Zoho's tool while the other adhered to traditional writing methods. The outcomes of this research endeavour demonstrated the positive impact of Zoho's AI-based Writing tool in improving the writing performance of the learners, projecting its potential as an invaluable asset in the field of English language learning.

English has evolved into a global language, and proficiency in it, especially in writing, is paramount. Mastering the art of writing in English demands dedication involving diverse methods. This proficiency is essential for effective communication, accessing job opportunities, and excelling in academic writing. Despite the widespread recognition of the significance of mastering English writing, learners face numerous challenges in the learning process.

Individuals across the globe encounter difficulties in achieving a high level of mastery in writing, particularly in complex tasks like organization and reflection. Often, the learning process primarily focuses on basic writing activities, such as memorizing words and translations, overlooking the development of higher-order skills. Fluency is being able to string words together, like pearls on a chain, into sentences and make them comprehensible. In other words, it is a meaningful flow of words [1]. Fluency in writing is the ability to construct sentences coherently, ensuring a meaningful flow of thoughts. However, many learners struggle to convey their ideas due to inadequate

writing fluency [2]. Various factors contribute to these challenges. Outdated teaching methods, which do not align with current needs, and a lack of motivation often hinder progress. There is a tendency to concentrate solely on grammar and vocabulary learning, delinked from natural and authentic contexts [3]. Writing fluency, defined as the ability to present a topic in an organized manner without compromising the reader's understanding, is a fundamental aspect of proficient writing. [4]. Despite the importance of writing fluency, research in this area remains limited. Writing is a common means of communicating and explaining information in written forms. Being a fluent writer is a vital skill that can significantly impact one's success and accomplishments throughout life [5].

II. Artificial Intelligence (AI) And Writing

This paper explores existing literature on how AI technologies have transformed language learning methodologies. It demonstrates the effectiveness of AI-powered applications in improving language proficiency, focusing on writing skills enhancement. Some benefits are:

A. Tools for Grammar and Spelling Correction

AI writing tools identify and correct grammatical errors and spelling inaccuracies, ensuring the writing is clear and professional.

B. Enhancement Tools for Style and Tone

These applications assess the tone and style of existing written material, providing suggestions to enhance its appeal, persuasiveness, or appropriateness for a specific audience. This elevates the overall quality of the writing.

C. Content Generation Assistance

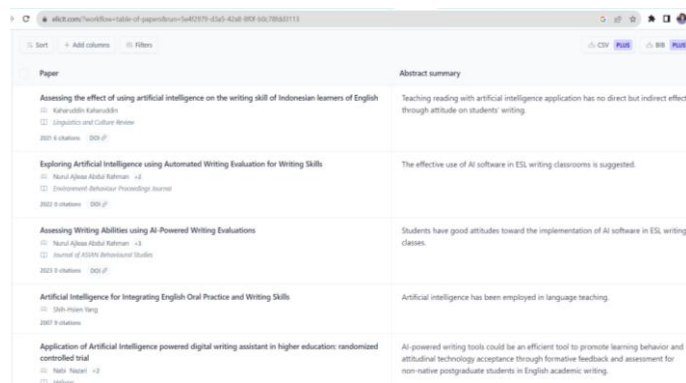
AI-powered tools are capable of generating consistent and relevant content by leveraging extensive databases and language models. This functionality enables writers to save time and aids in tasks such as generating blog concepts, crafting social media posts, composing essays or full-length articles. Temporary methods regard language as a medium to share the best ideas. The world is growing with new ideas and technologies, generating new methods of reading and writing to encourage and motivate students to learn and cope with the new technologies. One such technology is Artificial Intelligence. It is an interdisciplinary area that prompts human intelligence to develop a creative thinking process with a naturalistic learning style. Its powerful tools facilitate learning and developing the educational process.

AI has become an indispensable element in learning and training, offering the potential to make learning effortless and engaging [6]. Mobile devices empower students with autonomy to learn at their own pace, in various locations and at different speeds. This flexibility enables continuous exposure and practice of literacy skills, providing learners immediate correction and feedback on their learning topics [7]. Grammarly, a digital writing tool boasting over 20 million international users, enhances writing proficiency [8]. Mobile apps and technology are catalysts, encouraging learners to cultivate self-discipline and responsibility. By utilizing these apps in their studies, learners are more likely to independently engage in their learning activities, fostering a sense of autonomy [9]. Research has explored the positive impact of AI applications on students' academic achievement, emphasizing the significance of AI in creating immersive educational environments and addressing common educational challenges [10] [11]. AI also plays a constructive role in advancing higher education, gradually supplanting traditional teaching methods [12]. In contemporary society, digital technologies have become integral to people's daily lives, highlighting the importance of AI and related applications in education [13]. Studies have shown the impact of AI Chatbots on enhancing English grammar skills among Korean college students. The research findings demonstrated a significant improvement in participants' grammar skills after utilizing AI Chatbots, highlighting the potential of AI-driven tools in language learning [14]. Artificial intelligence applications serve as a boon to students and learners as they help them to learn in an experimental way, particularly in a judgment-free context with better solutions like Grammarly, Zoho Writer, Word Processor and Chatbots.

In the digital age, Artificial Intelligence (AI) has revolutionized various aspects of education, especially in language skills development. AI-based writing tools have emerged as powerful aids in enhancing writing proficiency. This paper introduces the topic, emphasizing the importance of AI-based writing tools and highlighting Zoho's

innovative approach in this field. Researchers have employed various methodologies to assess the effectiveness of AI-based writing tools. Surveys, user feedback analysis, and comparative studies have been instrumental in evaluating user satisfaction and learning outcomes [15]. Studies have consistently reported high user satisfaction rates with Zoho's AI-based writing tools [16]. Users appreciate the tools' ability to provide real-time feedback and suggestions, leading to significant improvements in writing quality [17]. Comparative studies have shown that Zoho's applications excel in accuracy and ease of use when compared to other AI-based writing solutions in the market [18]. The tools' user-friendly interfaces and robust NLP algorithms have contributed to widespread adoption [19]. Zoho's AI-based writing tools have emerged as valuable assets in enhancing English writing skills. Their effectiveness, as highlighted by recent research, underscores their importance in education and professional contexts. As technology advances, these tools are expected to play a pivotal role in shaping the future of writing education [20]. Future research should explore the potential integration of AI-based writing tools with virtual learning environments. Investigating the long-term impact of these tools on students' writing skills and analyzing their adaptability to different educational settings would provide valuable insights for educators and researchers.

Elicit AI (<https://elicit.com/>) was utilized for a literature review. The researcher employed the platform's sophisticated tools and algorithms to gather, analyze, and summarize relevant research papers, articles, and publications.



Paper	Abstract summary
<p>Assessing the effect of using artificial intelligence on the writing skill of Indonesian learners of English</p> <p>Kaharudin Kaharudin Linguistics and Culture Review 2021 4 volumes 300 p</p>	<p>Teaching reading with artificial intelligence application has no direct but indirect effect through attitude on students' writing</p>
<p>Exploring Artificial Intelligence using Automated Writing Evaluation for Writing Skills</p> <p>Nazki Azzahra Rizki Rahmat - 14 Enhancement Behaviour Knowledge Journal 2022 3 volumes 300 p</p>	<p>The effective use of AI software in ESL writing classrooms is suggested</p>
<p>Assessing Writing Abilities using AI-Powered Writing Evaluations</p> <p>Nazki Azzahra Rizki Rahmat - 14 Journal of ASIA Enhancement Studies 2022 3 volumes 300 p</p>	<p>Students have good attitudes toward the implementation of AI software in ESL writing classes</p>
<p>Artificial Intelligence for Integrating English Oral Practice and Writing Skills</p> <p>Siti-Masriyanti 2022 3 volumes</p>	<p>Artificial intelligence has been employed in language teaching</p>
<p>Application of Artificial Intelligence powered digital writing assistant in higher education: randomized controlled trial</p> <p>Nazki Azzahra Rizki Rahmat - 14 Heliyon 2022 3 volumes</p>	<p>AI-powered writing tools could be an efficient tool to promote learning behavior and attitudinal technology acceptance through formative feedback and assessment for non-native postgraduate students in English academic writing</p>

Fig 1: Literature Review from Elicit AI

The research papers indicate that the incorporation of artificial intelligence (AI) can yield favourable outcomes in the field of writing skills. Incorporating AI into reading instruction and offering feedback indirectly enhanced students' writing skills by positively influencing their attitudes towards the teaching approach [21]. Malaysian university students held positive opinions about AI software, specifically Automated Writing Evaluation (AWE), regarding its efficacy in enhancing their writing abilities [22]. AI's integration in oral practice and writing exercises brings to the light its potential to elevate language learning experiences. Rahman's recent study [23] reinforced the effectiveness of AWE in pinpointing grammatical errors and improving writing proficiency among Malaysian university students. Collectively, these research findings strongly advocate for integrating AI, particularly AWE, as a valuable tool for enhancing writing skills.

The paper provides insights into the use of AI in writing pedagogies. In a systematic review, it was found that students are increasingly using various AI-powered writing assistance tools, including automated writing evaluation tools, corrective feedback tools, machine translators, and automatic text generators [24]. Students applied natural language generation (NLG) in creative writing and found different strategies for using NLG-generated words [25]. A study on students' perceptions of AI in a writing class found that students had positive perceptions and enjoyed using an AI app for writing [26]. The implications of AI-based natural language production systems for teaching writing and suggested strategies for instructors to address the challenges posed by these systems [27]. Studies highlight the growing presence of AI in writing pedagogies and provide insights into its potential benefits and considerations for integration into the classroom.

This paper aims to discuss the Zoho Writer feature of the Zoho AI-based Writing Tool. Zoho is an online word processor that allows a learner to write, edit and collaborate on documents, as well as publish them on multiple

platforms. It features Cliq, Projects, Sheet, Show, Sign, Work Drive and Writer.

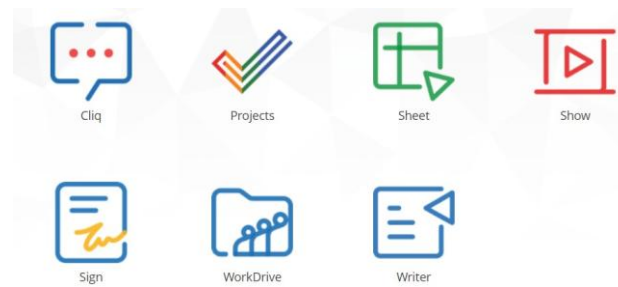


Fig 2. Features of Zoho (Zoho)

The paper outlines the benefits of the Zoho Writer tool.

- A Co-authoring and peer edit tool for documents.
- Helps to self-edit and write to build better writing skills.
- Motivates in brainstorming and idea mapping for best ideas.
- Helps to create the best list of items essential to a topic.
- Acts as an alternative method for learners who are struggling to write
- Learners can use the highlighting tools to mark the text and find good ideas and important details.

A browser extension for Zoho Writer's AI-driven smart writing assistant is Zoho BluePencil. It is regarded as a pocket editor for detailed grammar and style suggestions. It also helps identify grammatical errors in the formation of sentences and delivers customized suggestions to avoid wordy phrases, passive sentences, clichés etc. to have a clear and impactful document. It also supports translation and transliteration.

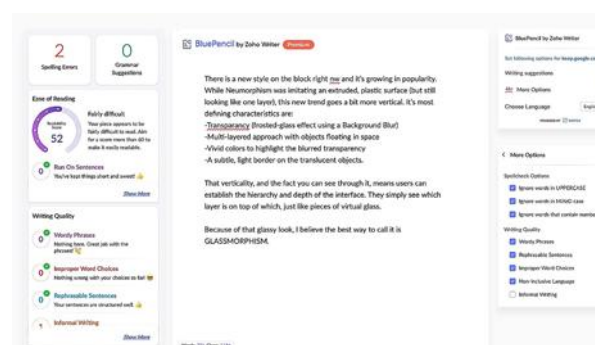
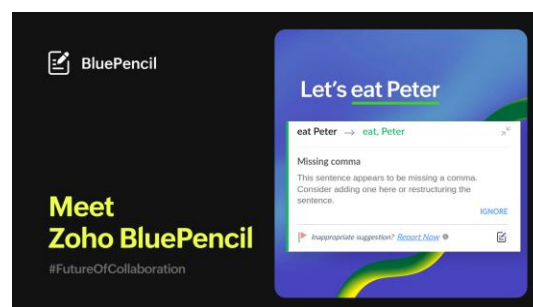


Fig 4: BluePencil from Zoho**Research Questions**

The study provides insights into the advantages and disadvantages of AI-powered writing tools. Students have different attitudes towards these tools, with some using them without scepticism, potentially leading to plagiarism, while others may not use them at all due to scepticism or lack of effective learning strategies [28]. It discusses the time-saving benefits of AI in article writing but also raises concerns about potential risks, such as the release of personal data and the need for human oversight. The users generally welcome AI assistance in writing, as it helps diversify ideas, improves clarity and conciseness, and does not compromise ownership [29]. The emphasis is on the importance of AI companions respecting writers' values and writing strategies to maintain control and autonomy [30]. The researcher not only highlights the potential benefits of AI tools in writing but also the need for careful consideration of their limitations and ethical implications. Research is also needed to ascertain the benefits and the use of new technological tools to learn higher-order writing skills of college students [31].

Research questions were formulated by looking at the gaps in previous studies and funnelling them down to a specific topic.

RQ 1: Can Zoho's AI-based writing application enhance the students' English language writing fluency?

RQ 2: How far is it effectively enhancing the students' writing fluency?

IV. Method*A Participants*

The participants or sampling of the experimental study included twenty students, boys and girls aged 15 from class 10th from an English medium school in Bhubaneswar, Odisha (India). It is often observed and noticed by researchers that high school learners suffer from various problems in writing like no proper ideas to create well-organized and cohesive writing. They lack intelligible and language abilities, which affects their writing. This is a crucial stage for learners to learn, unlearn and relearn the new methods, modes and learning processes. The participants were divided into two groups, Group A and Group B, each group having ten students.

B Tool

The AI tool used for the case study is Zoho AI-based Writer.

C Procedure

Stage 1: Before the beginning of the experiment, a pre-test was conducted and both groups were tested on a similar subject in writing. The topic was "Ice breaking (Address yourself with the aim of your life)". It was found that there was no significant difference between the two groups related to their writing.

Stage 2: A small training was imparted to only Group B on Zoho Writer

Stage 3: Both groups were asked to repeat the test with the same topic. The test showed that the English writing ability and writing achievement of the experimental Group B were significantly higher than those of Group A.

Stage 4: The same process was repeated, a new topic on "Mother: The Inspiration of my Life" was given to both the groups to check whether group B is performing well with Zoho Writer once again.

V. Discussion

The samples of the participants' writings during the pre-test indicate that the answers were almost similar from both the groups in the first attempt without much creativity and with error. However, there was a remarkable change in writing with the application of Zoho Writer.

*Topic 1**Sample 1 (Group A)*

Myself Satya. Reading in class 10th. I like music. I am smart boy of class. I want to be a doctor to help others and

cure others.

Again when asked to rewrite the same topic without using any application the content of the student was almost same.

Sample 2 (Group B)

"I am Anil. I am in class 10th. I am Indian. I want to be an engineer. My favourite subject is Science. I want to buy a big home in the future."

With Zoho Writer

"I'm Anil Kumar. I am 15 years old. I am from Bhubaneswar, Odisha and I am a student of a Higher Secondary School. It is in Kalinga Vihar. My father is a businessman and my mother is a housewife. The aim of my life is to become an engineer and then an entrepreneur of a reputed company."

In Group B the students' writings showed a tremendous change before and after applying Zoho Writer. Before, it was noticed they used very few words to express their thoughts and ideas, lacked details or what to write, they were full of doubt, but with the Zoho application, it was noticed that the learners wrote with much detail and their writing abilities improved. Their ideas were reflected clearly with proper organization of thoughts and content.

Topic 2

Sample 1 (Group A)

My mother is the person I am proud of. She is inspiration of my life. She cooks good. A hard worker and useful person in my life. She cooks delicious dishes for me. She makes everyone happy. She is 45 years old but looks younger with long hair and beautiful face. I inspire her for everything. My mother is the best for me. I love her and I am proud of her.

Sample 2 (Group B, with Zoho Writer)

Of all I met in my life, my mother is the person I am proud of. In a true sense, she is the inspiration of my life. She is a very good person and the best cook. She is beautiful and gracious. She is respected by everyone. She works hard for our family. She makes everyone happy, and I admire her. She is a wonderful person. My mother is the best role model for me. I love her and I am always proud of her. She is the inspiration of my life.

Group B participants have shown tremendous improvement through new strategies such as Zoho AI. It is also noticed that they had a great interest in acquiring fluency in writing. The proposed AI application Zoho Writer has a positive effect on enhancing English writing skills. The samples also clarified the significant difference in their writing before and after the application of AI.

VI. Conclusion

In this experimental study, the transformative potential of Zoho AI-based Writer in enhancing English writing skills among high school learners was vividly demonstrated. The research described the prevalent challenges students face, such as disorganized writing, limited language abilities, and difficulties in expressing creative ideas. By dividing the participants into Group A and Group B, this study effectively showcased the significant impact of AI technology on language education. The study not only revealed the impressive progress made by Group B, which received training on Zoho Writer, but also shed light on the profound transformation in their writing abilities through a four-stage process. The samples of participants' writings served as compelling evidence, illustrating the marked contrast between Group A's initial struggles and Group B's enhanced clarity, detail, and organization after incorporating Zoho Writer. This application enabled students to articulate their thoughts with precision and confidence, showcasing the immense potential of AI in addressing the complexity of language learning. After the application of Zoho AI Writer, it is observed that the participants could think deeply to expand their ideas to produce a logical sequence of details with a clear vision and proper vocabulary used in their writings. Thus, instructors and learners should explore more opportunities and encouragement like Zoho and similar applications to improve their writing fluency. Using Zoho AI in learning can positively affect learners' writing fluency. It creates a

good rapport between learning the language and enhancing it in writing. Thus, Zoho AI Writer can contribute to reinforcing the writing process by developing all aspects of writing fluency.

The outcomes of this study not only highlight the effectiveness of Zoho AI-based Writer in enhancing English writing skills but also emphasize the broader significance of integrating innovative AI tools in educational settings. The findings highlight the crucial role of AI applications in fostering creativity, improving organization, and enhancing clarity in students' writing. Educators and researchers can draw valuable insights from this study, advocating for integrating cutting-edge technologies like Zoho Writer into pedagogical practices. As education continues to evolve in the digital age, embracing AI tools is a pivotal step toward empowering students with the skills they need to excel in the modern world. This study, therefore, not only contributes to the enhancement of language education but also serves as a testament to the transformative potential of AI-driven solutions in shaping the future of learning.

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