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Artificial Intelligence In Higher Education: Usage Patterns, Challenges, And Ethical Considerations Among College Students

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Abstract: This research investigates the use of artificial intelligence (AI) tools among Calicut district college students. It uses a mixed-method framework using surveys and interviews among 30 students to study usage patterns, benefits, ethical issues, and institutional reactions. The results show high use of AI, especially ChatGPT, for academic activities such as research and writing. While AI enhances efficiency, students are wary of dependency, information inaccuracy, and cheating. The research highlights the importance of ethics training in AI and institutional regulations to strike a balance between innovation and academic ethics.

Keywords: artificial intelligence, higher education, academic integrity, ChatGPT, student learning, ethics in AI, AI tools

I. INTRODUCTION

The rapid advancement of artificial intelligence (AI) technologies is profoundly reshaping higher education, offering sophisticated tools that enhance productivity, learning, and research efficiency. Students increasingly utilize AI-enabled applications such as ChatGPT, Grammarly, Turnitin, and citation generators to support idea generation, improve writing quality, and access diverse academic resources. However, this growing reliance raises concerns about academic integrity, ethical usage, and the potential decline in students' independent cognitive engagement.

The integration of AI in education presents a double-edged sword. While it promotes personalized learning, global access to academic knowledge, and engagement through adaptive systems, it also introduces risks such as plagiarism, diminished original thought, and ambiguity over authorship. Recent reports indicate a surge in AI-fuelled plagiarism cases, prompting educational authorities to issue new guidelines to help teachers identify AI-generated content and ensure fair assessment practices. This study investigates the patterns of AI use among college students, their motivations, perceived benefits and drawbacks, and the ethical challenges posed by AI in academia.

II. LITERATURE REVIEW

Existing literature highlights the revolutionary impact of AI in education. Ng (2020) demonstrated how AI enhances teaching and learning through automation and customization. Brown and Johnson (2021) examined how AI aids academic writing but also introduces significant ethical dilemmas. Kim (2022) found that students viewed AI as a useful language tool but were unsure about its legitimacy in academic submissions. Gomez

(2021) emphasized that time constraints often led students to substitute AI-generated content for original thinking.

Davis (2023) found a correlation between moderate AI use and improved academic performance, suggesting that guided use of AI might support student achievement. Martin (2022) discussed AI's role in plagiarism detection and academic integrity, warning that reliance on AI tools like Turnitin

With the advent of advanced large language models like GPT-4, the educational landscape is witnessing transformative changes. Yan et al. (2023) conducted a systematic scoping review, identifying 53 use cases for large language models in education, ranging from content generation to feedback provision. However, they also underscored challenges such as low technological readiness and ethical concerns, advocating for a human-centered approach in AI integration.

The ethical implications of deploying AI tools like ChatGPT in higher education have been a focal point of recent research. Li et al. (2023) conducted a scoping review, revealing that while AI offers numerous educational benefits, it also raises concerns related to academic integrity, assessment fairness, and data protection. The study emphasized the need for empirical research to inform the development of sound ethical policies governing AI use in academia.

Institutional responses to AI integration vary globally. Jin et al. (2024) analyzed adoption policies across 40 universities, finding a proactive yet cautious approach. While many institutions recognize the potential of generative AI to enhance teaching and learning, there remains a lack of comprehensive policy frameworks to guide its implementation. Similarly, a survey reported by Inside Higher Ed (2023) indicated that only 14% of college administrations had developed guidelines for AI use, highlighting a significant policy gap.

Empirical studies have also examined GPT-4's capabilities in educational settings. For instance, research published in the *International Journal of Artificial Intelligence in Education* (2024) evaluated GPT-4's performance in solving calculus problems and grading submissions. While GPT-4 demonstrated improvements over its predecessors, the study noted limitations in accuracy and coherence, suggesting that human oversight remains essential.

These recent studies underscore the transformative potential of AI in higher education, while also highlighting the ethical, practical, and policy-related challenges that accompany its integration. As AI tools become increasingly prevalent in academic settings, it is imperative for institutions to develop comprehensive guidelines and provide training to ensure their responsible and effective use.

III. RESEARCH METHODOLOGY

This study employed a descriptive design, combining quantitative and qualitative methods. Primary data were collected using structured questionnaires and semi-structured interviews. The sample consisted of 30 college students from the Calicut district, selected using convenience sampling to ensure diversity in academic backgrounds and AI usage habits.

The questionnaire included both closed and open-ended questions, focusing on usage frequency, tool preferences, perceived benefits, ethical considerations, and institutional support. Interviews provided deeper insights into student perspectives, enabling critical reflection on AI's role in their academic experience. Quantitative data were analysed using percentages and visual charts, while qualitative data were thematically analysed.

IV. RESULTS AND DISCUSSION

4.1 Usage Patterns

Table.1 Frequently used AI tools

Attributes	No. of respondents	Percentage
ChatGPT	25	83.3%
Grammarly	2	6.7%
DeepSeek	3	10.0%
Total	30	100

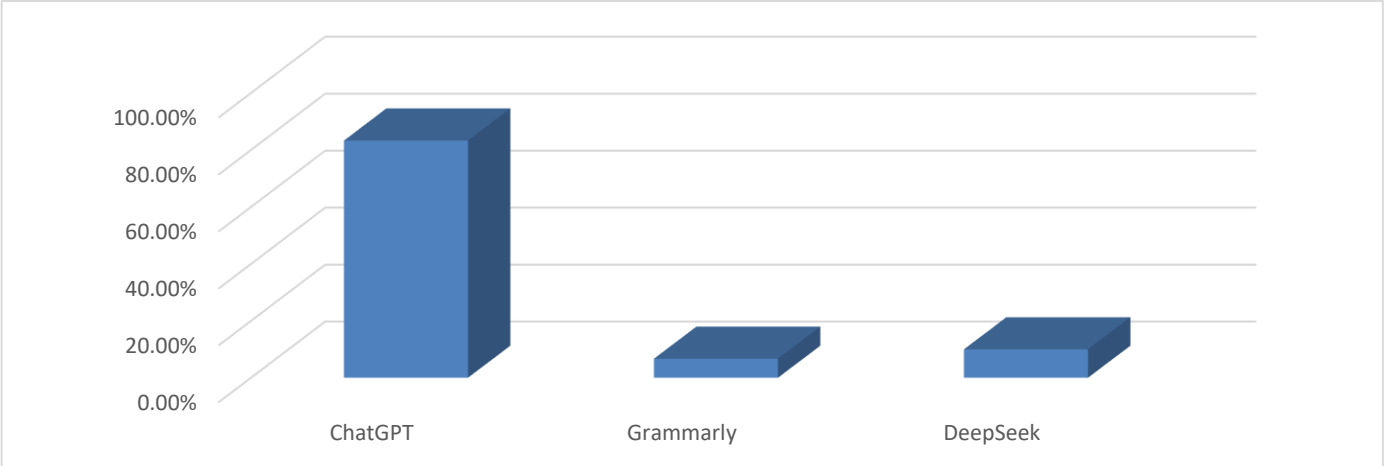

Figure 1 Frequently used AI tools

Among the respondents, 83.3% regularly used AI tools, especially for research and ideation. ChatGPT was the most popular (83.3%), followed by DeepSeek and Grammarly. These applications were primarily employed for tasks such as idea generation, enhancing writing quality, and accessing diverse academic resources.

4.2 Motivations Behind AI Adoption

Table 2. Benefits of using AI in academic works

Attributes	No. of respondents	Percentage
Faster research and information	13	43.3%
Improved writing and grammar	2	6.7%
Assistance in understanding complex topics	13	43.3%
Help with coding and problem-solving	2	6.7%
Other	0	0%
Total	30	100

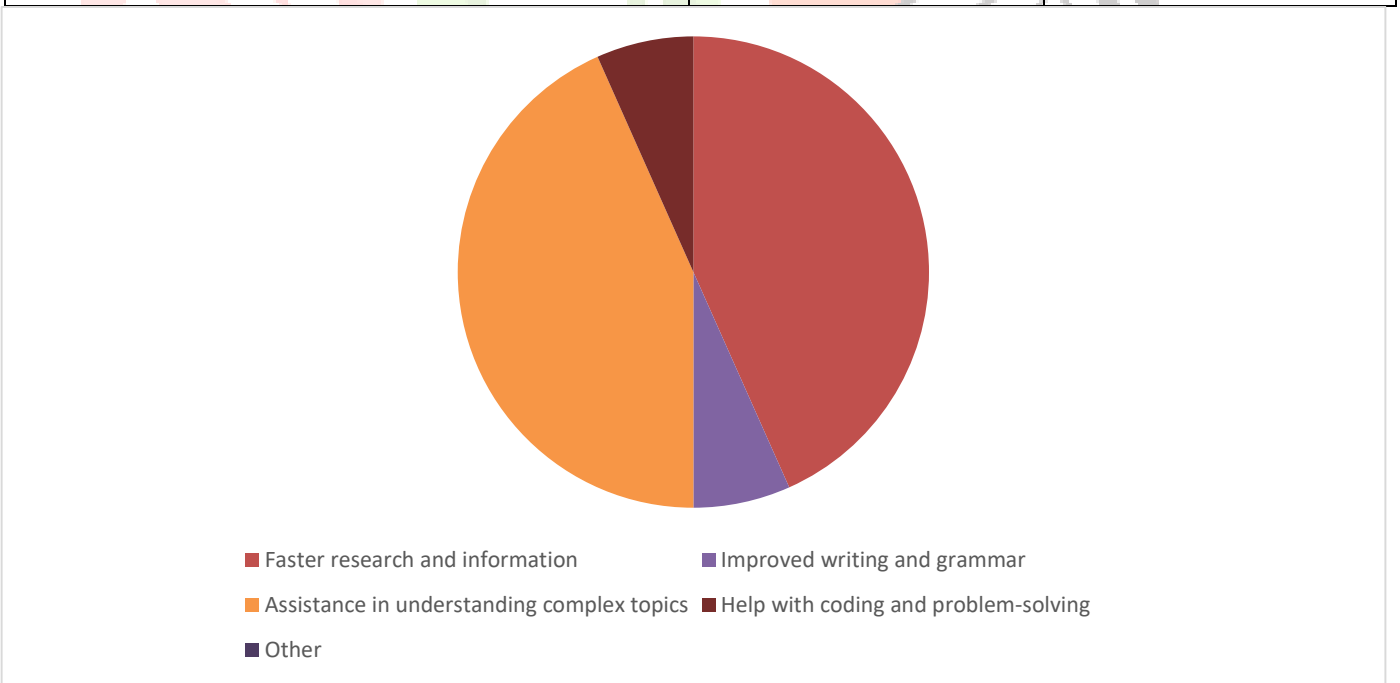

Figure 2. Benefits of using AI in academic works

Students reported enhanced academic performance with AI use, with 73.4% agreeing or strongly agreeing. Key benefits included faster research (43.3%), improved understanding of complex topics (43.3%), and better writing. AI tools also boosted confidence, especially for students facing language barriers or time constraints. Many students perceived these tools as valuable assets that complemented their learning processes.

4.3 Perceived Benefits and Drawbacks

While students acknowledged the advantages of AI tools in enhancing academic performance, they also expressed concerns. Benefits highlighted included improved writing clarity, efficient proofreading, and streamlined research processes. Conversely, drawbacks encompassed fears of over-reliance on technology, potential erosion of original thought, and uncertainties regarding the authenticity of AI-generated content.

4.4 Ethical Considerations and Academic Integrity

Table 3. Students' willingness to receive formal training or guidelines on the usage of AI ethically in academics

Attributes	No. of respondents	Percentage
Yes	20	66.7%
No	4	13.3%
Not sure	6	20.0%
Total	30	100

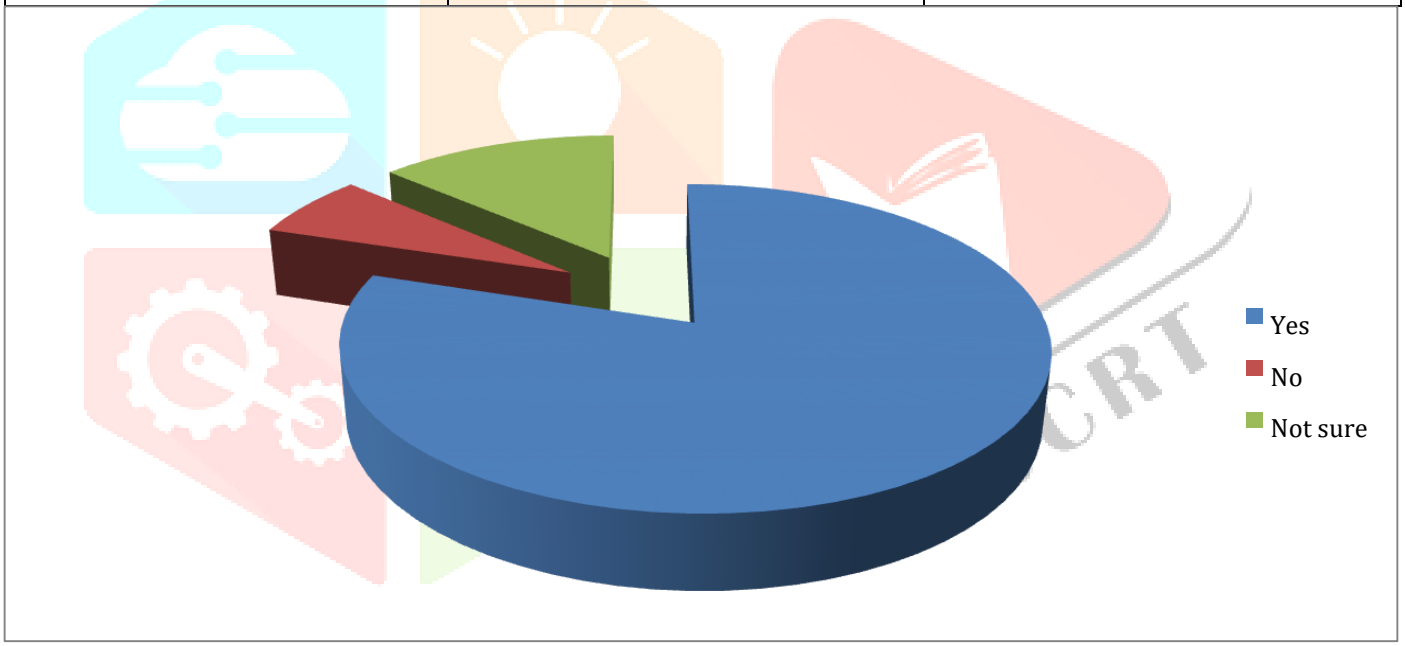

Figure 3. Students' willingness to receive formal training or guidelines on the usage of AI ethically in academics

Despite the advantages, 66.7% of students expressed concern over AI dependence. 66.7% wanted formal training in ethical AI use. Around 40% believed using AI-generated content without citation was dishonest, while 43.3% were unsure. Other challenges included misinformation (33.3%) and ethical ambiguity (30%). Students noted that AI lacked contextual understanding, highlighting the need for human oversight.

4.5 Institutional Responses and Student Preferences

Table 4. Students recommend AI tools to other students for academic purpose

Attributes	No. of respondents	Percentage
Yes	24	80.0%
No	2	6.7%
Not sure	4	13.3%
Total	30	100

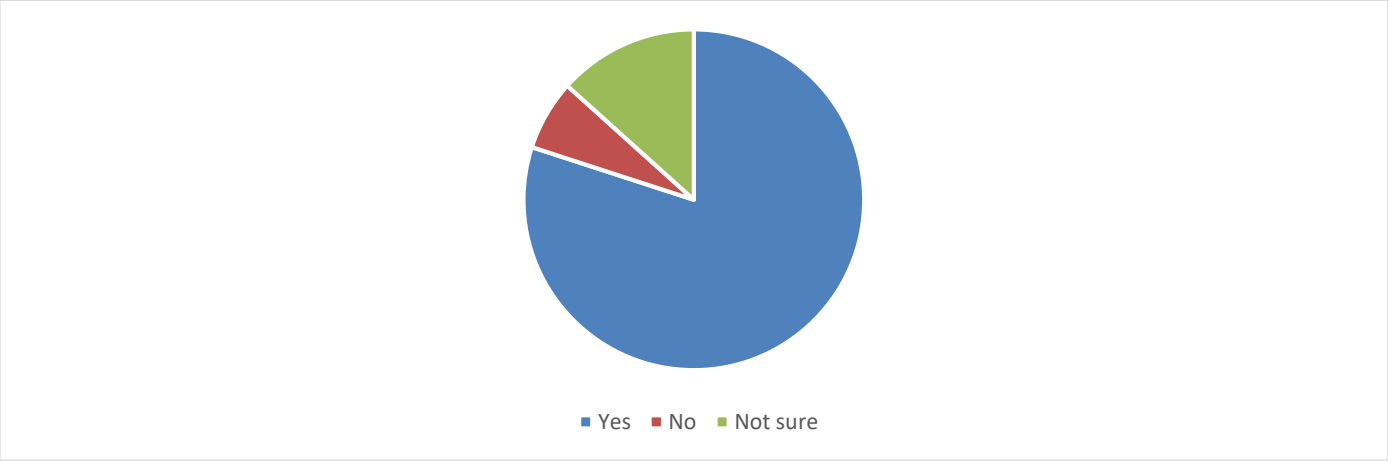

Figure 4. Students recommend AI tools to other students for academic purpose

Alarmingly, 36.7% said their professors had never addressed AI, revealing a policy-practice gap. Peer attitudes were more enthusiastic—80% would recommend AI tools to others, pointing to a grassroots acceptance of AI in learning.

4.6 Future Role of AI

Table 4. The significance of AI in future education

Attributes	No. of respondents	Percentage
Strongly agree	9	30.0%
Agree	13	43.3%
Neutral	8	26.7%
Disagree	0	0%
Strongly disagree	0	0%
Total	30	100

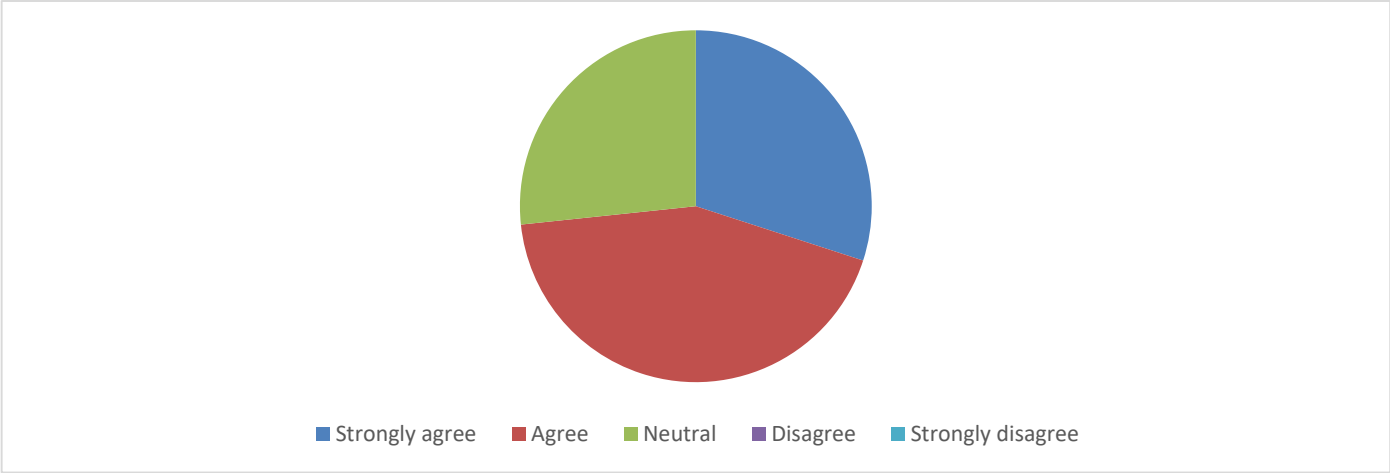

Figure 4. The significance of AI in future education

A majority (73.3%) believed AI would play a critical role in future education, including personalized tutoring and curriculum design. However, students emphasized that AI should remain a support tool—not a replacement. Concerns about the digital divide were also raised, with calls for equitable access to AI tools.

Interpretation of Findings

The findings reflect widespread use of AI tools in the college students' study habits. The reasons behind the use of these tools are complex, ranging from needs for greater efficiency, quality of work, and instant access to assistance. These needs fall in line with the wider trend in education to adopt technology in order to ease learning. But the twofold character of AI tool use is present. On the one hand, these tools have much to gain, and on the other, they bring forth issues concerning academic integrity and developing independent critical thinking skills. Plagiarism and authorship uncertainty issues point towards the imperative of well-defined guidelines and training programs to tread the ethical front of AI use in academia.

Comparison with Existing Literature

The findings of the study resonate with the prevailing literature that captures the revolutionary influence of AI in education. The benefits of AI in tailoring learning experiences and adaptive support have been documented by earlier research. This study, however, contributes to the discussion by focusing on students' ethical issues and psychological consequences of AI dependency, themes that need to be explored further.

Implications for Educational Practice

The findings of this research indicate an urgent necessity for schools to establish thorough policies and training programs regarding the ethical use of AI tools. Teachers need to be trained to assist students in using AI responsibly so that these technologies enhance the learning process instead of detracting from it. Additionally, creating a culture that promotes critical interaction with AI outputs can serve to preserve the integrity of academic work.

Limitations and Future Research

Although the study offers beneficial insights, it has limitations. The sample might not be a good representative of various student populations from varying regions and fields. Moreover, the quickly changing AI technologies ensure that students' attitudes and utilization patterns evolve with time. Future studies need to take longitudinal studies into account in order to monitor these dynamics and investigate the long-term effects of AI adoption in education.

5. Conclusion

The results of the present study verify the increasing adoption of artificial intelligence tools in the learning activities of Calicut district college students. AI tools—especially generative ones such as ChatGPT—are extensively utilized to assist in research, writing, and understanding of abstract ideas. Students indicate significant advantages, including increased academic productivity and confidence, particularly under time pressure or language limitation.

Yet, the research also uncovers serious ethical and pedagogical issues. Most participants had concerns about overreliance on AI, disinformation, and ambiguity about correct citation and authorship. These issues are further exacerbated by a significant disconnect between student practices and institutional reactions, with most faculty members and academic policies still to officially engage with AI use.

Against this backdrop, there is a pressing requirement for universities to have unequivocal, equitable policies and systematic training on the ethical use of AI. These should aim to reconcile technological advancement

with protecting academic honesty and critical thinking. Crucially, AI should be framed as a supportive tool that assists and augments, rather than substitutes for, student effort and instructor instruction.
Future studies ought to broaden the scope of investigation using larger and more representative samples as well as longitudinal studies to determine the long-term impact of AI on learning achievements. Furthermore, the changing role of teachers in developing AI literacy and ethical consciousness among learners deserves closer investigation as AI continues to redefine the learning environment.

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