Assessing Students' Awareness and Usage of Artificial Intelligence (AI) Tools with Special Reference to Higher Education Institutions in Jalgaon City

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ABSTRACT

This study explores the awareness, usage and perceptions of Artificial Intelligence (AI) tools among undergraduate and postgraduate students in Jalgaon city. As AI continues to reshape various sectors, its integration into education offers opportunities in enhanced personalization, efficiency and innovation in learning processes. The research aims to access students' familiarity with AI tools, identify commonly used applications, understand their usage purposes and uncover any concerns hindering the broad adoption. The primary data was collected from a sample of 405 students using questionnaire method and analyzed through percentage-based method. The findings reveal that while majority of the students are somewhat familiar with AI tools particularly-ChatGPT- their usage remains infrequent. While most students use AI tools for tasks like notes searching and assignment writing, yet express concerns over information quality, over-dependence and privacy. Open ended responses highlight a need for more user-friendly features, institutional support and AI integration across curricula. The study concludes by emphasizing the role of higher education institutions in promoting responsible AI use through training, resource allocation and curriculum innovation to enhance academic outcomes.

Keywords: Artificial Intelligence, AI tools, Higher Education Institutions, Students.

Introduction

Artificial Intelligence (AI) is a branch of computer science that seeks to create intelligent agents capable of learning, reasoning, problem-solving, and decision-making, mimicking human cognitive abilities. Artificial intelligence technologies have now taken place in technology. The concept of artificial intelligence is a programme that provides services through various devices and applications. Artificial intelligence technology has become an integral part of our daily life and is available on all platforms (Yelena et al., 2022).

In the sphere of education, AI has become a powerful force that catalyzes innovation and transforms conventional teaching and learning approaches. The education sector has long been characterized by its reliance on traditional pedagogical models, limited personalization, and constrained scalability. AI, with its capacity for data-driven decision-making and adaptive learning, offers a compelling solution to these challenges. As a cutting-edge technology, it has shown great potential to enhance the effectiveness and efficiency of educational processes such as monitoring, assessment and evaluation, feedback, and instructional materials generation.

The most common examples of artificial intelligence applications in education can be shown as intelligent and intelligent teaching systems, also called adaptive learning management systems. Intelligence teaching systems facilitate learning by providing better support for the learner. Artificial intelligence techniques are used as models by the teacher in order to facilitate teaching (Hasanov, 2019).

Halili stated in his study that technological developments exist in education and explained the importance of using dimensions in learning and teaching processes. Technological products used in education directly affect productivity and creativity, such as Industry 4.0 technology, artificial intelligence, augmented reality, cloud computing and hologram. The use of developments such as technology in every field of education will increase success and learning.

Alberto and others also assessed the adoption and impact of Artificial Intelligence (A.I.) tools in higher education, focusing on a private university in Latin America. Guided by the question, "What is the impact, as perceived by university students, of using Artificial Intelligence tools on various dimensions of learning and teaching within the context of higher education?" Findings indicate a significantly positive impact of A.I. tools on student academic experiences, including enhanced comprehension, creativity, and productivity.
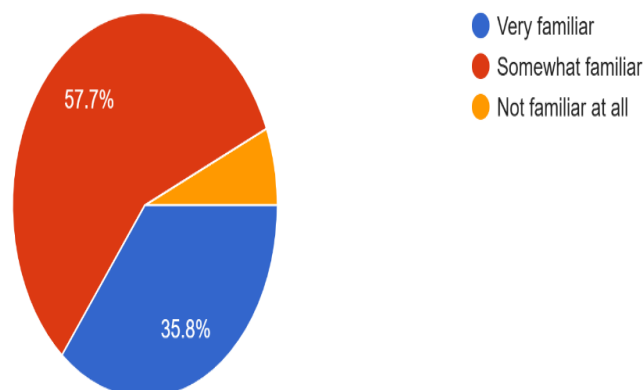
Objectives

- **To assess the awareness level of students about AI tools: assess** the knowledge about AI tools gained by the students, whether they are aware about how important and useful Ai tools are.

- **To identify AI tools used by the students:** there are too many AI tools available for teaching learning process. So it's important to identify the tools that are most likely used by the students.

- **To identify the purposes of using AI tools:** know the purposes for which students use AI tools e.g. for studying, forediting, for making PPT, for gaming, for advertising, for assignments, for research etc.

- **To find out the concerns of students for the use of AI tools:** find out the concerns of students for the use of AI tools and whether these concerns really impact students' usage of AI tools and what steps should be taken to allay their concerns.

Research Methodology

The primary data is collected through the questionnaire method. The samples were selected from the UG & PG students in Jalgaon city. Sample size is 405. The Analysis is done using percentage method.
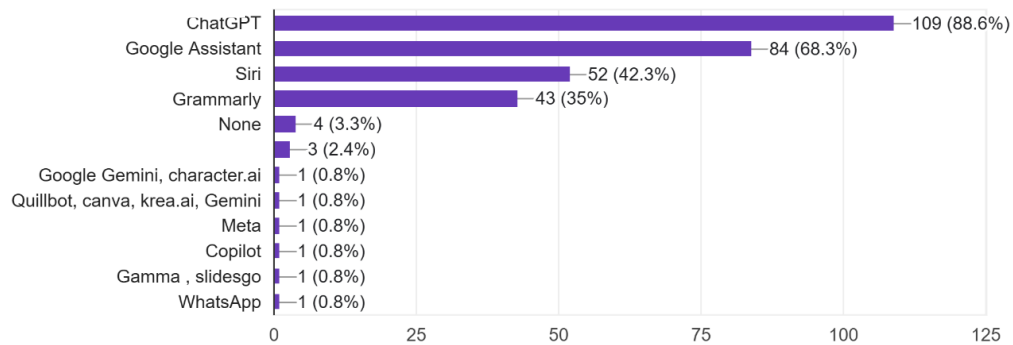
Analysis and Interpretation

How familiar are you with the concept of artificial intelligence (AI)?

- Very familiar
- Somewhat familiar
- Not familiar at all

This Pie Chart shows that how familiar is the students are with AI. 57.7% students says that they are somewhat familiar to the AI tools, 35.8 students says very familiar. From this we understood that students are not much familiar to the AI tools.

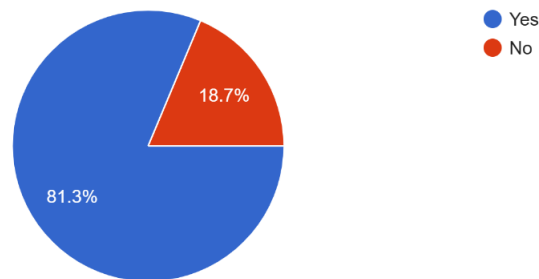Which of the following AI tools are you aware of? (Select all that apply)

123 responses

Tool	Count (%)
ChatGPT	109 (88.6%)
Google Assistant	84 (68.3%)
Siri	52 (42.3%)
Grammarly	43 (35%)
None	4 (3.3%)
	3 (2.4%)
Google Gemini, character.ai	1 (0.8%)
Quillbot, canva, krea.ai, Gemini	1 (0.8%)
Meta	1 (0.8%)
Copilot	1 (0.8%)
Gamma , slidesgo	1 (0.8%)
WhatsApp	1 (0.8%)

This bar graph shows the percentage of students aware about different AI tools. Chatgpt is known by 88.6% students. Google assistant is used by 68.3% students, Siri is used by 42.3% students and Grammarly is used by 35% students.

... u ever used any AI tools for academic purposes?

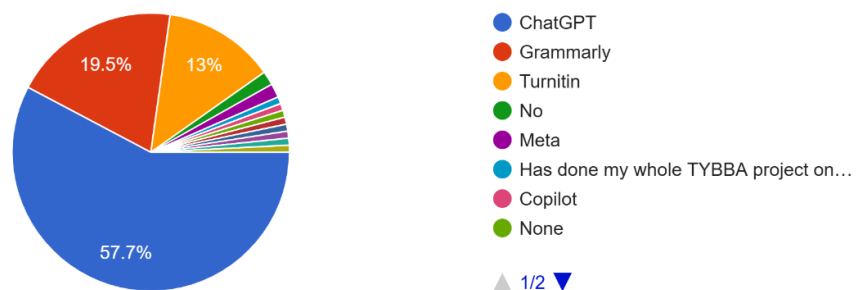123 responses

- Yes
- No

18.7%

81.3%

When asked about have you ever used any AI tools for academic purposes, 81.3 % students said yes. From this we understood that most of the students used AI tools for academic purposes .

If yes, which AI tools have you used for academic purposes? (Select all that apply)
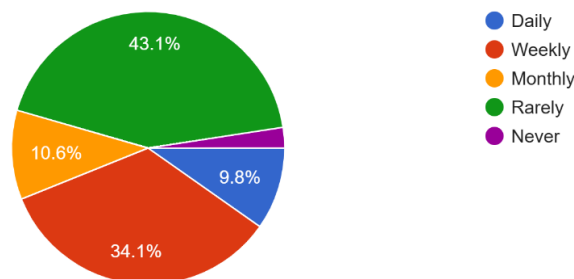
123 responses

- ChatGPT
- Grammarly
- Turnitin
- No
- Meta
- Has done my whole TYBBA project on…
- Copilot
- None

▲ 1/2 ▼

19.5% 13%

57.7%

From this pie chart we get to know that Chatgpt is used by 57.7% students. From this we understood that chatgpt is commonly used AI tool.

pose you use mostly use AI tools?
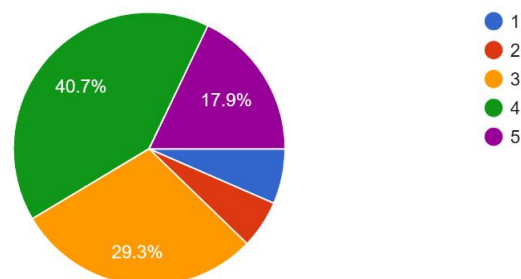
123 responses

When asked for what purposes AI tools were used by the students, 54.5% students said searching notes, 20.3% students said writing assignments and 13.8% students said making ppts. From this we understood that AI tools used by most of the students for purposes like searching notes.

How frequently do you use AI tools for academic tasks?

123 responses

When asked how frequently do students use AI tools for academic tasks, 43.1% students said rarely , 34.1% students said weekly , 10.6% students said monthly , 9.8% said daily. From this we understood that most students use AI tools rarely.
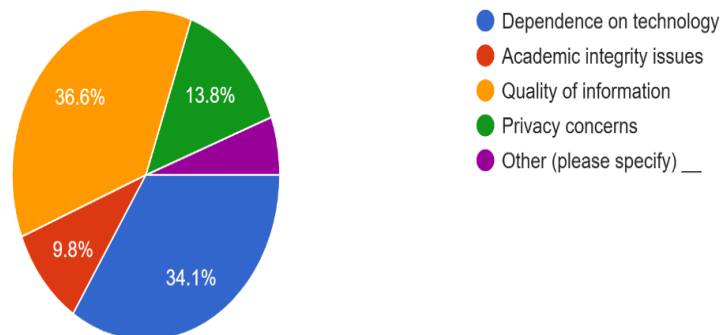
On the scale of 1(low) to 5(high), how effective do you believe AI tools are in improving your academic performance?

123 responses

When asked how effective do students believe AI tools are in improving your academic performance , The responses were 40.7 % students give vote to 4,29.3 % students give vote to 3 , 17.9 % students give vote to 5. From this we understood that students does not believe that AI tools will improve their academic performance.

ns do you have about using AI tools? (Select all that apply)

123 responses

- Dependence on technology
- Academic integrity issues
- Quality of information
- Privacy concerns
- Other (please specify) __

36.6%   13.8%
9.8%   34.1%

When asked what concerns students feel then, 36.6% students fill concern like Quality of Information , 34.1% students fill concern like dependence on technology , 13.8% students fill concern like privacy concerns ,From this we understood that students does not fully trust on AI tools .

Open Ended Questions

- What features would encourage you to use AI tools more often?

The answers were Time saving, Content creation, streamline workflows, Real-time collaboration, automation of repetitive tasks, and enhanced accuracy would boost usability. Additionally, AI tools that offer transparency in decision-making, adapt to user preferences, and ensure strong data privacy would make them more reliable and appealing for regular use.

- Do you believe that AI tools can replace traditional learning methods? Why or why not?

The answers were partially, by working together, While AI is having a huge impact on education, AI will not replace teachers anytime soon. AI impacting education manifests in various adaptive learning platforms, tutoring systems, and data analysis tools. These solutions support the educational framework rather than replace it, AI can complement these methods by offering personalized learning, real-time feedback, and efficient administrative support. By integrating AI into education, institutions can create a blended learning environment that leverages the strengths of both approaches.

- In your opinion, how can educational institutions better integrate AI tools into their curricula?

The answers were educational institutions can better integrate AI tools into their curricula by offering hands-on learning experiences, incorporating AI in diverse subjects beyond computer science, and providing access to real-world AI tools. They should also focus on AI ethics and responsible usage while training both students and teachers on how to effectively use AI to enhance learning outcomes,AI algorithms can analyze individual learning patterns and adapt educational content accordingly, catering to the unique needs and preferences of each student. This tailoring of education can lead to increased engagement, improved comprehension, and enhanced overall academic performance.

Suggestions

- Brainstorming sessions should be taken in colleges regarding AI tools and its use.
- Institutes should provide financial and infrastructural support to the faculties and students for integration of AI tools.
- Institutes should provide training to the students as well as faculty on the use of AI tools.
- Assignments should be given by the faculties to create projects using AI tools.

Conclusion

The study shows that students are not fully aware about AI tools and their uses. ChatGpt is the only tool used by maximum number of students for searching the notes and writing assignments. Students are rarely using AI tools because they are doubtful about the quality of information. Moreover they feel too much dependency on AI tools can reduce their own productivity. Because of lack of

awareness, students are not fully convinced that integration of AI tools in their learning process can improve their academic performance.

It is the responsibility of higher education institutes to provide support to the faculties and students in the form of training and resources to encourage the students to integrate AI tools in their learning process.

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