

Awareness, Adoption, and Impact of AI Tools in Academic Writing among Postgraduate Students of University of Delhi

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Abstract:

Artificial Intelligence (AI) tools have increasingly become part of academic writing and research processes. These tools assist students in grammar correction, idea generation, literature summarization, and citation management. The present study examines the awareness, adoption, and perceived impact of AI tools in academic writing among postgraduate students of the University of Delhi. A survey method was used, and data were collected from 180 postgraduate students across different disciplines through a structured questionnaire. The findings reveal that 85% of students are aware of AI tools, while 68% actively use them in academic writing. Most respondents use AI tools for grammar correction, paraphrasing, literature summarization, and idea generation. Students perceive AI tools as useful in improving writing efficiency and reducing time spent on assignments. However, concerns regarding academic integrity, overdependence, and reliability of AI-generated content were also identified. The study highlights the need for AI literacy programs and ethical guidelines for responsible use of AI in academic writing.

Keywords: Artificial Intelligence, Academic Writing, AI Tools, ChatGPT, Artificial Intelligence.

1. Introduction

Artificial Intelligence (AI) technologies have significantly transformed academic research and writing practices. AI-powered tools such as grammar assistants, paraphrasing tools, and generative AI models assist students in improving writing quality and productivity. These tools can generate text, summarize literature, suggest references, and enhance language accuracy. Recent studies indicate growing adoption of AI-based writing assistants among students and researchers. AI tools can support writing tasks such as proofreading, paraphrasing, and idea generation, thereby improving efficiency and academic productivity. However, concerns

remain regarding ethical usage, academic integrity, and excessive dependence on automated systems. Studies also reveal that although awareness of AI tools among students is high, actual usage varies depending on familiarity, academic discipline, and perceived usefulness. In this context, examining the awareness and usage of AI tools among postgraduate students becomes important to understand their role in modern academic writing.

2. Review of Related Literature

The rapid advancement of Artificial Intelligence (AI) has significantly influenced academic writing and research practices in higher education. Studies indicate that AI-powered tools assist students in drafting content, summarizing literature, improving grammar, and generating research ideas (Kasneci et al., 2023; Zhai, 2022). Research also highlights that generative AI tools enhance writing efficiency and support brainstorming, though institutions need clear policies for their ethical use (Cotton et al., 2023). According to Dwivedi et al. (2023), AI technologies contribute to research productivity by facilitating literature review and information synthesis. Similarly, Tlili et al. (2023) and Rudolph et al. (2023) observed that students increasingly use AI tools for assignments, learning support, and academic problem-solving. Studies by Baidoo-Anu and Owusu Ansah (2023) and Lund and Wang (2023) further show that AI tools improve writing efficiency and assist in literature discovery and manuscript preparation. However, scholars warn that excessive dependence on AI may raise concerns regarding plagiarism, authenticity, and academic integrity (Aydin & Karaarslan, 2023). Earlier research on research ethics by Anderson and Steneck (2011) also emphasizes the importance of maintaining ethical standards in academic work. Overall, literature suggests that AI tools offer significant benefits for academic writing while requiring responsible and ethical use in higher education.

3. Objectives of the Study

1. To examine the level of awareness of AI tools among postgraduate students.
2. To analyze the adoption of AI tools in academic writing.
3. To identify the purposes for which students use AI tools.
4. To examine the perceived benefits of AI tools in academic writing.
5. To identify challenges and concerns associated with AI tool usage.

4. Research Methodology

The present study employs a survey research design to examine the awareness, adoption, and impact of AI tools in academic writing among postgraduate students of the University of Delhi. The study sample consisted of 180 postgraduate students from different academic disciplines, selected through random sampling. Data were collected using a structured questionnaire containing close-ended questions related to awareness, usage patterns, benefits, and challenges of AI tools in academic writing. The responses were compiled and analyzed using descriptive statistical methods such as frequency and percentage analysis, and the results were presented in tabular form for interpretation.

5. AI Tools in Academic Writing

Artificial Intelligence tools have become important digital resources that support academic writing and research activities. These tools use advanced algorithms, natural language processing, and machine learning techniques to assist users in generating, editing, and improving written content. AI tools are capable of analyzing text, suggesting grammatical corrections, paraphrasing sentences, summarizing information, and generating ideas for academic work.

One of the most widely used AI tools for academic writing is ChatGPT, which is based on advanced language models capable of generating human-like text. Students often use ChatGPT to brainstorm research topics, summarize articles, and obtain explanations of complex concepts. Another popular tool is Grammarly, which provides automated grammar checking, spelling correction, and style suggestions to improve writing clarity and accuracy. Similarly, QuillBot is widely used for paraphrasing and rewriting text to enhance originality and avoid repetition. In addition to these tools, AI-powered systems such as Google Gemini and Microsoft Copilot are increasingly being used for research assistance, information retrieval, and academic content generation. These tools can analyze large amounts of information and provide summarized responses to user queries. AI tools offer several advantages in academic writing. They help students save time, improve language quality, and generate new ideas for research. They are particularly beneficial for students who struggle with language proficiency or academic writing structure. Furthermore, AI tools can assist researchers in reviewing literature and organizing research information more efficiently.

Despite these advantages, the use of AI tools in academic writing also raises certain concerns. One of the major issues is the potential risk of plagiarism and misuse of AI-generated content. Excessive reliance on AI tools may also reduce students' critical thinking and independent writing abilities. Therefore, educational institutions need to promote responsible use of AI tools and develop clear guidelines to ensure ethical academic practices.

6. Data Analysis and Interpretation

Table 1: Gender Distribution

Gender	Frequency	Percentage
Male	99	55%
Female	81	45%
Total	180	100%

The gender distribution indicates a balanced participation of male and female students. Male students represent a slight majority, while female students also constitute a substantial proportion of the respondents. The inclusion of other gender categories reflects diversity within the sample population.

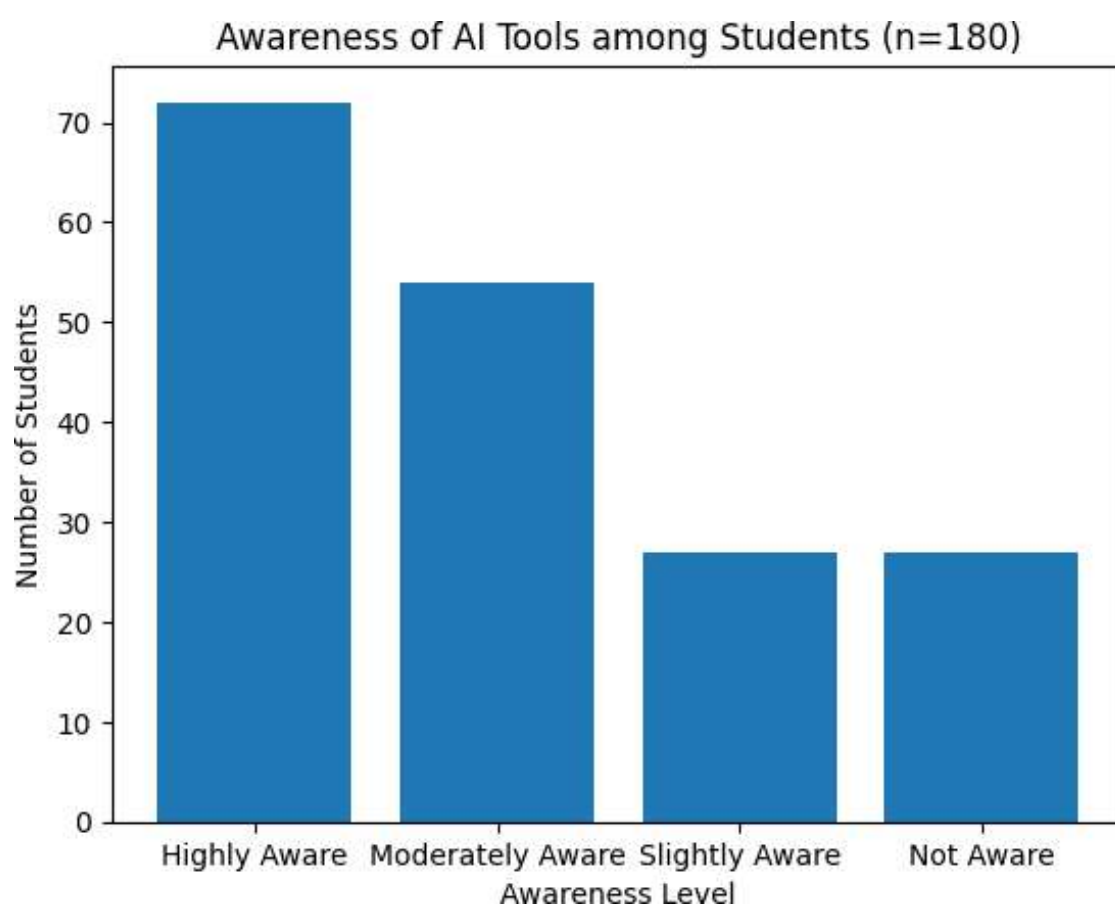
Table 2: Discipline of Study

Discipline	Frequency	Percentage
Social Sciences	55	30.6%
Humanities	42	23.3%
Commerce & Management	36	20%
Science	31	17.2%
Others	16	8.9%

The disciplinary distribution shows that students from social sciences constitute the largest group of respondents, followed by humanities and commerce disciplines. These fields typically require extensive writing assignments, essays, and research projects. Science students also represent a significant proportion, reflecting interdisciplinary engagement with AI tools.

Table 3: Awareness of AI Tools

Response	Frequency	Percentage
Yes	153	85%
No	27	15%



The findings reveal that a large majority (153 out of 180) of postgraduate students are aware of AI tools used for academic writing. This high level of awareness reflects the widespread availability and discussion of AI technologies in educational environments.

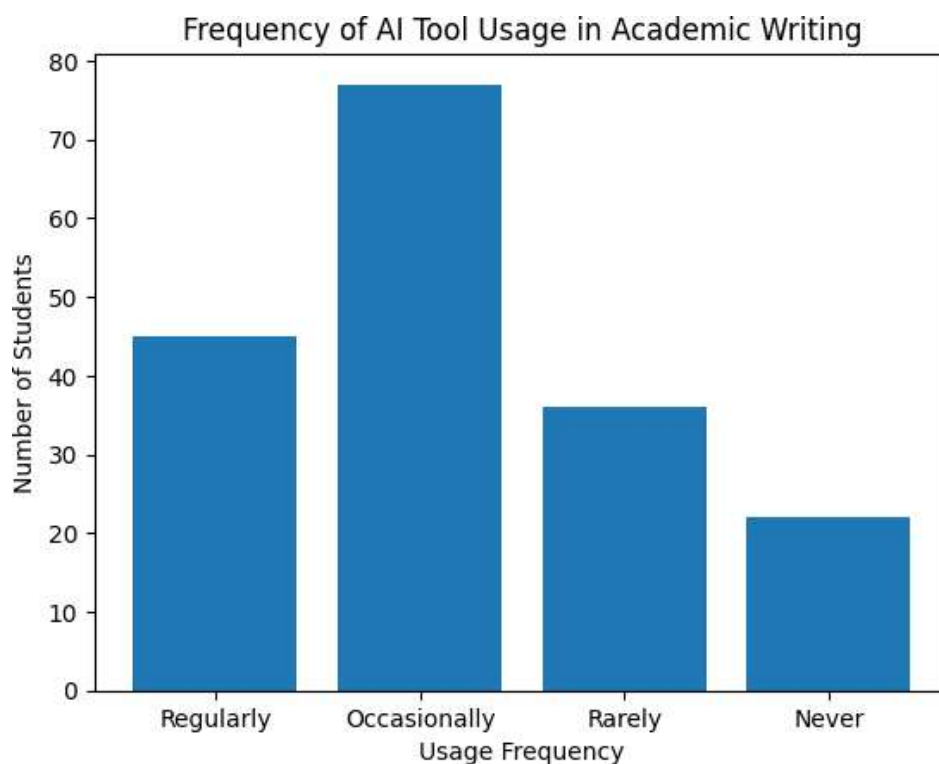
Table 4: Familiarity with AI Tools

AI Tool	Students Aware	Percentage
ChatGPT	160	88.9%
Grammarly	142	78.9%
QuillBot	136	75.6%
Google Gemini	104	57.8%
Copilot	82	45.6%

ChatGPT emerges as the most widely recognized AI tool among postgraduate students. Grammarly and QuillBot are also highly familiar due to their popularity as writing assistance tools. Awareness of other AI systems such as Gemini and Copilot is moderate..

Table 5: Usage of AI Tools

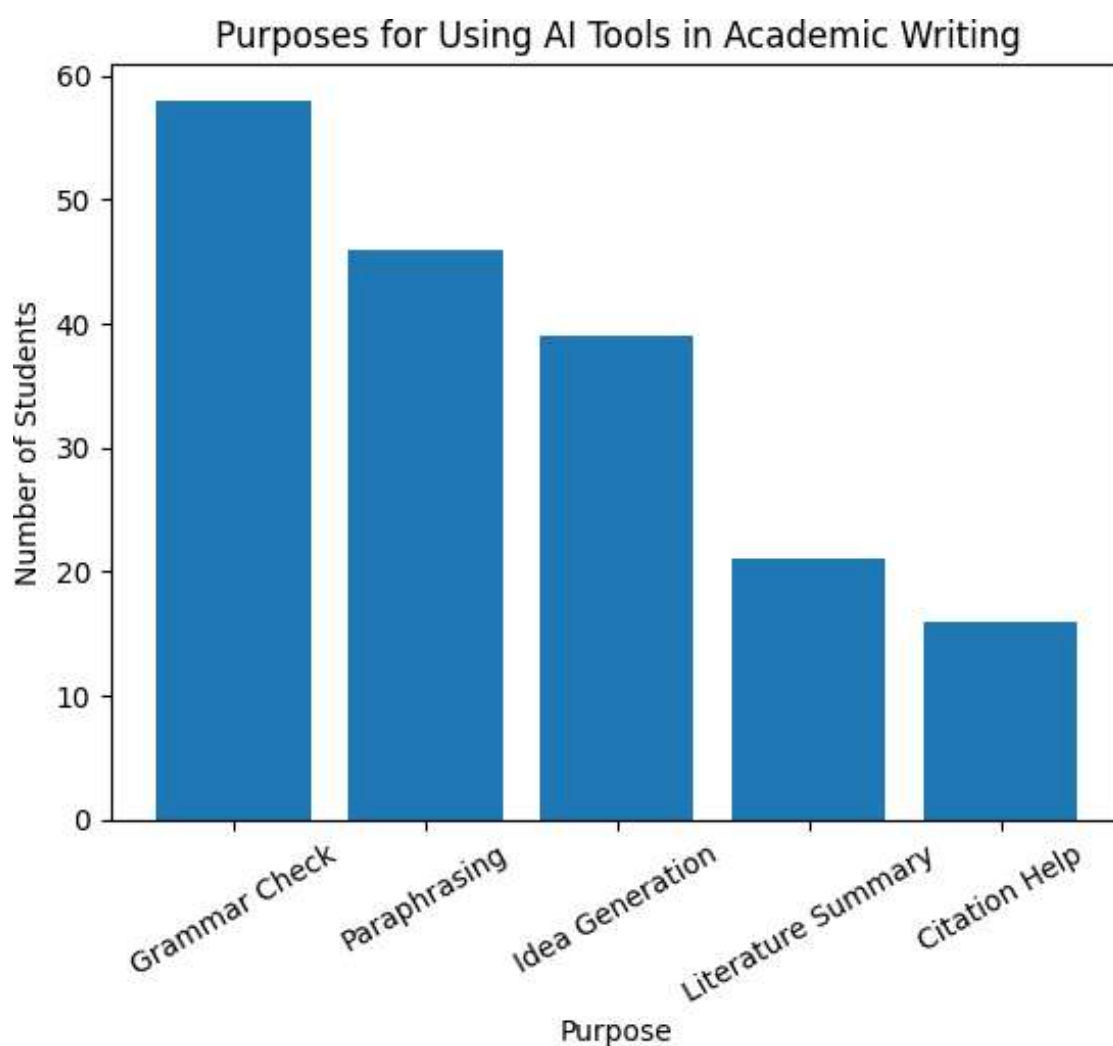
Usage Frequency	Students	Percentage
Regularly	49	27.2%
Occasionally	74	41.1%
Rarely	30	16.7%
Never	27	15%



The results show that a majority of students use AI tools either regularly or occasionally. This indicates that AI technologies have become part of students' academic workflow. However, a portion of students still rarely or never use AI tools, possibly due to concerns about academic integrity or lack of familiarity.

Table 6: Purpose of AI Tool Usage

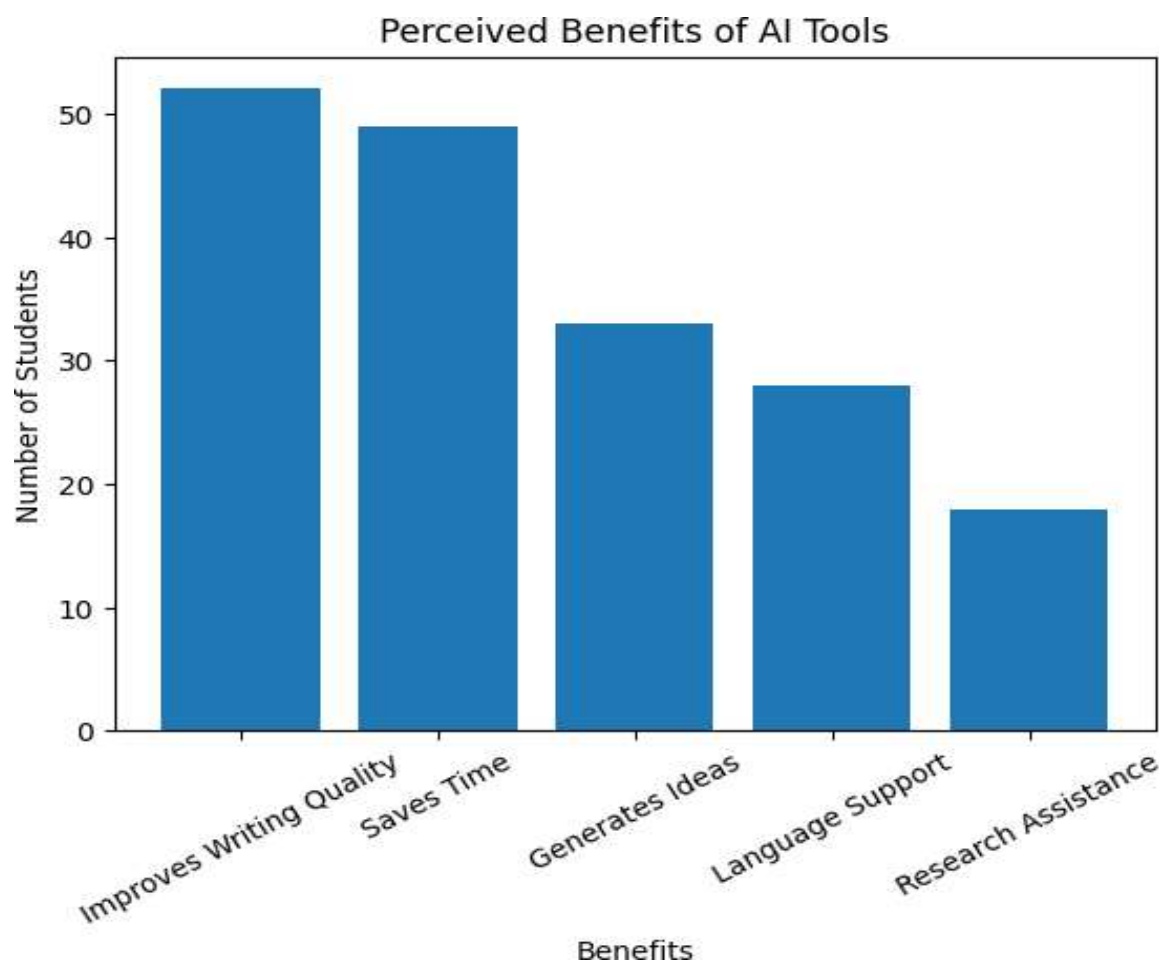
Purpose	Frequency	Percentage
Grammar correction	121	67.2%
Paraphrasing	115	63.9%
Idea generation	103	57.2%
Literature summarization	98	54.4%
Citation assistance	61	33.9%
Full text generation	44	24.4%



The data reveal that students primarily use AI tools to enhance writing quality rather than generate entire academic texts. Grammar correction and paraphrasing are the most common purposes. Students also use AI tools for brainstorming ideas and summarizing literature, demonstrating their usefulness in supporting research and writing processes.

Table 7: Benefits of AI Tools

Benefit	Frequency	Percentage
Saves time	132	73.3%
Improves writing quality	124	68.9%
Helps generate ideas	110	61.1%
Assists non-native English writers	95	52.8%
Helps organize research	82	45.6%

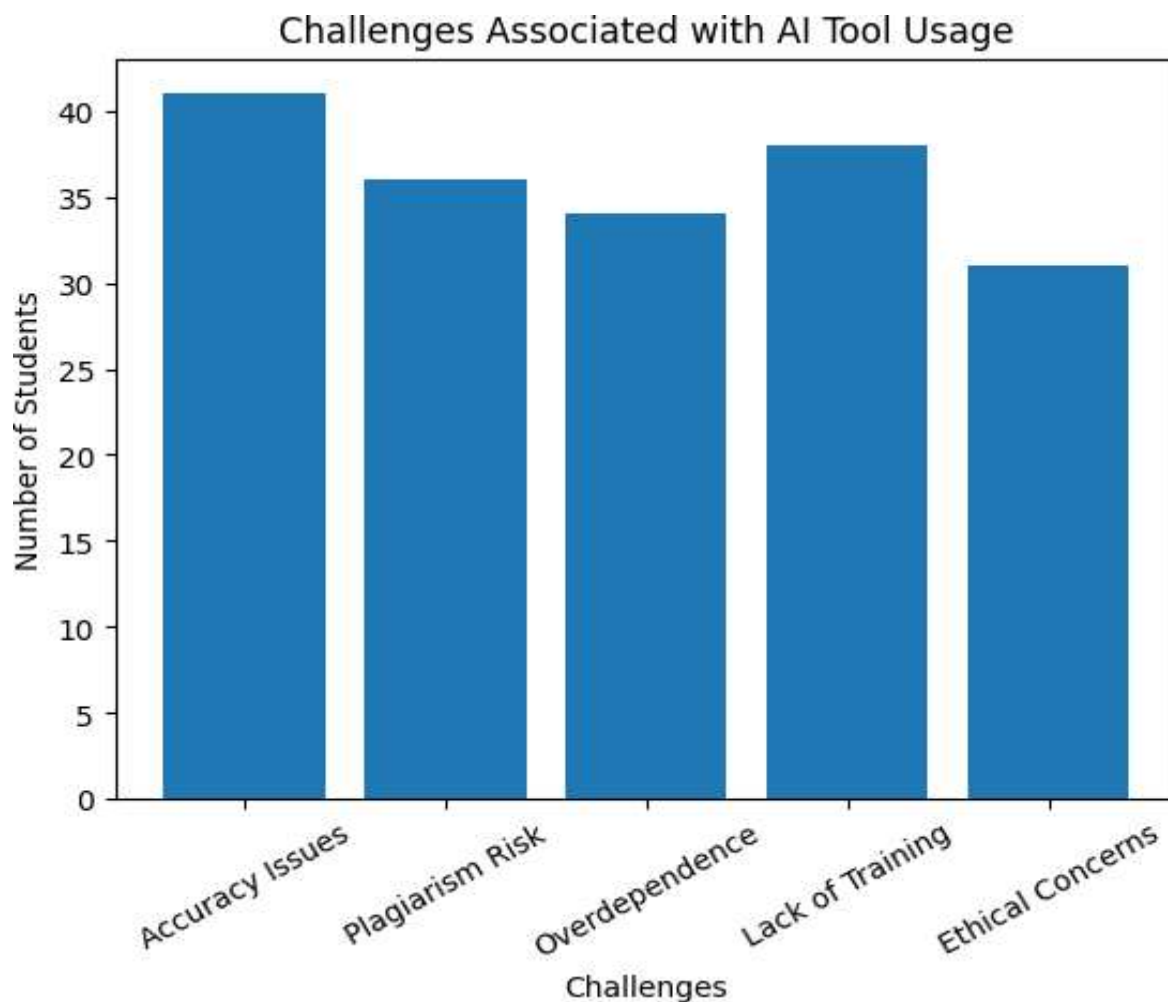


Students perceive several advantages of AI tools in academic writing. The most prominent benefits reported are time saving and improve writing quality. Student also feels that it help generate ideas. Additionally, AI tools assist students who face language difficulties and help organize research materials effectively.

Table 8: Challenges in Using AI Tools

Challenge	Frequency	Percentage
Academic integrity concerns	108	60%
Overdependence on AI	94	52.2%

Challenge	Frequency	Percentage
Inaccurate information	88	48.9%
Lack of institutional guidelines	73	40.6%
Plagiarism risk	69	38.3%



Despite their benefits, students also reported several concerns regarding AI tools. 60% students feels challenge of Academic integrity. Students also expressed concerns about overdependence and potential inaccuracies in AI-generated content. The lack of institutional policies regarding AI use was another important issue highlighted by respondents.

Table 9: Impact of AI Tools

Impact Level	Students	Percentage
Very Positive	54	30%
Positive	71	39.4%
Neutral	31	17.2%
Negative	17	9.4%
Very Negative	7	3.9%

The overall perception of AI tools among postgraduate students appears to be largely positive. Nearly 70% of respondents reported a positive impact of AI tools on their academic writing. These findings suggest that AI technologies are increasingly recognized as supportive tools that enhance productivity and writing efficiency.

The findings demonstrate that AI tools have become widely recognized and increasingly adopted among postgraduate students. The high level of awareness reflects the rapid diffusion of generative AI technologies in academic environments. Students primarily use AI tools for grammar correction, paraphrasing, and idea generation, which indicates that these tools are mainly used as writing assistants rather than complete content generators. The positive perception of AI tools highlights their role in improving efficiency and productivity in academic writing. However, the concerns regarding academic integrity and overdependence emphasize the need for institutional policies and responsible AI usage.

7. Conclusion

The study concludes that AI tools are becoming an integral part of academic writing among postgraduate students. A majority of students are aware of and actively use AI tools for various writing-related tasks. While these technologies offer significant advantages such as time saving, improved writing quality, and idea generation, concerns regarding plagiarism, accuracy, and ethical use remain important challenges. Universities should therefore promote AI literacy programs and develop clear guidelines for the responsible use of AI tools in academic writing.

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