



IMPACT OF ARTIFICIAL INTELLIGENCE ON POSTGRADUATE STUDENTS

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Abstract

Artificial Intelligence (AI) has become an important technological tool in higher education, transforming the way students learn, conduct research, and complete academic tasks. This study examines the impact of Artificial Intelligence on postgraduate students by analyzing its usage, benefits, challenges, and overall perception among learners. Data were collected from 50 postgraduate students through a structured questionnaire. The findings reveal that AI tools are widely used for assignments, research, examination preparation, and accessing study materials. Students generally perceive AI as beneficial for improving academic performance, enhancing learning efficiency, and supporting personalized learning. However, concerns regarding overdependence on technology, reduced critical thinking, plagiarism, and inaccurate information were also identified. The study concludes that Artificial Intelligence has a predominantly positive impact on postgraduate students, provided that it is used responsibly and supported by proper academic guidelines.

Keywords: Artificial Intelligence, Data, Academic guidelines, Postgraduate Students

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Introduction

Artificial Intelligence (AI) refers to the ability of machines and computer systems to perform tasks that normally require human intelligence, such as learning, reasoning, problem-solving, and decision-making. In recent years, AI has become increasingly integrated into the education sector through tools such as chatbots, virtual assistants, grammar checkers, and research-support systems. These technologies help students access information quickly, improve learning efficiency, and enhance academic

performance. As a result, AI has emerged as a valuable educational resource, particularly for students pursuing higher education.

Postgraduate students frequently engage in research, advanced learning, and academic writing, making AI an important support tool in their educational journey. AI assists students in completing assignments, understanding complex concepts, conducting research, and managing study time effectively. Despite these advantages, concerns have been raised regarding excessive dependence on AI, reduced creativity and critical thinking,

academic dishonesty, and the reliability of AI-generated information. Therefore, understanding students' perceptions of AI and its impact on their academic experiences is essential for promoting its effective and ethical use in higher education.

NEED FOR THE STUDY

Artificial Intelligence is rapidly becoming a part of students' academic lives. Many postgraduate students rely on AI tools for learning, research, assignment preparation, and examination support. While AI offers significant educational advantages, it also raises concerns regarding dependency, reduced creativity, and ethical challenges. The need for this study arises from the growing influence of AI in higher education and the lack of comprehensive understanding regarding its impact on postgraduate students. The study helps identify the benefits and drawbacks of AI usage and provides valuable insights for educators, policymakers, and students regarding the effective integration of AI into educational systems.

STATEMENT OF THE PROBLEM

Artificial Intelligence has become an important educational tool among postgraduate students. Although AI contributes positively to learning and academic performance, concerns remain regarding overdependence, academic integrity, creativity, and critical thinking. Therefore, there is a need to examine the overall impact of Artificial Intelligence on postgraduate students and assess their perceptions regarding its advantages and disadvantages.

OBJECTIVES OF THE STUDY

1. To examine the extent of AI usage among postgraduate students.

2. To identify the positive impact of AI on academic performance.
3. To analyze the influence of AI on learning experiences.
4. To study the negative consequences associated with AI usage.
5. To assess students' overall perception of AI in higher education.
6. To suggest measures for the responsible use of AI in academics.

HYPOTHESES OF THE STUDY

H_0_1: Artificial Intelligence has no significant impact on postgraduate students' academic performance.

H_1_1: Artificial Intelligence has a significant impact on postgraduate students' academic performance.

H_0_2: Artificial Intelligence does not significantly improve learning experiences among postgraduate students.

H_1_2: Artificial Intelligence significantly improves learning experiences among postgraduate students.

H_0_3: Artificial Intelligence has no significant negative effect on students' independent thinking and creativity.

H_1_3: Artificial Intelligence has a significant negative effect on students' independent thinking and creativity.

RESEARCH METHODOLOGY

Research Design

The study adopts a descriptive research design to analyze the impact of Artificial Intelligence on postgraduate students.

Nature and Source of Data

The study is based entirely on primary data collected directly from respondents. Primary data were collected using a structured questionnaire administered to postgraduate students.

Sampling Technique and Sample Size

A convenience sampling method was used to select the participants. The final sample size consists of 50 postgraduate students.

Data Collection & Analysis Tools

A structured questionnaire containing 25 questions related to AI usage, benefits, challenges, and perceptions was used as the primary data collection tool. The collected data were processed and evaluated using Percentage Analysis, Frequency Distribution, Statistical Tables, and Graphical Representation.

Scope of the Study

The study specifically focuses on postgraduate students of the Commerce Department at KSAWU, Vijayapur. It examines the structural impact of AI on their local learning trends, research activities, academic performance, and overall educational experiences.

Limitations of the Study

The study is geographically and institutionally limited to 50 respondents.

Only postgraduate students within a single department were considered.

Responses are inherently based on personal opinions, subjective experiences, and individual perceptions.

Time constraints limited the extent and depth of data collection.

Findings serve as a case study and may not be broadly generalized to all higher educational institutions.

DATA ANALYSIS AND INTERPRETATION

High Adoption and Daily Integration: 100% of the postgraduate students use AI, with the vast majority (66%) integrating it daily into their academic routines. Students display a strong preference for Chatbots (44.9%) and specialized Research Assistants (34.7%) over other applications.

Core Academic Benefits: AI heavily supports student academic performance (72%). It dramatically improves the functional understanding of difficult academic subjects (96%) and makes accessing primary study materials remarkably easy (98%).

Collaboration & Engagement Deficits: AI fails to drive intrinsic motivation or collaborative teamwork; 66% of respondents explicitly state it does not increase their baseline interest in learning, and 60% note it does not improve student collaboration.

Critical Risks Acknowledged: Students are highly aware of the developmental downsides. Respondents agree that AI harms critical thinking and independent reasoning (82%), risks spreading misinformation (72%), directly encourages plagiarism (84%), and structurally reduces crucial student-teacher interactions (56%).

Future Outlook & Regulation: Looking ahead, 76% favor integrating AI directly into postgraduate studies and believe it improves higher education quality. However, an

overwhelming 82% emphasize that proper regulatory guidelines must be strictly established.

Final Verdict: Weighing the risks against the benefits, 76% of students conclude that AI ultimately has a positive impact on their education.

FINDINGS AND HYPOTHESIS TESTING

- AI is widely used among postgraduate students, with 66% of respondents using AI tools daily for academic purposes.
- AI significantly improves learning and academic performance, as 96% of students reported better understanding of difficult subjects and 94% agreed that AI helps them complete assignments faster.
- AI enhances access to educational resources, with 98% of respondents stating that it helps them access study materials easily.
- AI supports personalized learning and examination preparation, as 88% of students agreed that AI improves learning according to individual needs and helps them prepare better for examinations.
- Students recognize the negative effects of excessive AI use, with 86% believing that it reduces independent thinking and 82% stating that it affects critical thinking skills.
- Academic integrity is a major concern, as 84% of respondents feel that AI may encourage plagiarism and academic dishonesty.

- Despite these core challenges, the overall perception of AI remains positive, with 76% of students believing that AI has a positive impact on postgraduate studies and supports educational improvement.

HYPOTHESIS TESTING RESULTS

Testing of H_{0_1}: Based on the finding that 96% of students achieved a better understanding of difficult subjects and 72% noted direct academic performance improvements, the Null Hypothesis (H_{0_1}) is rejected, and the Alternative Hypothesis (H_{1_1}) is accepted. Artificial Intelligence has a significant impact on postgraduate students' academic performance.

Testing of H_{0_2}: Given that 98% of students reported easier access to materials and 88% benefited from personalized examination preparation, the Null Hypothesis (H_{0_2}) is rejected, and the Alternative Hypothesis (H_{1_2}) is accepted. Artificial Intelligence significantly improves learning experiences among postgraduate students.

Testing of H_{0_3}: Because 86% of respondents state that AI reduces independent thinking and 82% agree it harms critical thinking, the Null Hypothesis (H_{0_3}) is rejected, and the Alternative Hypothesis (H_{1_3}) is accepted. Artificial Intelligence has a significant negative effect on students' independent thinking and creativity.

SUGGESTIONS AND

RECOMMENDATIONS

- Establish Clear AI Governance: Educational institutions should formulate clear AI usage policies and implement robust institutional guidelines. These policies must

explicitly define acceptable versus unacceptable AI use, directly addressing student concerns regarding plagiarism and academic dishonesty.

- **Integrate AI Literacy into the Curriculum:** Academic institutions should shift focus from outright banning technology to providing regular, structured AI literacy programs and ethical workshops. Universities should teach students how to critically evaluate AI outputs, helping them safely navigate the 72% risk of encountering incorrect or misleading information.
- **Redesign Assessments for Critical Thinking:** Faculty members should encourage a balanced use of AI and independent thinking. Assignment structures must be updated to focus on high-level critical thinking, oral defenses, or practical applications to counteract the 82% negative impact on independent learning and critical thinking skills.
- **Promote Collaborative and Hybrid Learning:** Higher education environments must actively design interactive learning spaces and group projects. This directly counteracts the peer isolation (60%) and reduced student-teacher interactions (56%) caused by solo AI use.
- **Verify Information and Leverage for Remedial Support:** Students must explicitly verify AI-generated information through credible, peer-reviewed sources before incorporating it into research. At the same time, faculty should help students maximize

the technology's primary strength by utilizing AI tools as personalized, 24/7 remedial tutoring resources to break down complex, difficult academic subjects.

CONCLUSION

Artificial Intelligence has emerged as a powerful educational technology that positively influences postgraduate students' academic experiences. The study demonstrates that AI improves access to information, enhances learning efficiency, supports research activities, and contributes to better academic performance. Students Operating within the higher education ecosystem generally perceive AI as an effective tool for improving educational outcomes.

At the same time, the study highlights critical concerns related to technology dependency, reduced critical thinking, plagiarism, and inaccurate information. These challenges indicate the immediate need for responsible and ethical AI usage frameworks within educational institutions. Overall, the study concludes that Artificial Intelligence has a predominantly positive impact on postgraduate students. When combined with proper regulatory guidelines, ethical practices, and institutional support, AI can significantly enhance the quality of higher education and promote long-term academic excellence.

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