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Impact of Artificial Intelligence Writing Tools on the Academic Writing Skills of ESL learners: A Study Conducted at Graduate Level in Pakistan

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Original Article

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Keywords

Artificial Intelligence, writing tools, ESL learners, Academic writing skills

Abstract

The focus of this research study was to evaluate the effect of the artificial intelligent technology and its use in graduate learners to improve English writing skills. A qualitative approach was employed to conduct the research. The sample of this study was comprised on 120 learners of English as a second language from four departments at the UMT (University of Management and Technology), Lahore. A semi structured interview was shared within the WhatsApp groups of students. The interview was comprised of five questions. The results of the study highlighted the positive impact of the use of AI-based writing tools on learners' efficiency by providing instant feedback, reducing the time and effort required for proofreading and editing. The findings of this study will guide instructors and educators in adopting AI writing tools to enhance learning of English writing skills.

Introduction

There is so much literature to highlight the effectiveness of AI technologies in learning second language. Academic writing skills of students at university level are significantly affected by the development of artificial intelligent (AI) writing tools. AI is widely playing an important role in academia. It includes different research tools, writing checkers, plagiarism identifying tools (Mohamed, 2023). AI tools have become important to rectify mistakes, to fix grammatical errors and to provide instant feedback (Khabib, 2022).

According to Smith and Johnson (2020), the writing skills performance of learners is improved by using AI tools in academic writing. There are many researchers who conducted study on use of AI technology in academia but there is limited number of researches to evaluate the impact of AI technology in English writing skills. Therefore, a thorough research is needed to comprehend the potential advantages and disadvantages of the use of AI technologies in the context of academic writing. The excessive use of technology needs effective writing tools to enhance writing skills in students. In research writings and scholarly papers, importance of writing skills cannot be denied. It is not only important for exam, assignment and presentation but also has equal value in professional growth.

Additionally, evaluating the writing abilities of learners by using AI-based writing assistant provides insight of learners' attitude towards the use of AI based tools. It highlights their difficulties and their level of motivation to use the AI helpers. Learning how AI can assist students to become better academic writers can be helpful to generate treatments and solutions that are specifically suited to the needs and requirements experienced by ESL learners.

In Conclusion, it is required to assess the possible benefits and impact of AI technology and address the unique requirements of learners in their academic writing skills. This study intends to highlight the effect of AI technology on learners' writing skills. Learners use technology if it is user friendly, effortless and easy to understand (Davis, 1989). A study conducted by Wu et al. (2019) to look into the impact technology on human ability discovered that people who like innovativeness are to regard technology more useful and simple to use.

A study conducted by Johnson and Smith (2019), reports that, AI based grammar and spelling checking writing tools are quicker, time saving than the traditional writing lessons. According to study conducted by Thompson et al. (2020) learners who use AI technology are proficient writers. Additionally, AI-based writing assistants help maintain academic writing rules by making formatting specifications and proper style manuals (Ray, 2023).

Objectives

- To access the impact of artificial intelligence assistants on academic writing skills of learners.
- To identify the exiting challenges (if any) in using artificial intelligence-based writing assistants for academic writing.
- To suggest measures to cope with exiting challenges regarding artificial intelligence-based writing assistants.

Research Questions

- How does the use of an artificial intelligence-based writing assistant affect the writing skills of learners?
- What specific aspects of academic writing are improved through the use of an AI-based writing assistant?
- Are there any potential challenges and suggestions associated with the use of an AI-based writing assistant in the context of academic writing?

Theoretical Framework of the Study

Technology Acceptance Model (TAM)

The present study based on the model of Technology Acceptance which is, also named as the TAM, was used in this investigation. This model refers to the user's perception of how straightforward or simple the technology appears to utilize. Individuals are more likely to accept and use a technology which has been shown to be userfriendly, intuitive, and require little effort to understand and use (Davis, 1989). A study by Wu et al. (2019) looked into the impact of human innovativeness on technological acceptability. They discovered that people with greater levels of personal innovativeness regard technology.

Methods

A qualitative approach “netnography” was used to conduct the study.

Sources of data in Netnography

Kozinets (1998) introduced the term ‘netnography’ to refer to an anthropological method to study online, which is further named as virtual ethnography (Hine,2000) or ‘online ethnography’ (Markham, 2005). Netnography is totally online approach. It comprises of graphical, video, photographic sources of information and also develops communication among participants and researcher (e.g., email, website, feedback etc), netnographer can use asynchronous Computer-Mediated Communication assistants (e.g., WhatsApp) (Kozinets, 2010). In this era the interest of the most of the people is turning towards the online learning and incorporating their views virtually. This trend motivated the researchers to collect data virtually.

Data collection

Researcher used WhatsApp for data collection by sharing semi structured interview with the respondents. The interview schedule was comprised of five questions.

Population

120 ESL students were selected from the four different departments of University of Management and Technology Pakistan.

Sample

The convenient sampling technique was employed to select the sample from the private university (University of management and technology) of Pakistan. The sample was comprised of 120 students. These students were randomly selected from four different departments. 30 students were selected from DLC (Department of linguistics and communication), 30 from IAS (Institute of aviation studies), 30 from CFL (Center for languages) and 30 from DELL (Department of English language learning).

Delimitations

This study was delimited to one private university and only four departments. The study's generalizability may be limited due to the small sample size of students from a single university in Pakistan, which may not represent the learners' demographics in the country.

Data Analysis

Data were analyzed by using thematic analysis technique.

Thematic Analysis: The thematic analysis was carried out by following six phases: phase-1 was getting familiarized with data, phase-2 was for generating codes, phase-3 was for searching themes, phase-4 was for reviewing themes, phase-5 was for naming themes and phase-6 was for reporting the themes.

Reporting of Data

Table 1 AI-based Writing Tools’ Impact on Overall Writing Skills of ESL Learners

Codes	Themes	Sub Themes	Reporting Themes (Students’ Feedback)	Challenges	Suggestions to cope with challenges
AI-based writing assistants impacted writing skills of learner.	Positive impact on writing skills	Time Saving	84% of respondents claimed that AI saves time of students in enhancing their efficiency of writing	Lack of training	Provide training sessions to help learners to use AI technology
		Language proficiency	90% learners favored that AI improved their writing proficiency by improving their ability of correct spellings, grammar. Vocabulary, content selection, coherence, creative ability and critical thinking.	Lack of Environment	Create an environment in which learner can seek feedback and help from their peers or writing mentors. Encourage students to participate in discussions
		Error Correction	88% claimed that AI improved their ability to fix writing errors	Lack of resources	The university should provide maximum resources for using technology and artificial intelligence-based software to ESL learners

Table 1 shows the learners’ feedback, 84% of respondents claimed that AI saves time of students and researchers in enhancing their efficiency and production in academic writing activities while 90% students were in the favour that AI enhanced language accuracy and improved their writing, similarly 88% were claimed that AI improved their ability to identify and fix errors and leading to higher quality writing, 90% claimed that AI helped them for bringing coherence and creativity in their academic writing. Challenges were also highlighted by the learners such as lack of awareness, training and lack of IT resources. Learners also suggested the solutions to reduce the challenges by providing training sessions or workshops which help them to understand the capabilities and limitations of AI-based writing aids. This will help them to understand how to utilize the tools efficiently. Moreover, they suggested creating an environment in which students can seek positive feedback and help from their peers or writing mentors. They should be encouraged to participate in discussions and share their experiences by using AI-based writing aids.

Discussion

According to the feedback received, the respondents believed that AI saves their time for researcher; enhance their efficiency in academic writing skills. Finding aligns with previous studies;

they have found that AI tools are for time-saving in writing tasks (Lai et al., 2020; Rauf et al., 2021). Furthermore, 85% of learners supported AI for boosting language accuracy and academic writing. This is similar with Smith and Jones' (2019) results that AI based writing tools improved language proficiency and reduced grammatical errors. According to the study results, 85% of respondents claimed AI raised the ability to identify and fix mistakes, resulting in higher quality writing. This research backs up the findings of Lee et al. (2018), who discovered that AI technologies can efficiently detect and rectify writing faults. Additionally, 90% of respondents stated AI assists them to attain consistency or logical understanding of their academic work. This finding is consistent with Chen and Cheng's (2020) research, which found that AI-based writing aids provide ideas for improving the logical flow of writing. Several issues linked with the employment of AI in academic writing were also raised by the learners. These difficulties include a lack of awareness and training, as well as a lack of a supporting atmosphere and IT resources. These difficulties have already been identified in the literature (Chiu et al., 2019; Goodyear et al., 2020), underlining the need of tackling these issues. To address these issues, students proposed a variety of remedies. To get started, presenting faculty members regular training sessions or workshops could help them grasp the potential and limitations of AI-based writing aids. This suggestion is similar with Lee et al.'s (2021) suggestions for focused training programs to improve learners' awareness and skills in using AI tools. These findings align with the suggestions made by Chang and Yang (2021) who emphasized the importance of providing comprehensive support to users of AI based writing aids.

Conclusion

It is concluded that that AI saves time, increases language proficiency and accuracy, and boosts ESL learners' writing skills by helping in spellings, vocabulary, grammar, content selection, coherence and creativity. There are, however, problems such as lack of awareness, training, and IT resources. Students proposed offering training sessions, creating collaborative learning environments, and establishing resources to address these problems. It is suggested that students have access to support centers, internet resources, and professional IT assistance to improve their academic writing.

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